

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Prepared for:
City of Medicine Hat.
Medicine Hat, Alberta

Permit No. 23-101

Prepared by:
Joshua Read
Stantec Consulting Ltd.
130-2886 Sunridge Way NE
Calgary, AB T1Y 7H9

Project Number: 124910611

February 2024



This document contains sensitive information about historical resources that are protected under provisions of the Alberta Historical Resources Act. This information is to be used to assist in planning the proposed project only. It is not to be disseminated, and no copies of this document are to be made without written permission of Historic Resources Management Branch, Alberta Arts, Culture & Status of Women.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Credit Sheet

Permit Holder	Joshua Read, M.A.
Archaeologists	Robert Bird, B.A. Logan Finn, B.A. Miranda George, B.A. Michelle Murphy, B.A. Tristan Paron, B.A. Alex Ranieri, B.A. Steven Simpson, M.A. Tom Strachan, B.A. Rachael teLinde, M.A. Karen Zbeetnoff, B.A.
Senior Palaeontologist	Lisa Bohach, Ph.D.
GIS Analyst	Brittney Sorensen, B.A., B.GIS.
Report Authors	Joshua Read, M.A. Gwyn Langemann, M.A.
Senior Reviewers	Alison Landals, M.A., Ph.D. Meg Porter, M.A., PMP
Artifact Analysts	Bonnie Brenner, M.A. Gwyn Langemann, M.A.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Executive Summary

On behalf of the City of Medicine Hat, Stantec Consulting Ltd. conducted archaeological monitoring and mitigative archaeological excavations at site EaOq-82 relative to the Medicine Hat Water Treatment Plant Residuals Management Facility per Alberta Arts, Culture, and Status of Women requirements *HRA* 4710-22-0033-003. During paleontological monitoring of excavations for the Project, cultural material including lithic materials, fragments of fire-broken rock and fragments of faunal material were observed in the floor of the excavation approximately 2.5 m below surface (b.s.). Subsequently, the chance find was reported to AACSW as per Section 31 requirements under the Alberta *Historical Resources Act* and was newly recorded as archaeological site EaOq-82. Subsequent finds during construction monitoring both at 2.5 m b.s. and at ~4.0 m b.s., necessitated halting of construction activities to conduct a Stage 1 mitigative excavation program of up to 65 square metres (*HRA* Letter 4710-22-0033-002) prior to the completion of construction activities.

Site EaOq-82 is classified as a multi-component campsite defined by an upper and lower component, the former dating to the Avonlea Phase (radiocarbon dates of 1240 +/- 30 years before present [B.P]) and the latter dating to the Besant Phase (1560 +/- 30 years B.P.). A total of 8,612 artifacts were recovered between the excavations and the archaeological monitoring. In the upper component, four features, including a pit, a hearth and two postholes, were found in association with the dense artifact assemblage consisting of faunal material, lithic tools, cores, debitage, and fire-broken rock. One Avonlea projectile point and another likely Avonlea point base were also recovered from this occupation.

Three features were associated with the lower occupation, including two hearths and an FBR discard area. A Besant point and several Samantha arrow points were collected from around the hearth features. A large percentage of the faunal material in the lower component was identified as antelope, providing additional interpretive value to the site due to the relatively low visibility of this species in the archaeological record.

An interim report was submitted following the completion of the Stage 1 excavations recommending *HRA* Approval for construction work to resume, which was subsequently granted on Sept. 18, 2023 (*HRA* 4710-22-0033-004). Given that cultural material from an undisturbed context was observed along the east side of the Project footprint, it is likely that the site boundary is larger than what was observed during the current field studies and therefore it is recommended that the site maintain its HRV 4 rating. It is also recommended that future developments at the Medicine Hat Water Treatment Plant are reviewed relative to historical resources potential and if warranted, be preceded by a deep testing program to investigate the possibility of additional, deeply buried cultural material. Any changes or additions to the Project must be reviewed in terms of historical resource concerns and the potential need for further assessment. This final report is being submitted to satisfy the permit requirements outlined in *HRA* Number 4710-22-0033-002.

Any changes or additions to the Project must be reviewed in terms of historical resource concerns and the potential need for further assessment.

Study Limitations

The conclusions in the Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from the Client and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided to applicable authorities having jurisdiction and others for whom the Client is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

Pursuant to Section 31 of the *Historical Resources Act*, proponents are required to report the discovery of historical resources to Alberta Arts, Culture & Status of Women.

Table of Contents

1.0	INTRODUCTION.....	1
1.1	Project Description	1
1.2	Scope and Objectives.....	3
2.0	BACKGROUND	5
2.1	Regional Environment	5
2.2	Site Environment	5
2.3	Previous Research	7
3.0	RESEARCH DESIGN.....	11
3.1	Definition of Historical Resources	11
3.2	Site Designation and Classification.....	11
3.3	Primary Impacts and Mitigative Measures	11
3.4	Evaluation of Interpretive Potential	13
3.5	Project-Specific Research Design	14
4.0	METHODS	15
4.1	Archaeological Monitoring	15
4.2	Site Excavation.....	15
4.3	Material Analysis	17
4.3.1	Lithic Artifact Analysis	18
4.3.2	Faunal Analysis.....	21
4.3.3	FBR Analysis	23
4.3.4	Radiocarbon Dating	23
5.0	RESULTS – EaOq-82	25
5.1	Natural and Cultural Stratigraphy.....	25
5.2	Archaeological Monitoring Results.....	33
5.3	Excavation Results	48
5.3.1	Cultural Unit 1 (CU1).....	48
	Features	49
	Cultural Material.....	63
	Lithics	63
	Faunal	84
	FBR	93
	Cultural Material	96
5.3.2	Cultural Unit 2 (CU2).....	100
	Cultural Material.....	103
	Features	103
	Cultural Material.....	109
	Lithics	109
	Faunal	118
	FBR	118
	Features	121
	Cultural Material.....	129
	Lithics	129

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

	Faunal	137
	FBR	142
6.0	EaOq-82 DISCUSSION.....	145
7.0	RECOMMENDATIONS	153
8.0	REFERENCES CITED	155

LIST OF FIGURES

Figure 1-1	Location of Project	2
Figure 2-1	Natural Regions and Subregions of Alberta.....	6
Figure 2-2	Project Footprint and Archaeological Historic Resource Values	10
Figure 3-1	Alberta Borden Blocks.....	12
Figure 5-1	Ground Reconnaissance and HRIA/HRIM Results.....	26
Figure 5-2	Sketch Map, Site EaOq-82	27
Figure 5-3	Stratigraphic profile of Block A (upper), south wall, units 647N 343E, 647N 342E, 647N 341E, 647N 340E, & 647N 339E, site EaOq-82	31
Figure 5-4	Stratigraphic profile of Block B (upper) north wall, Unit 639N 334E and 639N 335E, site EaOq-82	34
Figure 5-5	Stratigraphic profile of Block A (CU2) east wall, units 649N 342E, 648N 342E, & 647N 342E, site EaOq-82	39
Figure 5-6	Stratigraphic profile of Block B (CU2) east wall, units 641N 337E, 640N 337E, 639N 337E, & 638N 337E, site EaOq-82	41
Figure 5-7	Stratigraphic profile of Block C (CU2) east wall, units 646N 343E, 645N 343E, 644N 343E, 643N 343E, & 642N 333E, site EaOq-82	43
Figure 5-8	Block plan and distribution of recovered artifacts, Block A (upper), site EaOq-82	51
Figure 5-9	Stratigraphic profile & planview of feature F1, unit 647N 341E, site EaOq-82	52
Figure 5-10	Planview of feature F2, Block A (CU1), units 648N 337E, 648N 338E, 647N 337, & 647N 338E, site EaOq-82	57
Figure 5-11	Stratigraphic profile of west wall of feature F2, unit 647N 338E and 648N 338E, site EaOq-82	59
Figure 5-12	Feature F2 Artifact Assemblage, Block A (CU1), Site EaOq-82.....	60
Figure 5-13	Stratigraphic profile & planview of feature F3, unit 648N 337E, site EaOq-82	62
Figure 5-14	Stratigraphic profile & planview of feature F4, unit 648N 337E & 648N 338E, site EaOq-82.....	65
Figure 5-15	Tool and core distribution, Block A (CU1), site EaOq-82	68
Figure 5-16	Distribution of lithic debitage by reduction stage, Block A (CU1), site EaOq-82	81
Figure 5-17	Block plan and distribution of recovered artifacts, Block B (upper), site EaOq-82	98
Figure 5-18	Block plan and distribution of recovered artifacts, Block A (CU2), site EaOq-82	102
Figure 5-19	Block plan and distribution of recovered artifacts, Block B (CU2), site EaOq-82	104

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Figure 5-20	Planview of feature F7, units 640N 336E, 640N 335E, 639N 336E and 639N 335E, Block B (CU2), site EaOq-82	105
Figure 5-21	Stratigraphic profile of east wall of feature F7, unit 640N 335E and 639N 335E, Block B (CU2), site EaOq-82	106
Figure 5-22	Feature F7 Artifact Assemblage, Block B (CU2), site EaOq-82	108
Figure 5-23	Distribution of Lithic Debitage by Material Type, Block B (CU2), site EaOq-82	117
Figure 5-24	Block plan and distribution of recovered artifacts, Block C (CU2), site EaOq-82	122
Figure 5-25	Planview of feature F5, units 644N 342E, 644N 343E, 643N 342E and 643N 343E, Block C, site EaOq-82	124
Figure 5-26	Planview of feature F6, units 645N 341E, 645N 342E, 644N 341E and 644N 342E, Block C, site EaOq-82	126
Figure 5-27	Stratigraphic profile of north wall of feature F6, unit 645N 332E and 645N 341E, Block C, site EaOq-82	127
Figure 5-28	Feature F6 Artifact Assemblage, Block B (CU2), site EaOq-82	130
Figure 5-29	Distribution of Lithic Debitage by Material Type, Block C, site EaOq-82	136
Figure 6-1	Planview of floor of Block A (CU1), units 649N 336E to 343E, 648N 336E to 343E, 647N 336E to 343E, & 646N 337E, site EaOq-82	147
Figure 6-2	Relative frequencies of artifacts between features F6 and F7, CU2, site EaOq-82	150
Figure 6-3	Distribution of pronghorn across North America (from Jones et al. 2023); EaOq-82 represented by triangle	151

LIST OF TABLES

Table 3-1	Indicators of Scientific Value	13
Table 5-1	Results of Construction Monitoring Pre- and Post-Excavation, site EaOq-82	47
Table 5-2	Results of Stage 1 Excavation, Block A (all artifacts)	66
Table 5-3	Lithic Artifacts by Material Type, Block A (CU1), site EaOq-82	67
Table 5-4	Retouched and Utilized Flake Attributes, Block A (CU1), site EaOq-82	73
Table 5-5	Core and core fragment metrics, Block A (CU1), site EaOq-82	77
Table 5-6	Frequencies of Lithic Debitage by Material Type, Block A (CU1), site EaOq-82	83
Table 5-7	Distribution of Lithic Debitage, Block A (CU1), site EaOq-82	85
Table 5-8	Count and weight of faunal pieces by taxon from Block A (CU1), site EaOq-82	85
Table 5-9	Count (and minimum number of elements [MNE] by side) of bison and large ungulate elements, Block A (CU1), site EaOq-82	86
Table 5-10	Bison sex measurements from CU1, minimum number of elements	89
Table 5-11	Distribution of Bison/Large Ungulate Elements by Quantity, Block A (CU1), site EaOq-82	89
Table 5-12	Distribution of Bison/Large Ungulate Elements by Weight, Block A (CU1), site EaOq-82	89
Table 5-13	Count and weight by taxon and element for non-bison taxa, Block A (CU1), site EaOq-82	94
Table 5-14	Distribution of Non-Bison Taxa Elements by Quantity, Block A (CU1), site EaOq-82	94
Table 5-15	Distribution of FBR by Quantity, Block A (CU1), site EaOq-82	95

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Table 5-16	Distribution of FBR by Weight, Block A (CU1), site EaOq-82.....	95
Table 5-17	Distribution of FBR Fracture Type by Raw Material, Block A (CU1), site EaOq-82	95
Table 5-18	Artifact Assemblage, Block B (upper), site EaOq-82	99
Table 5-19	Distribution of Faunal Material, Block B (CU1), site EaOq-82	99
Table 5-20	Block B (CU2) Artifact Assemblage, site EaOq-82	110
Table 5-21	Distribution of Lithic Artifacts, Block B (CU2), site EaOq-82	110
Table 5-22	Lithic Artifacts by Material Type, Block B (CU2), site EaOq-82.....	111
Table 5-23	Distribution of Lithic Debitage, Block B (CU2), site EaOq-82.....	116
Table 5-24	Count and Weight of Taxon, Block B (CU2), site EaOq-82.....	119
Table 5-25	Distribution of Faunal Material (all taxa) by Quantity, Block B (CU2), site EaOq-82	119
Table 5-26	Distribution of Faunal Material (all taxa) by Weight, Block B (CU2), site EaOq-82	119
Table 5-27	Distribution of FBR by Quantity, Block B (CU2), site EaOq-82	120
Table 5-28	Distribution of FBR by Weight, Block B (CU2), site EaOq-82.....	120
Table 5-29	FBR Size Categories by Material Type, Block B (CU2), site EaOq-82.....	121
Table 5-30	Feature F6 Artifact Distributions, Block C, site EaOq-82	130
Table 5-31	Block C Artifact Totals, site EaOq-82	131
Table 5-32	Lithic Artifacts by Material Type, Block C (CU2), site EaOq-82.....	132
Table 5-33	Lithic Artifact Distribution, Block C, site EaOq-82	133
Table 5-34	Distribution of Faunal Material, Block C, site EaOq-82	138
Table 5-35	Taxa by Count and Weight, Block C, site EaOq-82	138
Table 5-36	Counts of antelope and small ungulate by element and side, Block C, site EaOq-82	139
Table 5-37	Counts of bison and large ungulate by element and side, Block C, site EaOq-82	141
Table 5-38	Distribution of Faunal Material by Weight, Block C, site EaOq-82	141
Table 5-39	Distribution of FBR by Quantity, Block C, site EaOq-82.....	143
Table 5-40	Distribution of FBR by Weight, Block C, site EaOq-82.....	143
Table 5-41	FBR Materials by Fracture Type, Block C, site EaOq-82	143

LIST OF PLATES

Plate 2-1	View north across South Saskatchewan River valley; EaOq-82 marked by arrow	8
Plate 2-2	View northeast of cottonwoods along South Saskatchewan River north of EaOq-82.....	8
Plate 2-3	View east across Project; note replanted conifers and aspen in background	9
Plate 4-1	View northwest of Project footprint; orange tarp marks initial artifact finds; white tarp marks secondary artifact area, and blue tarp marks lower cultural feature	16
Plate 4-2	View of trench (MH_BH1) south of initial artifact finds (circled).....	16
Plate 5-1	View of north wall of Project footprint during original site visit; flood deposits visible below artificial fill (arrow), approximate location of CU1 circled; scale in 10 cm increments.....	28
Plate 5-2	View of north wall, MH_BH1 from ~2.5 m b.s. to 4.0 m b.s.; clayey silt below CU1 (above) and CU2 (below) circled; scale in 10 cm increments	28

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Plate 5-3	View north of exposed CU1 during construction monitoring; scale bars in 10 cm increments	29
Plate 5-4	View south of south Block A (upper) profile; CU1 marked by arrows; note construction activity has scraped below CU1 (circled); scale in 10 cm increments	30
Plate 5-5	View of north profile in Block B (upper), units 639N 334E and 639N 335E; note lack of CU1 paleosol, dark layer is clayey silt; scale in 10 cm increments	35
Plate 5-6	View of west wall, shovel test JR1, site EaOq-82; note CU1 paleosol at ~10 cm (arrow); scale in 10 cm increments	36
Plate 5-7	View of west wall, shovel test JR3; note charcoal (non-cultural) within coarse sands; top of shovel test is approximate depth of CU2; scale in 10 cm increments	37
Plate 5-8	View east of Block A (CU2) profile, poorly developed CU2 marked with arrow; scale in 10 cm increments	45
Plate 5-9	View east of Block B (CU2) profile; CU2 marked by arrows; scale in 10 cm increments	45
Plate 5-10	View of east profile, Block C (CU2), units 646N 343E, 645N 343E, and 644N 343E; CU2 marked by arrows; scale in 10 cm increments	46
Plate 5-11	View of east profile, Block C (CU2), units 644N 343E, 643N 343E, and 642N 343E; CU2 marked by arrows; scale in 10 cm increments	46
Plate 5-12	View east of completed Block A (upper); centre unit excavated to fully record features F3 and F4; scale in 10 cm increments	50
Plate 5-13	Planview of feature F1, unit 647N 341E, site EaOq-82; scale in 10 cm increments	53
Plate 5-14	View south of cross-section of feature F1, Block A (CU1), EaOq-82; scales in 10 cm increments	53
Plate 5-15	Planview of feature F2, Block A (CU1), site EaOq-82; scale in 10 cm increments	55
Plate 5-16	View of east profile, feature F2, Block A (CU1), site EaOq-82; scales in 10 cm increments	56
Plate 5-17	View of west profile, feature F2, Block A (CU1), site EaOq-82; note vertical bone peg in feature F3 in left foreground and multiple basins of hearth; scale in 10 cm increments	56
Plate 5-18	Planview of feature F3, unit 648N 337E, Block A (CU1), site EaOq-82; note bone peg upright inside feature; scales in 10 cm increments	61
Plate 5-19	View west of feature F3 profile, unit 648N 337E, Block A (CU1), site EaOq-82; scales in 10 cm increments	61
Plate 5-20	Planview of feature F4, Block A (CU1), EaOq-82; scale in 10 cm increments	64
Plate 5-21	View north of feature F4 profile, Block A (CU1), EaOq-82; scale in 10 cm increments	64
Plate 5-22	Projectile points recovered from Block A (CU1), site EaOq-82	69
Plate 5-23	Perforator recovered from Block A (CU1), site EaOq-82	71
Plate 5-24	Biface and biface fragments recovered from Block A (CU1), site EaOq-82	71
Plate 5-25	Examples of retouched flakes from Block A (CU1), site EaOq-82	74
Plate 5-26	Additional examples of retouched flakes from Block A (CU1), site EaOq-82	75

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Plate 5-27	Retouched flake with fossil recovered from Block A (CU1), site EaOq-82.....	76
Plate 5-28	Utilized flakes recovered from Block A (CU1), site EaOq-82	76
Plate 5-29	Examples of quartzite cores and core fragments recovered from Block A (CU1), site EaOq-82	78
Plate 5-30	Examples of non-quartzite cores, Block A (CU1), site EaOq-82	79
Plate 5-31	Multidirectional cores (EaOq-82: 4290 and EaOq-82: 4946) and bipolar core (EaOq-82:4409) recovered from Block A (CU1), site EaOq-82	80
Plate 5-32	Planview of Block A (647-649N 338-342E) showcasing distribution of faunal material along centre of block at floor of CU1; scale in 10 cm increments	90
Plate 5-33	Bone awl recovered from Block A (CU1), site EaOq-82.....	91
Plate 5-34	Polished bone tool (EaOq-82:63) and bone upright (EaOq-82:1064), Block A (CU1), site EaOq-82.....	92
Plate 5-35	Planview of completed Block B (CU1), site EaOq-82	97
Plate 5-36	Planview of completed Block A (CU2), site EaOq-82	101
Plate 5-37	Planview of feature F7, Block B (CU2), site EaOq-82; scale in 10 cm increments	107
Plate 5-38	East profile of feature F7, Block B (CU2), site EaOq-82; scale in 10 cm increments.....	107
Plate 5-39	Broken projectile points (EaOq-82:6811, 6813, 7219, 7223), Samantha/Avonlea arrow points (EaOq-82:7221, 7222) and a Besant dart point (EaOq-82:7224) from Block B (CU2), site EaOq-82.....	112
Plate 5-40	Biface fragment from Block B (CU2), site EaOq-82	115
Plate 5-41	Sample of retouched flakes from Block B (CU2), site EaOq-82	115
Plate 5-42	View southeast of completed CU2 excavation blocks, site EaOq-82	123
Plate 5-43	Planview of features F5 (blue) and F6 (red), Block C, site EaOq-82; scale in 10 cm increments.....	125
Plate 5-44	Planview of feature F6, Block C, site EaOq-82.....	128
Plate 5-45	View of north profile of feature F6, Block C, site EaOq-82.....	128
Plate 5-46	Projectile point (possibly a Samantha arrow point) from Block C, site EaOq-82	133
Plate 5-47	Sample of retouched flakes from Block C, site EaOq-82	135
Plate 5-48	Ochre-stained antelope tibia, Block C, site EaOq-82; top right shows close-up of distal end run through DStretch (red pigments highlighted).....	140

LIST OF APPENDICES

APPENDIX A	FORMAL DEVELOPMENT PLANS.....	159
APPENDIX B	REGULATORY CORRESPONDENCE.....	163
APPENDIX C	ARCHAEOLOGICAL SITE INVENTORY FORM	173
APPENDIX D	ARTIFACT CATALOGUE SHEETS.....	181
APPENDIX E	RADIOCARBON DATING RESULTS.....	437

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Introduction
February 2024

1.0 INTRODUCTION

On behalf of the City of Medicine Hat, Stantec Consulting Ltd. (Stantec) conducted archaeological monitoring and mitigative archaeological excavations at site EaOq-82 relative to the Medicine Hat Water Treatment Plant Residuals Management Facility Expansion (the Project, Appendix A) per Alberta Arts, Culture, and Status of Women (AACSW) requirements (*HRA 4710-22-0033-002 & 003*, Appendix B). The Project is located on the south side of the South Saskatchewan River within the city limits of Medicine Hat, Alberta (Figure 1-1). During palaeontological monitoring of excavations for the Residuals Clarifier Building (*HRA 4710-22-0033-001*), lithic materials, fragments of fire-broken rock (FBR) and fragments of faunal material, including a bone tool, were observed by Stantec palaeontologist Dr. Lisa Bohach in the floor of the excavation approximately 2.5 m below surface (b.s.). Subsequently, the chance find was reported to AACSW as per Section 31 requirements under the Alberta *Historical Resources Act* (*HRA*) and was newly recorded as archaeological site EaOq-82. After submission of a letter outlining the finds, AACSW issued *HRA* Requirements (*HRA 4710-22-0033-002*) and a permit (23-101) was issued for archaeological monitoring to coincide with the palaeontology program. Following additional finds of cultural material both at 2.5 m b.s. and at ~4.0 m b.s., construction activities were halted, the finds were documented in a second interim letter and requirements were issued (*HRA 4710-22-0033-003*) for a Stage 1 mitigative excavation program of up to 65 sq. m to be conducted prior to the completion of construction activities.

The monitoring and mitigative excavation programs were conducted on the traditional territories of the people of the Treaty 7 region and the homeland of Métis Nation of Alberta, Region 3.

1.1 PROJECT DESCRIPTION

The City of Medicine Hat requires the construction of a residuals management facility to handle waste streams produced by the Water Treatment Plant for the environmental protection of the South Saskatchewan River (Environmental Protection and Enhancement Act Approval 972-03-00). The upgrade to facilities will meet new allowable direct discharge limits for residuals (coagulated particles) entering the river and the facility will route waste to the new Residuals Management Facility (RMF) building. At the RMF, the waste will be thickened to a consistent product and pumped to dewatering equipment, after which dewatered solids will be trucked to landfill and clarifier effluent will be discharged to the river.

To facilitate compliance with the new discharge limits, the RMF Expansion at the Medicine Hat Water Treatment Plant will consist of the construction and operation of:

- a Residuals Clarifier Building located east of the Plant 4 and Plant 5 buildings (0.06 hectares [ha]);
- a Residuals Management Facility Building southeast of the Residuals Clarifier Building (0.1 ha)

The construction of the Residuals Clarifier Building is most pertinent to the current study, as it was within the foundation for this building that site EaOq-82 was first identified.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Introduction
February 2024

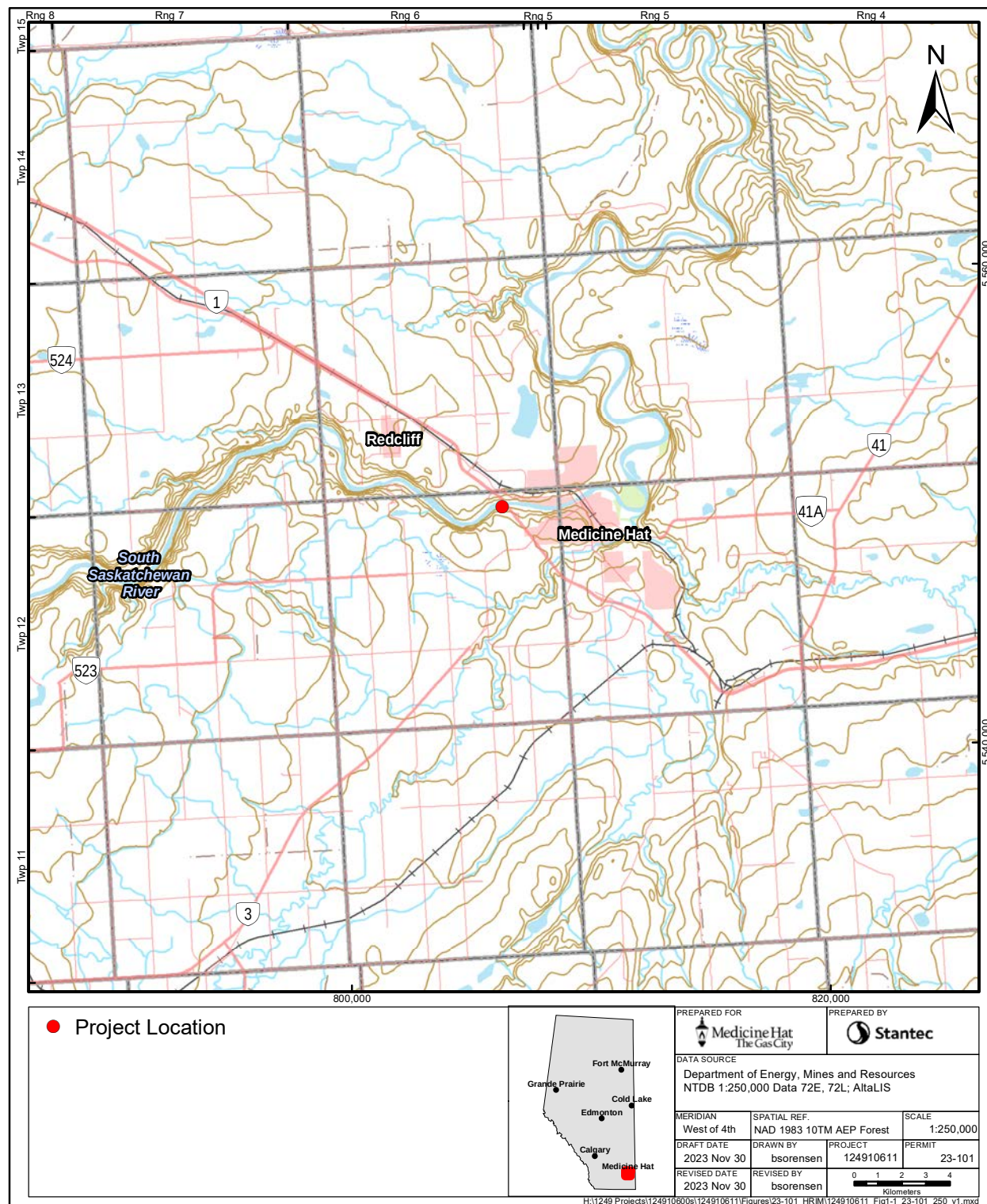


Figure 1-1 Location of Project



Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Introduction
February 2024

1.2 SCOPE AND OBJECTIVES

The primary objectives of an HRIA are to identify historical resources sites within the footprint, assess the nature of Project impacts on identified sites relative to site interpretive potential and to potential impacts, and to formulate recommendations for further site management. In instances where historical resources are identified outside the scope of an HRIA, the processes are as follows:

1. **Archaeological Monitoring** – provide on-sight support to client and construction contractors relative to historical resources and, when necessary, collect and record cultural material.
2. **Site Evaluation** - to evaluate the nature of the existing resource database, the quantity and quality of observable remains (e.g. site condition, content, uniqueness, and complexity) and the potential of the site to contribute to the regional database.
3. **Site Recommendations** - to provide site specific mitigative measures through direct communication with client and Regional Archaeologist commensurate with the interpreted value of the site.

The current study also included an HRIM, of which the primary objectives were to:

1. Assess and mitigate the impacts of Project activities at site EaOq-82 through controlled Stage 1 excavations;
2. Provide interpretations of past activities and occupation of the site;
3. If necessary, formulate recommendations for further site management (i.e. avoidance or further site assessment)

In order to meet the objectives of the study, BETA Analytic was engaged to conduct radiocarbon dating on collected samples following the HRIM.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Background
February 2024

2.0 BACKGROUND

2.1 REGIONAL ENVIRONMENT

Nature has always provided the parameters within which human cultures may develop by providing both opportunities and limitations. As a result, elements of the regional environment are important considerations in the understanding of cultural development, as they influenced not only the types of activities that could be conducted, but the ways in which they could be accomplished.

The Project is located within the Dry Mixedgrass Natural Subregion of the Grassland Natural Region of Alberta (Natural Regions Committee 2006) (Figure 2-1). This subregion occupies the southeastern corner of Alberta and consists of level to undulating till or lacustrine plains, with some hummocky uplands and sand dunes present. The climate is warm and this subregion receives the lowest amount of precipitation of all the subregions in Alberta. Winters are cold and dry; although Chinooks do occur, they are less frequent than in subregions to the west. Major rivers include the South Saskatchewan, Red Deer, Bow, Milk and Oldman rivers. Generally, wetlands are not common and consist primarily of marshes associated with depressions. The dry climate of this subregion has resulted in the dominance of drought-resistant mixedgrass communities, with shrubs and trees present mainly in coulee and valley bottoms. Grazing has an impact on species present. The most common grass species present include blue gamma, needle-and-thread, June grass and western wheat grass. Shrub communities commonly include buckbrush, silver sagebrush, silverberry and prickly rose. Communities composed of willow, buffaloberry and plains cottonwood develop in valleys. Wetlands with sedges, spikerushes and willows are occasionally present, but overall wetlands are not common. Soils in this subregion are mainly Orthic Brown Chernozems with some Solonchic soils present where saline and sodic conditions prevail (Natural Regions Committee 2006). Wetlands in this region are key habitat for nesting waterfowl. Common mammal species that would have been important to precontact peoples include Nuttall's cottontail, mule deer, white-tailed deer and pronghorn antelope; bison would have been present prior to the historic period.

2.2 SITE ENVIRONMENT

Site EaOq-82 is situated on a middle terrace (~5 m to 8 m) of the South Saskatchewan River within the City of Medicine Hat. The site is within the boundaries of the Medicine Hat Water Treatment Plant, which has been in this location since its construction in 1912 (City of Medicine Hat 2021), and very little native vegetation remains. Upgrades and expansions to the water treatment plant over the last century have modified the bank edge, now covered in riprap, and flattened or otherwise modified the terrace edge.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Background
February 2024

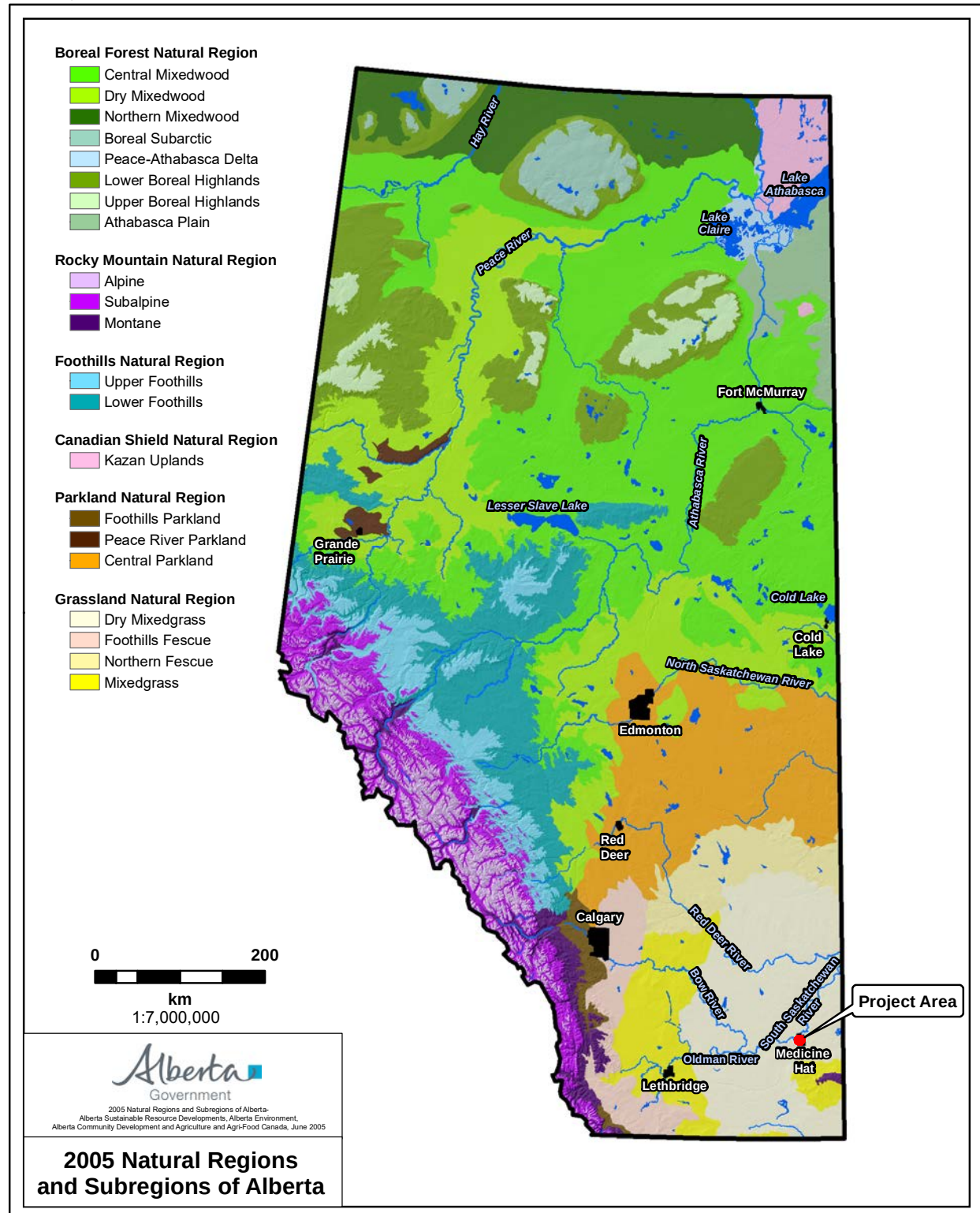


Figure 2-1 Natural Regions and Subregions of Alberta

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Background
February 2024

Large cottonwoods are present along the bank of the river but it is likely that these have been replanted since the construction of the plant (Plates 2-1 and 2-2). Additional installments of aspen and conifers dot the plant's grounds (Plate 2-3).

2.3 PREVIOUS RESEARCH

AACSW has assigned Historic Resources Values (HRVs) of 5 to the lands encompassing the Project, which indicates the lands are believed to contain a historic resource that may require avoidance (AACSW 2023; Figure 2-2).

The Project lies within Borden Block EaOq. A total of 82 sites (including EaOq-82) are on record within Borden Block EaOq including precontact sites (35 stone feature sites, 18 artifacts scatters, 14 campsites, six isolated finds, two rock art sites, two animal killsites), historic sites (one industrial, one police post, and one historic feature), and one palaeontological site. The Project lies within a land parcel designated on the *Listing of Historic Resources* (AACSW 2023) with a Historic Resource Value (HRV) of 4a (archaeological) and 5p (palaeontological). The surrounding parcels, especially those along the South Saskatchewan River, contain HRV values of 4 (in the case of containing a known archaeological sites), or 5 (having high potential for containing an archaeological site). These HRV designations reflects the fact that these lands have high potential for the presence of previously unknown archaeological sites, or either buffer or contain known archaeological sites of interpretive potential.

Many of the major archaeological studies within Borden Block EaOq were conducted in the 1980s and 1990s relative to subdivision development in and around the city of Medicine Hat (Hunt 1985; Malasiuk and Hills 2007; Saylor 1981; Wondrasek and Bailey 1990, 1999), highway developments and upgrades (Gryba 1979; Quigg 1984), trail system installations (Ambrose 2016; Dau 1985; Hill 2020) and other municipal developments such as golf courses, cemeteries, and recreational common areas (Balcom 1983, 1987; Dau 1991; Light 2011; Wright 1984). These earlier studies resulted in the identification of numerous archaeological sites, the most significant of which being site EaOq-7, the Saamis site (Dau 1985; Milne Brumley 1978; Vickers and Rushworth 1988). Relative to the current study, a total of eight previously recorded sites are within 1 km of the Project. Of the nearby sites, EaOq-22 and EaOq-23, both located on the north side of the South Saskatchewan River, were mitigated through surface collection of artifacts (Light 1985); these mitigations did not result in the recovery of diagnostic tools or cultural materials.

Site EaOq-43 (the Aldon Plant site), located in a coulee draw southwest of the current Project, was subjected to limited test excavations in 1988 (Brumley 1995) that resulted in the recovery of several side-notched projectile points with characteristics similar to Besant phase points found elsewhere in the region, as well as a Pelican Lake point. These finds, along with the evidence for a bison kill (possibly a pound site), were used to redefine the Sandy Creek phase which, at the time, had been suggested to span a period from 2,450 – 1,950 before present (B.P.; Dyck 1983); this was redefined based on data from the Aldon Plant site to ca. 2,800 B.P. to 1,950 B.P. (Brumley 1995).

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Background
February 2024



Plate 2-1 View north across South Saskatchewan River valley; EaOq-82 marked by arrow



Plate 2-2 View northeast of cottonwoods along South Saskatchewan River north of EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Background
February 2024



Plate 2-3 View east across Project; note replanted conifers and aspen in background

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Background
February 2024

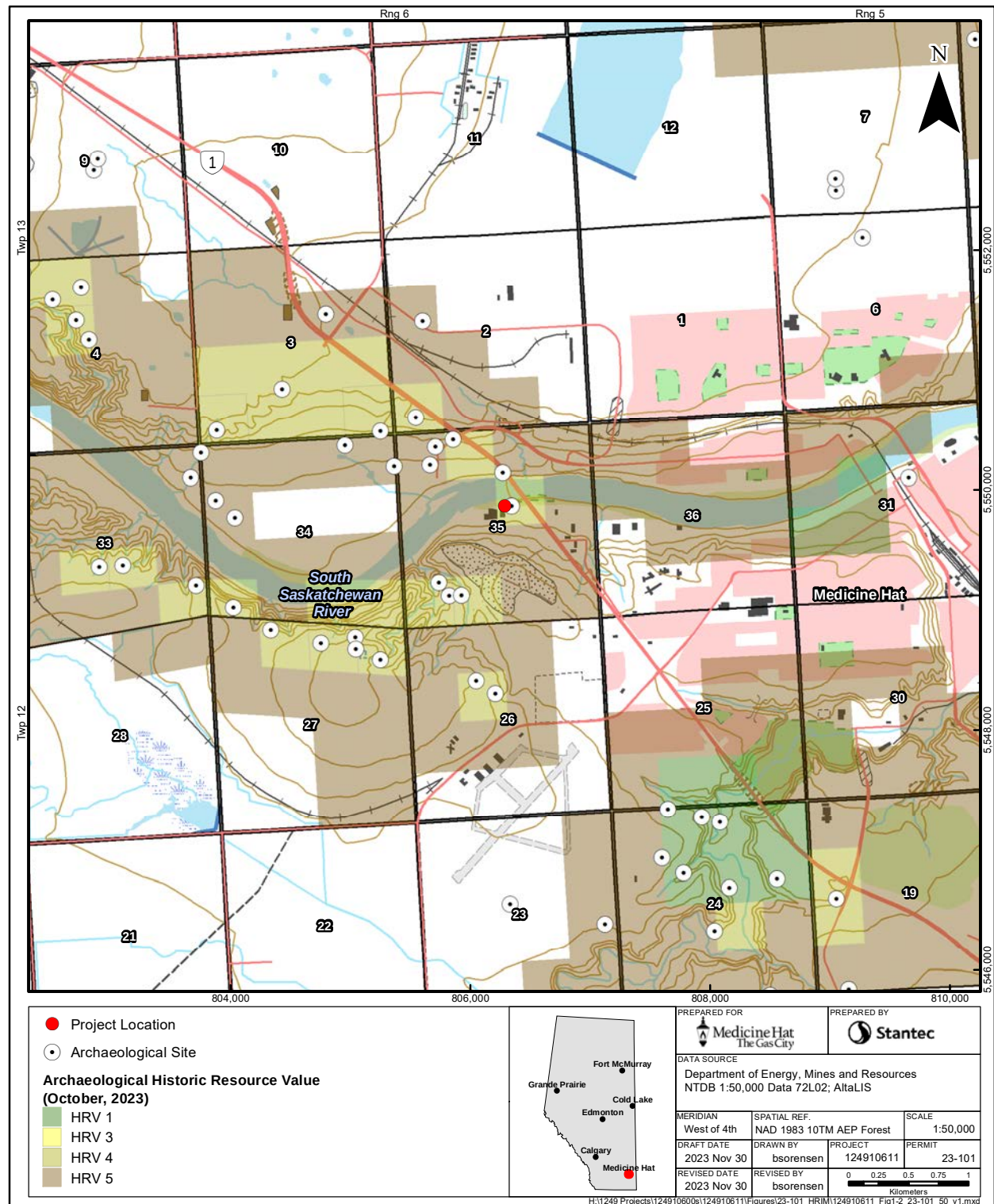


Figure 2-2 Project Footprint and Archaeological Historic Resource Values



Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Research Design
February 2024

3.0 RESEARCH DESIGN

3.1 DEFINITION OF HISTORICAL RESOURCES

In Alberta, historical resources are protected under the *Alberta Historical Resources Act (HRA)*, and are defined as precontact, historic, and palaeontological sites and their contents. Certain types of Indigenous traditional use sites are also considered to be historical resources. Because precontact archaeological, historical, palaeontological and traditional land use sites represent discrete episodes of past activities, they are non-renewable and, therefore, are susceptible to alteration or removal by development. Precontact and historical archaeological resources are comprised of physical expressions of past cultures. The key to the interpretation of these historical resources, however, is in their pattern of cultural deposition, which is extremely fragile, ephemeral and the product of unique processes and conditions of preservation. Consequently, once they are disturbed, they cannot be replaced, recreated, or restored. Due to the nature of their origin and preservation, archaeological resources are finite in quantity. As a result, archaeological resources are increasingly susceptible to destruction and depletion through natural and cultural disturbances.

3.2 SITE DESIGNATION AND CLASSIFICATION

Archaeological sites are referred to by a Borden Number which consists of a four-letter symbol accompanied by a number (e.g. FaPq-11). This uniform site designation scheme for archaeological sites in Canada was developed by Charles Borden (1954). Within this system, the upper-case letters represent major blocks 2° by 4° blocks in size (i.e. F = 52° to 54° latitude, P = 112° to 116° longitude) and the lower-case letters denote 10' units within the major block (i.e. a = 0' to 10' latitude; q = 40' to 50' longitude) (Figure 3-1). The numbers refer to specific sites within the units and are assigned by the Historic Resources Management Branch (Alberta Culture 2023).

3.3 PRIMARY IMPACTS AND MITIGATIVE MEASURES

Adverse primary impacts to historical resource sites, identified during the construction stage of development, can be significantly reduced, or eliminated by avoidance or adequate study. Site avoidance can be achieved through alteration of the Project footprint; however this may be difficult or impossible depending on the stage of construction when the site is first identified. If the development is large or complex, avoidance may not be feasible. If avoidance is not feasible, adequate study of archaeological sites generally involves scientific investigations that are designed to systematically explore and reconstruct the activities that are represented at the site. These investigations may involve the systematic collection of exposed cultural material, detailed mapping, photographic documentation of the site, or the excavation of an intact buried site. In cases where the interpretive potential of an archaeological site is considered to be low, photographic documentation, recording, and collection of surface specimens may represent sufficient mitigative measures. In cases where the interpretive potential of an historical resource site is identified as high, however, more detailed investigative measures, such as controlled excavation, may be necessary.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Research Design
February 2024

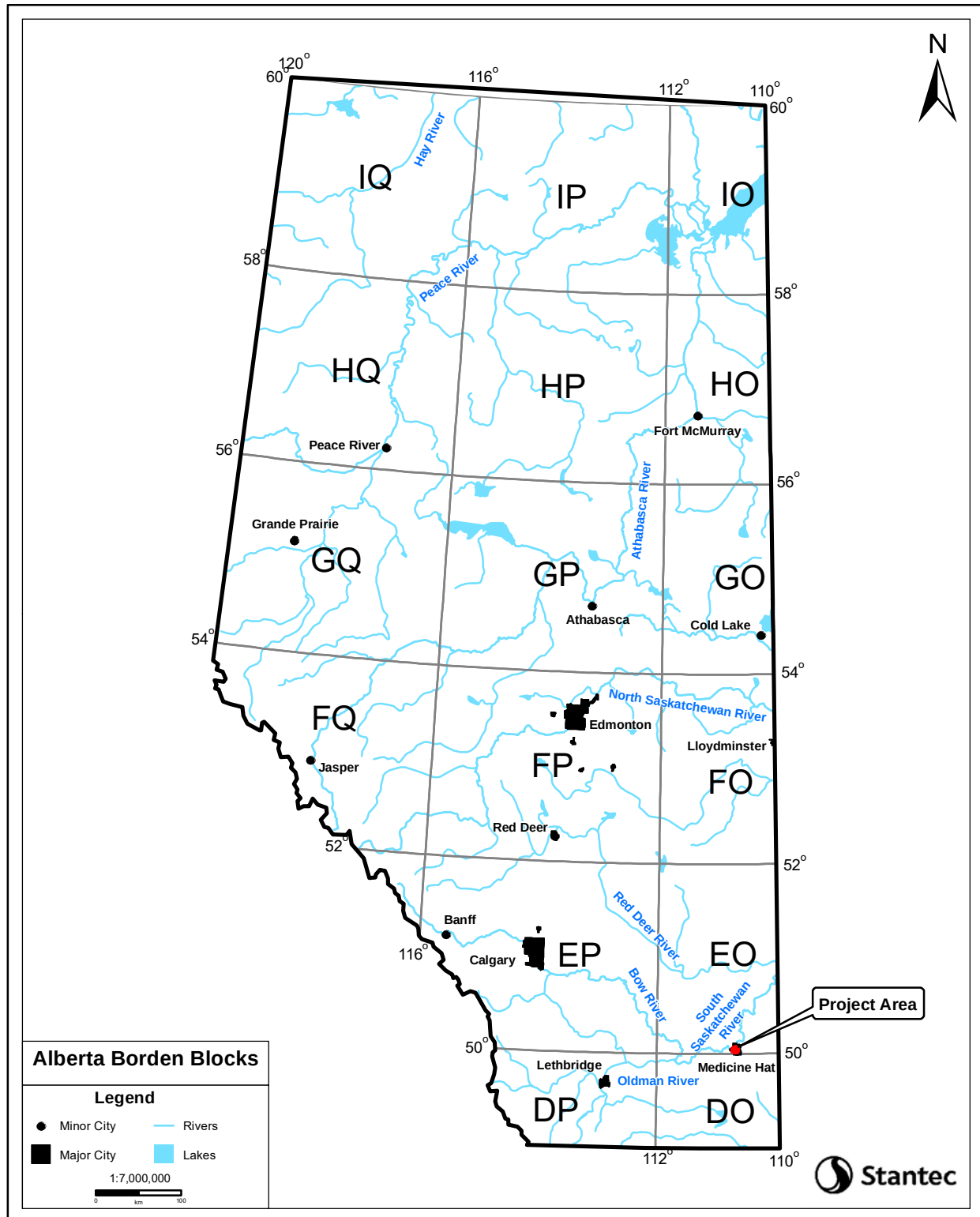


Figure 3-1 Alberta Borden Blocks

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Research Design
February 2024

3.4 EVALUATION OF INTERPRETIVE POTENTIAL

Once identified, the relative interpretive potential of a historical resource must be determined, to understand the ways in which it will affect the Project, and to formulate the mitigative methods that will be used to resolve or minimize any Project conflicts. Using site content and context as an indicator of interpretive capacity, each site is evaluated in a pre-impact setting from the perspective of scientific value, as per AACSW guidelines (Archaeological Survey 2020). Additional factors such as ethnic and public value may contribute to the evaluation of an historical resource; these perspectives are not included in the research design as they are beyond the scope of an HRIA under the *HRA*.

The basic attributes of scientific value are the capacity of an archaeological site to contribute to the current understanding of cultural or natural history and development and its potential to address current research problems within the discipline. Scientific value can be applied to precontact, historic or palaeontological concerns. Although site integrity is the primary indicator of scientific value, several other factors are also considered (Table 3-1). Scientific value is the primary method for assessing interpretive potential at most historic resource sites.

Through this assessment a determination of the mitigative actions necessary for the treatment of an historical resource site relative to a project can be determined. Such mitigative actions may vary from avoidance to archaeological excavation. The actions will vary, depending on the nature of the site, the area it covers and the potential impacts.

Table 3-1 Indicators of Scientific Value

Scientific Attributes	Cultural Indicators
Types and materials of historical resource specimens	Range of artifact types and raw materials identified at a site
Types of historical resource features/biological communities	Range of feature types (eg. stone features, hearth features, standing structures) identified at a site
Specimen density/variety	Abundance and diversity of cultural materials at a site, as indicated by the quantity and variety of cultural materials Relationship between the cultural material abundance and diversity and known patterns in the local and regional databases The cultural/temporal diagnostic potential of the artifacts
Age and uniqueness of the site	Rarity of the site in the local and regional study areas
Site integrity/potential impact	The nature of the anticipated impacts to the site, including the type and extent of the impact as it may affect the site's interpretive capacity

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Research Design
February 2024

3.5 PROJECT-SPECIFIC RESEARCH DESIGN

Initially, the monitoring requirements issued by AACSW were solely for palaeontology given proximity of the Project to the South Saskatchewan River and the possibility of encountering Pleistocene or Holocene deposits as well as fossiliferous bedrock deposits. Subsequent updates to the Project construction schedule were made following the Section 31 finds of archaeological material by a Stantec senior palaeontologist at ~2.5 m b.s., resulting in the issuance of additional HRA requirements and an archaeological permit to conduct construction monitoring. Due to the uncertain nature and extent of the cultural material, collection of all uncovered archaeological material was mandated within the updated Project HRA requirements. In addition, a record of the level of disturbance was required so that further recommendations for the site could be made. Given the depth at which the initial finds were identified as well as the relatively small dimensions of the Project footprint, the City of Medicine Hat, the construction contractor, and Stantec senior archaeologist and senior palaeontologist developed a monitoring strategy that allowed for systematic recording of additional cultural finds as well as appropriate communication with equipment operators to allow for safe work to occur in a deep construction area. After consultation with AACSW, it was deemed appropriate for several shovel tests to be excavated during construction monitoring to establish the vertical and horizontal extent of the cultural deposits to aid in refining recommendations for the site.

After a greater quantity of faunal material, lithic debitage, and FBR were uncovered during monitoring in the vicinity of the original finds, as well as a second, lower deposit of cultural material at ~4.0 m b.s., stripping across the entire construction footprint was reduced to a series of trenches that were excavated to the maximum Project depth to allow for soil compaction testing. Based on the density of animal bone, lithic artifacts, and FBR, the research design was expanded to include a Stage 1 mitigative excavation program of up to 65 sq. m (inclusive of 10 discretionary metres to be used to bolster one of the excavation blocks) to investigate the upper cultural deposits at ~2.5 m b.s. and at ~4.0 m b.s. The Stage 1 mitigative excavations were designed to be excavated in two phases – the first to include the placement of two excavation blocks overtop of artifact densities associated with the upper cultural component (A and B) and the second to be comprised of three excavation blocks (A, B and C) placed to investigate the lower cultural deposit. Between these phases, non-cultural sediment was removed with a backhoe; the senior archaeologist was responsible for monitoring the removal of these sediments. Due to the construction schedule and the time constraints for the Stage 1 excavation, it was determined that mechanical stripping and little to no screening of these sediments was warranted. Given the constraints of the Project footprint (restricted horizontal expansion due to the deep vertical walls of the Project footprint, which essentially is the basement of a building), excavation blocks were expanded based on horizontal artifact densities and/or the presence of archaeological features as much as possible based on Alberta OH&S regulations. These constraints were eased following the removal of non-cultural sediments, as a wider area was cleared to allow for greater freedom in block expansion. Given the impending construction deadline for the Project, only those areas that had been sufficiently exposed and investigated during construction monitoring were targeted for further investigations.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods
February 2024

4.0 METHODS

4.1 ARCHAEOLOGICAL MONITORING

Archaeological monitoring of construction activities relative to the Project was initiated after issuance of HRA 4710-22-0033-002 and was comprised of on-site, visual inspection of all excavation activities within the footprint of the Project. At the request of the senior archaeologist, the construction contractors, including the backhoe operator, removed sediment in a slow, controlled manner in the areas of the initial cultural finds (MH_CF1 to MH_CF6) to allow for collection of uncovered artifacts per monitoring requirements. Once it was established that significant finds within the upper cultural deposit were present, tarps were used to cover the exposed artifacts and construction activities were restricted to a series of trenches, with locations chosen by the construction contractor, that were placed to excavate to depth to allow for soil compaction testing (Plates 4-1 and 4-2). Due to the size of the machine used for excavation, trenches were approximately 2 m wide and ranged in length. Removal of sediment in each test pit was undertaken in a controlled manner, with ~20 cm stripped with each pass. Backfill was briefly analyzed for cultural material and, when artifacts were identified, locations were recorded with the ESRI FieldMaps app, finds were photographed, and then collected. Subsequent monitoring of the completion of excavation for the Project was completed following approvals for the Stage 1 mitigative excavations, during which the methods outlined above were utilized with the collection of artifacts restricted to a small, representative sample and/or temporally diagnostic artifacts.

4.2 SITE EXCAVATION

Mitigative excavation was conducted through standard methods identified in the Guidelines for Archaeological Permit Holders in Alberta (Alberta Community Development 1989). The Archaeological Site Data Form is presented in Appendix C. A site datum (650N 350E) was established at ground surface east of the Project footprint and recorded with a sub-centimetre-accurate Trimble GNSS unit. This enabled a comprehensive and accurate grid to be placed over the site with all blocks aligned to the site datum. By AACSW request (W. Unfreed personal communication, July 29th, 2023), excavation blocks completed for investigations of the upper cultural component were to maintain horizontal distribution across the site, that is, once overburden removal between cultural components was completed, previously excavated units were to be placed in the same location to continue investigations of the lower cultural component. To facilitate this request, data points were taken with the Trimble unit at the corners of the upper excavation blocks to allow for continuity of block placement to within 5 mm accuracy.

Prior to excavation, a backhoe was utilized to properly slope the exterior walls of the Project to allow for safe working conditions in accordance with Alberta OH&S regulations. Excavation blocks were placed overtop of features/activity areas identified during construction monitoring and subsequent excavation units were opened relative to those that produced strongly positive or more interesting results. In general, excavation units were dug using shovel shaving techniques and sediment was removed in a combination of natural levels and arbitrary 10 cm levels, according to cultural component and level of previous construction exposure.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods
February 2024



Plate 4-1 View northwest of Project footprint; orange tarp marks initial artifact finds; white tarp marks secondary artifact area, and blue tarp marks lower cultural feature



Plate 4-2 View of trench (MH_BH1) south of initial artifact finds (circled)

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods
February 2024

To compensate for the uneven ground surface following construction activities, external datums were established around each excavation block and were tied into the site datum, allowing for a consistent relative depth measurement across blocks and between cultural components. Depths of in situ finds were recorded in centimetres below datum (cm b.d.) but will be discussed as below surface (b.s.) depths as all measurements were able to be tied back to the main site datum. All cultural materials encountered were collected and minimally recorded by unit and level. In situ recording was ideally conducted for material greater than 2 cm for lithic debitage, greater than 5 cm or any identifiable elements for faunal material, and material over 5 cm for fire-broken rock. All tools and artifact concentrations were recorded in situ whenever possible. Vertical and horizontal provenience was recorded to the nearest cm for each artifact collected in situ, and the location of each find was mapped on the level record forms kept for each unit. In cases where microdebitage had been observed during construction monitoring or features were uncovered, fine screening (1/8 inch mesh) was used –other sediment was screened using ¼ inch mesh. Artifacts identified and collected in the screen were given a depth range associated with the level in which they were found. Tools and any in situ recorded artifacts were bagged separately from those artifacts collected from the screen.

Per AACSW requirements, a total of 10 discretionary metres were to be excavated at the site to further expand one of the three excavation blocks. These units were not placed during excavation of the upper cultural components but were instead held in reserve and used to expand two of the three blocks (Blocks B and C) during excavation of the lower cultural component. Dense artifact “floors” were photographed as a whole block or, when the blocks became too large, were taken as several photos that could later be stitched together to provide a holistic understanding of spatial distribution of artifacts across the various cultural components. Following completion of excavations within the upper component, a backhoe was used to mechanically strip 1.7 m of overburden between the cultural components, stopping approximately 10 cm to 15 cm above the lower component to provide a buffer so as not to disturb other cultural remains that were present.

4.3 MATERIAL ANALYSIS

The methods of artifact analysis and cataloguing used in this study are briefly summarized in the following section, as they have largely structured the overall artifact analysis. Subsequent to completion of artifact cataloguing and analysis, all artifacts are submitted to the Royal Alberta Museum (RAM) for curation. All lithic artifacts are first cleaned by a combination of dry brushing or wet washing; tools and cores are not washed. Faunal material is dry brushed to clean. Subsequent to initial sorting and comparison against level records and field cards, all cultural material is examined individually. The catalogue sheets (handwritten sheets subsequently entered as Excel spreadsheets) contain all required information fields regarding provenience (excavation area, block, unit, quadrant, depth, and level); a separate spreadsheet is established for each artifact class, containing all provenience information and fields for artifact description (Appendix D). After arriving in the lab, artifacts are separated and grouped by artifact class (lithic or fauna). The lithic material is further divided into lithic artifacts (debitage, tools, cores). Field cards are kept with the artifacts. All artifacts are counted and weighed and assigned to a size class specific to that artifact type. Where appropriate, artifacts that conform to a set of specific criteria (material type, size class, colour) are bulk bagged; the catalogue tag records a range of numbers that reflect the number of

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods

February 2024

artifacts in the bag. Both hard copies and electronic copies of the catalogues are submitted to AACSW and the RAM, along with the artifacts; digital photographs and the photo catalogue are also submitted.

4.3.1 Lithic Artifact Analysis

Each lithic artifact is counted, sorted, assigned a unique catalogue number, weighed to the nearest tenth of a gram, and placed into one of four size categories based on its longest dimension. The size categories are microdebitage (0 cm to 0.66 cm), smalldebitage (0.66 cm to 2.5 cm), mediumdebitage (2.5 cm to 5.0 cm), and largedebitage (greater than 5.0 cm). Groups of like artifacts in the same size class (for example 12 pieces of block shatter greater than 5.0 cm in size) are weighed and bagged together rather than individually. These size categories and weights are suitable for mass analysis and permit rapid comparison of lithic assemblages within and between sites for gross similarities and differences. Artifacts designated as tools, cores, anddebitage are each subject to additional analysis.

4.3.1.1 Debitage Analysis

Debitage analysis is simplistic and strictly typological in nature. Each piece ofdebitage is initially placed into one of four major categories based on its observed attributes; no attempts to quantify or record individual attributes such as counting dorsal flake scars or degree of platform preparation are undertaken. The four major categories are: microdebitage, block shatter, flake fragment, or platform bearing flakes (Magne 1985). Microdebitage includes all lithic artifacts smaller than 0.66 cm in size regardless of flake attributes. Block shatter is defined as an angular piece of material with no true flake or core attributes such as a bulb of percussion or negative flake scars. Flake fragments are defined as having typical, readily identifiable flake characteristics such as dorsal flake scars, compression rings, or bulbs of percussion, but striking platforms are either not present or incomplete (split flakes). Finally, platform bearing flakes are defined as either complete or incomplete (broken or hinged) flakes with a complete striking platform.

For block shatter or flake fragments, no further analysis beyond artifact type, material type, and colour is undertaken. Although larger pieces of block shatter are more common in the initial stages of lithic reduction, flake fragments can be produced at any stage of the reduction sequence and tend to be relatively non-diagnostic, except through very general considerations of size and representation in the specimens.

Unlike block shatter and flake fragments, platform bearing flakes can provide diagnostic information about the nature of stone tool manufacture at a given site. Although platform bearing flakes include a very wide variety of types from all of the different stages of core reduction and tool manufacture, only four specialized types are differentiated in this study: primary decortication flakes, secondary decortication flakes, bifacial reduction flakes and retouch/resharpening flakes.

Primary decortication flakes are defined as having greater than 90 % of the dorsal surface covered with cortex (small nicks or chips in the cortex were permissible). Secondary decortication flakes have some cortex present on the dorsal surface, but less than 90 %. These two types of flakes are usually indicative of the primary stage of lithic reduction. Bifacial reduction flakes are thinning flakes removed from a biface, distinguished by the presence of a lip below the striking platform and a curved profile. Finally, small

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods
February 2024

retouch or resharpening flakes are isolated. These flakes are typically small and thin, with complex, often abraded platforms and high dorsal scar counts. It is not possible to accurately distinguish retouch flakes from resharpening flakes without magnification, so this type is designated retouch/resharpening flakes. These flakes represent the final stage of the lithic reduction sequence (tool finishing or maintenance).

The four key flake types above are believed to be distinctive enough that the analyst could apply the typological approach consistently enough to isolate these types. The types selected are also from different stages of the reduction sequence, which would hopefully permit some degree of interpretation regarding the activities that produced the assemblages. Flakes that did not fit into any of these subtypes are simply classified as platform bearing flakes. Where a flake could have two designations, such as a primary decortication flake that is also bipolar, bipolar was added to a “modifier” column.

Further discussions of lithic debitage utilize the terms “early”, “middle”, and “late” stage debitage, referring to the stage in the reduction process from core to finished tool the debitage may represent (Magne 1985). Early stage debitage refers to core reduction where flakes have 0-1 platform scars such as primary and secondary decortication flakes. Middle stage flakes have 2 platform scars and include shaping and early tool reduction debitage, defined in this assemblage by “platform bearing flakes.” Finally, late stage flakes have 3 or more platform scars and refer to those flakes removed in the final processes of finishing a tool, such as retouch/resharpening flakes, bifacial reduction flakes, and microdebitage. Debitage that fell outside of these categories, including block shatter and flake fragments, were classified as “other” debitage. The analysis utilized for this study uses a general approach and classifies debitage to these three stages based on form rather than specific platform scarring (e.g. a platform bearing flake may have 3 scars but this was not recorded during cataloguing so was instead grouped together to assume middle stage reduction representation). It is assumed that, while not wholly accurate, this approach will allow for a basic analysis of distribution of debitage between stages and allow for general interpretations of lithic utilization at site EaOq-82.

The lithic catalogues also contain a “comment” column. In this column, the analyst might include comments such as “core rejuvenation” or “bladelikey”, however these terms are not applied consistently in a searchable format. While it is recognized that the debitage analysis for this study is relatively simple some inferences regarding the reduction sequence are possible because of these analysis methods.

4.3.1.2 Core Analysis

In this study, lithic cores are isolated from the debitage and subjected to more detailed analyses. Cores are examined, measured individually, and placed into a typological category based on core attributes, primarily the direction of flaking. Defined core types in this assemblage include multidirectional cores, bipolar cores, and core fragments. The standard core types are relatively self-explanatory, with the exception of core fragments. Artifacts are classified as core fragments if they exhibited negative flake scars but are too incomplete to be classified into one of the exclusive core types.

Standard measurements such as length (L), width (W), and thickness (Th) are surprisingly difficult to obtain in an accurate, replicable fashion since they depend on a subjective orientation of the long axis of

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods
February 2024

the artifact (Andrefsky 2005). Instead, the core's maximum linear dimension (MLD) and weight has been measured in this study.

4.3.1.3 Tool Analysis

Tools are separated, measured, and described individually as required (Alberta Community Development 1989). Tools include formed tools (such as projectile points), fabrication tools (such as hammerstones and anvils) and flake tools. Projectile points are categorized based on the completeness of form, the overall shape, the basal edge shape, the notch type, the notch form, the flaking pattern, the transverse section shape, the outline symmetry, and the base form.

Flake tools are divided into two categories (retouched flakes and utilized flakes) based on visual assessment of the type of modification. Metrics recorded include maximum length, width, and thickness when applicable. Modified flakes include flakes with purposeful retouch on one or more edge. After Reeves (1970), these tools are described to include the number of edges with retouch, the type of retouch (unifacial or bifacial), the degree of retouch along each modified edge (e.g., complete, modified distal half, etc.), the shape of the edge, and the morphology of the transverse section of the edge (e.g., dorsal bevel, etc.). Utilized flakes include flakes with one or more naturally sharp edges that were used without being purposefully retouched. These tools are described to include the number of edges used, the shape of the edge, and the morphology of the transverse section of the edge. Measurements are taken for the length, width, and thickness of each flake tool where these attributes were available. For those tools that are sent away for macro/micro botanical analysis, only light dry brushing is employed to clean the artifacts, which allows for accurate measurements and descriptions while maintaining sample integrity.

4.3.1.4 Lithic Raw Material Types

Lithic artifacts are classified into separate raw material types based solely on visual criteria, such as colour, texture, and lustre. Broad categories are first established based on gross mineralogy (e.g., quartzite, chert, siltstone, quartz crystal) and some individual types are further subdivided based on colour, quality, or inclusions (Kooyman 2000). A total of 13 raw material types were identified in this study.

Almost all the lithic material types recovered during the current program are believed to be from local or central Alberta sources. Typical quartzite from Laurentide till is often found as large cobbles and may contain a range of grain sizes producing variability in its fracture pattern and its quality as a raw material for stone tool production. Its lustre is dull, and it is opaque with a somewhat "sugary" texture. Chert, which is formed from silicate precipitate, can be found within veins of other material or in nodular form. It is fine-grained, opaque, and has a dull to waxy lustre. Outcrops of bedded chert are found in various locations, depending on chert type. Outcrops of nodular chert, or pebble chert are found across the foothills of Alberta and into Montana. Siltstone and mudstone are formed by the metamorphosis of silt and clay particles, respectively. These materials are opaque with a dull lustre. Widely distributed throughout the Rocky Mountains and Alberta, siltstone cobbles and pebbles are commonly found in drainages (Bubel n.d.). Sandstone is a sedimentary rock formed by lithified sand grains and carbonate material, respectively and is also widespread across Alberta (Bubel n.d.).

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods

February 2024

Swan River Chert is a variant that can be readily identified as a distinct chert type. It ranges in colour from white to shades of grey and the colours are usually swirled through the material giving the appearance of curdled milk; when heated the material turns reddish-orange to salmon-pink in colour. It is generally very fine grained, vugs are frequently present and, although it is named for its outcrop source in Manitoba, it is believed that locally, the material likely derives from gravel deposits in stream beds and channels or as surficial lag gravels transported to the area during the last glaciation (Grasby et al 2002; Low 1996).

A large number of chalcedony tools and debitage were recovered from EaOq-82 which, superficially, appear similar to Knife River Flint, generally sourced to North Dakota (Clayton et al 1970). However, comparative analysis, included fluorescence testing under UV light with known samples of Knife River Flint, revealed that this chalcedony was too dissimilar from Knife River Flint and its origins are unknown. Much of the chalcedony is homogenous, being brown in colour with a vitreous lustre and features white, cloudy inclusions on many examples. It is possible that this material may be from a bedrock source in Montana based on visual examination of several sourced lithic materials from the region.

“Montana” chert was present in low quantities within the EaOq-82 assemblage. This material is characterized by its fine grain texture and its dull lustre. A wide variety of colours are present in the Montana cherts, which are sourced to various outcrops in Montana and along the Rocky Mountains in secondary alluvial deposits (Bubel n.d.).

All other lithic material types recovered under this permit, including quartz, petrified wood and/or petrified peat, and granite, are believed to be from locally available glacial tills and gravels deposited along major rivers. Occasionally, lithic materials cannot be accurately identified to lithology, especially some coarse-grained, undistinguished specimens; these are classified as undifferentiated coarse-grained material (UCGM).

4.3.2 Faunal Analysis

Faunal remains were catalogued, recording standard provenience information including record number, quantity, excavation unit, in situ provenience (where recorded), level, depth, bone size, and weight (g). Four size classes were defined including small (0 cm to 3 cm), medium (3 cm to 9 cm), large (9 cm to 15 cm) and greater than 15 cm. Any comments or associations recorded on the field cards were transcribed into the “comments” column. Identifiable fauna and specimens with three-point provenience data were catalogued and bagged individually, each being entered on a separate record line in the catalogue. In the case of screen bags, the identifiable specimens were removed and catalogued separately. The remaining unidentifiable specimens were separated into groups based on size and type (e.g. undifferentiated scrap, limb bones, vertebral or tooth fragments). These sorted specimens received a single record line, the weight and quantity reflecting the bulk cataloguing. They were then bagged together with a single catalogue tag reflecting the range of numbers within the bag.

The faunal remains recovered were catalogued using the method devised by Brumley (1990a) for the Oldman Dam project. In addition to the fields described above, a number of fields were established to record pertinent information about the fauna including animal class, bone integrity, bone observations, body portion, element, side, age, bone unit, associations, and comments.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods
February 2024

Animal class includes broad categories of Class, Order, or Family such as large ungulate, large *Canis* sp., or small mammal. “Animal Class” does not strictly mean class in the Linnaean taxonomic classification, but rather the most specific description to which the bone fragments could be assigned with confidence. In some cases, it is a genus and species, but in most it is a more generally descriptive term. To be considered identifiable, the bone must be assigned to an element, even if the species is not firmly identified. Large ungulate is a broad category that includes the larger members of the Order Artiodactyla, such as bison, moose, or elk, but cannot be further identified to species. In post-contact assemblages, the large ungulate category may also include horse and cow. Considering the majority of precontact faunal assemblages identified in southern Alberta and the Parklands are dominated by bison, large ungulate tends to be the default category for unidentifiable material. The small ungulate category includes deer, antelope, sheep, or goat-sized ungulates. Large *Canis* sp. include large dogs and wolves while small *Canis* sp. can include smaller dogs and foxes. Small mammal includes species such as hares or rodents. Whenever possible a more detailed taxonomic category was recorded, preferably to species or genus using the comparative collection or textual references located at Stantec and the University of Calgary.

Bone observations entered into the catalogue include evidence of burning, or calcined bone, cut and/or hack marks, and rodent or carnivore damage. Fragmented bone was recorded as undifferentiated scrap, limb bone, vertebral, skull or tooth fragment. Wherever possible, the element was recorded. Side was recorded, as well as degree of fusion, recorded as a proxy for age. In all cases where these were not able to be determined, such as limb bone shaft fragments, the entry was recorded as indeterminate.

The Bone Unit (BU) is a system devised by Brumley (1990a) and utilizes a series of code numbers to describe complete or portions of an element. For example, BU 2 for the radius is the complete distal end with zero to one quarter of the shaft; BU 3 is the complete proximal end with zero to one quarter of the shaft. The radius has 33 BUs which detail various portions of the bone. The individual BU numbers vary from element to element, with the exception of BU 1 which always indicates a complete element, and BU 99, reserved for undifferentiated scrap and limb bone, tooth fragments, loose teeth (both mandibular and maxillary), skull fragments and undifferentiated vertebrae. A list of relevant BUs is included with the artifact catalogue upon submission to the RAM.

The “comments” column included any further information recorded on the field cards, plus notations regarding the presence of features, such as pit features or hearths, pathologies, or references for non-bison specimens, such as, “possibly antelope.”

In addition to describing the recovered faunal specimen, the use of BUs aids in deriving the minimum number of individuals (MNI) for the assemblage. The MNI for a species can be calculated using the complete bone unit (BU 1) along with fusion and side. In addition, the use of BUs representing incomplete elements can be matched to potentially increase the MNI of an animal. For example, there may be six right and seven left complete femurs in an assemblage which results in a MNI of seven. However, if there are also four left BU 12 (distal end plus one quarter to one half of the shaft), the MNI increases to 11.

When intact, certain landmarks on bone elements provide data for sexing animals within the assemblage, namely bison. Using formulae outline in Walde (1991) and Speth (1983), the sexual dimorphism present in bison can be identified to help determine seasonality of a site occupation.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods
February 2024

4.3.3 FBR Analysis

The FBR assemblage includes both broken and unmodified cobbles. Although recorded and analysed, these rocks are not assigned a catalogue number and are typically discarded following analysis (representative samples from features may be retained for further analysis). These artifacts were not cleaned when they arrived in the lab, unless large chunks of adhered soil would have resulted in erroneous weight measurements.

FBR analysis was simplistic and observational in nature. The records contain a number of fields, including all provenience information, quantity, mass, and fracture type. Each piece is assigned to one of a series of fracture classes that follow the system developed by Brumley (1990b) for the Oldman Dam project. The fracture types include water fracture, where water has shattered the rock producing edges that are rough, angular, and indeterminate fracture, where the fracture type is not or cannot be accurately determined. The Project assemblage includes only water and indeterminate fracture patterns. The FBR is then assigned to a series of size classes (0.1 cm to 5 cm, 5 cm to 10 cm, and 10 cm to 15 cm), and its weight is recorded in grams (g). FBR is also assigned to one of a series of raw material types, including fossiliferous limestone and quartzite, in this case.

For unmodified cobbles, these were assumed to be of a cultural nature based on a lack of similar cobbles within the surrounding sediment in which they were found but featured no obvious cultural modifications. In this case, the cobble was described and included in the FBR catalogue sheet but, much like FBR, was not kept for curation and was discarded following analysis.

4.3.4 Radiocarbon Dating

Carbon is present in all biological materials. Upon death, radioactive ^{14}C isotopes within living tissues begin to decay, while non-radioactive ^{13}C and ^{12}C isotopes do not. ^{14}C decays at a known rate and it is therefore possible to calculate the “age since death” of biological tissues once the amount of ^{14}C is measured (Goh 1991). Accelerator Mass Spectrometry (AMS) dating requires that carbon from the organic sample be measured, isolated and purified prior to analysis. Depending on the nature of the initial organic specimen, numerous mechanical and chemical techniques are used to “extract” carbon from the sample. This is then converted chemically into pure graphite. A particle accelerator is then used to impart high energies to the graphite and an ultrasensitive mass spectrum measures the resulting frequencies of ions of ^{14}C , ^{13}C and ^{12}C . The measured radiometric date in years B.P. is then calculated from this data (Goh 1991).

The resulting age is known as a “measured radiometric date”. The carbon composition of tissues can also be affected while an organism is still alive. Various biological processes (photosynthesis, respiration, metabolism, diet, etc.) can moderately alter the carbon composition of an organism’s tissues. These changes are known as isotopic discrimination and are indelibly recorded by the non-decaying ^{13}C and ^{12}C values of biological substances. The measured ^{13}C and ^{12}C data ($\delta^{13}\text{C}$) from a specimen can be used to adjust or “normalize” the “measured radiometric age” to account for the effects of these processes on the ^{14}C composition of tissues during the life of the organism (Goh 1991).

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Methods

February 2024

Processes external to an organism can also affect the carbon composition of living tissues. Atmospheric carbon is the ultimate determinant of the carbon composition of all ecological reservoirs. Atmospheric carbon composition is known to have fluctuated greatly throughout the Holocene affecting the amount of carbon in all ecological reservoirs for a given time period. Models of these fluctuations have been created from long-term datasets (e.g. tree ring assays and polar ice cores) and may be used to correct or “calibrate” radiocarbon data (Goh 1991).

Four suitable samples (all non-heated bone) were submitted to Beta Analytic Inc. (Beta). The High Probability Density Range Method INTCAL 20 database was used to derive calendar calibrated results (Appendix E).

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

5.0 RESULTS – EaOq-82

Figure 5-1 depicts the site location and archaeological work completed during both construction monitoring and Stage 1 mitigative excavations under permit 23-101 while Figure 5-2 provides a sketch map for the site.

5.1 NATURAL AND CULTURAL STRATIGRAPHY

The stratigraphic profile of site EaOq-82 is characterized by the deep sedimentation occurring from numerous overbank flood events during rapid terrace formation that, notably, contain little evidence for long-term stability during which soils may have developed. Rather, several thin paleosols are all that remain among the varied deposits of silt and sand across the entire profile. Due to the sloped nature of the sides of the Project footprint (in accordance with Alberta OH&S regulations), a complete vertical profile was unable to be obtained during the Stage 1 excavations. However, the various profiles collected during construction monitoring in conjunction with the block profiles recorded provide a complete profile from ground surface to base of excavation (~4.1 m below site datum set at ground surface on the east side of the Project area). Modern fill (asphalt, gravel, debris, etc.) is present in the top ~1 m though this depth varies across the Project area (it is nearly 3 m thick and built up higher on the west side of the Project footprint). Below the fill, alternating bands of coarse to fine sands and silts are present, which range from 2 cm to 15 cm thick. The darker bands, visible in Plates 5-1 and 5-2, generally contain higher frequencies of silt, which may represent relict ground surfaces that experienced very little vegetation growth and almost no soil development. One thin (~1 cm) paleosol is visible at approximately 1.6 m b.s. but no artifacts have been observed at this depth. At ~2.1 m b.s., a well-developed paleosol (containing cultural material defined as CU1) is present (Plate 5-1). Below this is a 5 cm layer of coarse sand, followed by a ~6 cm to 8 cm thick layer of clayey silt (Plate 5-2). Below this soil, alternating bands of sands and silts continue to 4.1 m b.s. and beyond, with a very thin (<1cm) undulating paleosol (containing cultural material defined as CU2) at an average of 3.9 m b.s. Below CU2 lies a deposit of coarse water-deposited sands that contain patterns of depositional water currents to a maximum observed depth of 4.1 m b.s.

Block profiles captured portions of the overall profile and were able to be analyzed in greater detail than when initially observed during archaeological monitoring. Block A was the only excavation block to capture the CU1 paleosol (a dark brown sandy silt containing organics and charcoal fragments), which was partially impacted by construction activities prior to the Stage 1 excavations (Plates 5-3 and 5-4; Figure 5-3). In units 647N 343E, 647N 342E, and 647N 340E, the CU1 paleosol is exposed at surface (~2.0 m b.s.) while in other areas there is 2 cm to 10 cm of light brown coarse silty sand overlaying the buried soil. A 10 cm to 15 cm thick layer of finer brown sand underlies CU1 and, in Block A, terminates at a more compacted darky brown clayey silt. Artifacts were closely associated with CU1 (correlating to excavation levels 1 to 3 or 1-6 in the case of features F3 and F4 [see Block A results for further discussion]) and the few artifacts recovered below the paleosol may be representative of in-wash from flood events prior to stabilization of the landscape to allow for soil development. CU1 appears to undulate across the block, appearing from 2.0 m b.s. to 2.17 m b.s. with a slight increase in elevation moving from west to east across the block.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82

February 2024

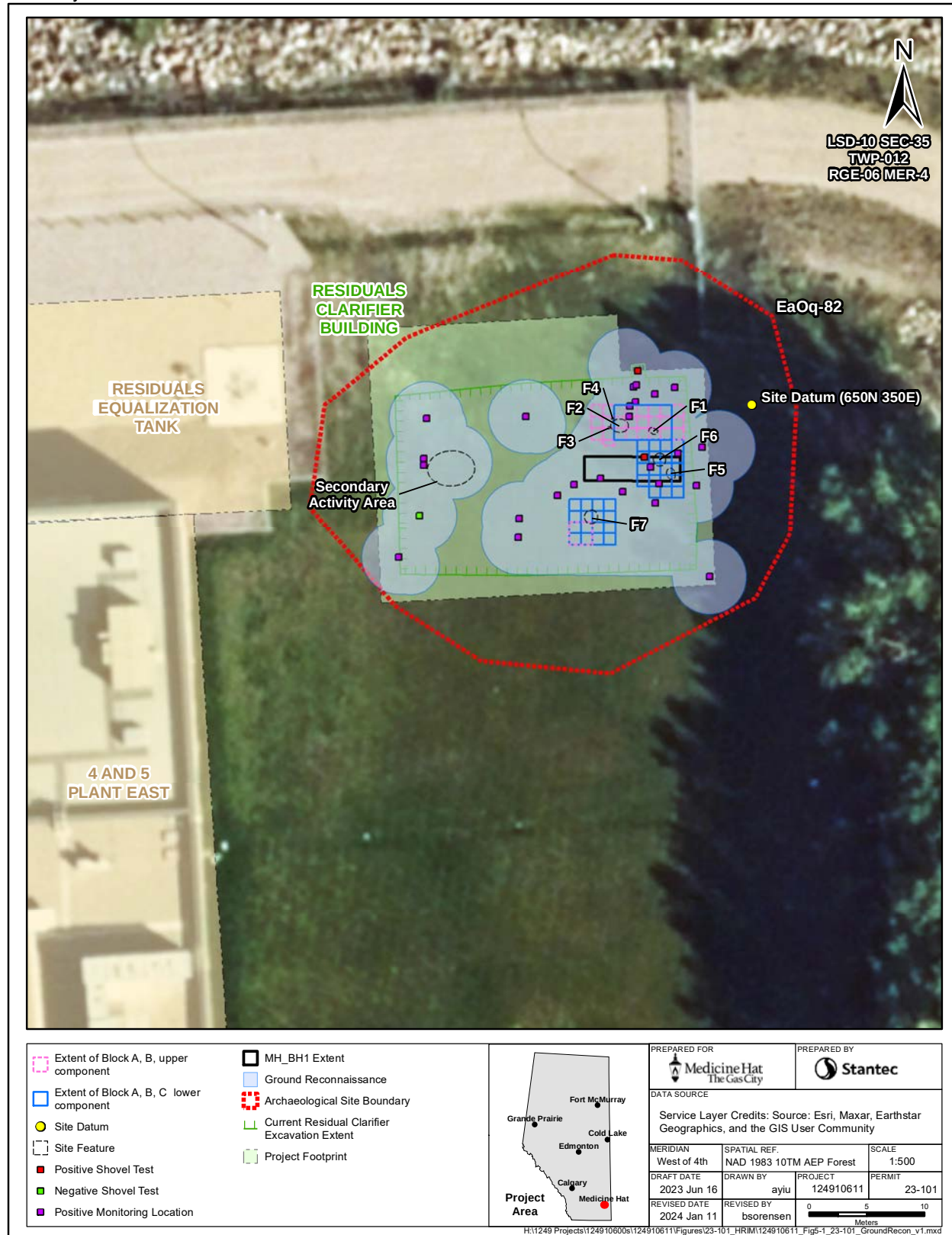


Figure 5-1 Ground Reconnaissance and HRIA/HRIM Results

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82

February 2024

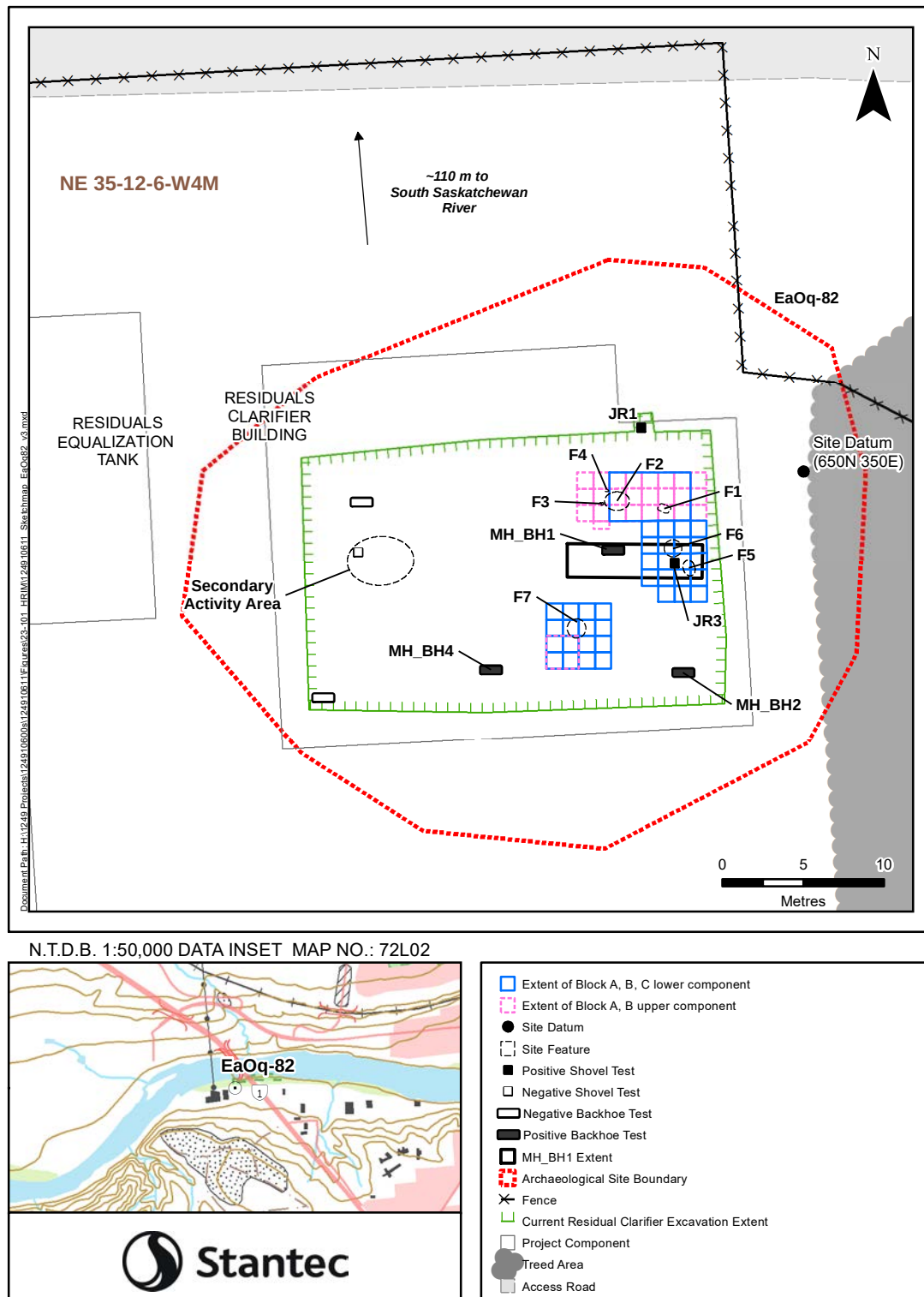


Figure 5-2 Sketch Map, Site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-1 View of north wall of Project footprint during original site visit; flood deposits visible below artificial fill (arrow), approximate location of CU1 circled; scale in 10 cm increments



Plate 5-2 View of north wall, MH_BH1 from ~2.5 m b.s. to 4.0 m b.s.; clayey silt below CU1 (above) and CU2 (below) circled; scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-3 **View north of exposed CU1 during construction monitoring; scale bars in 10 cm increments**

**Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant
Residuals Management Facility, archaeological investigations at site EaOq-82: final report**

Results – EaOq-82
February 2024

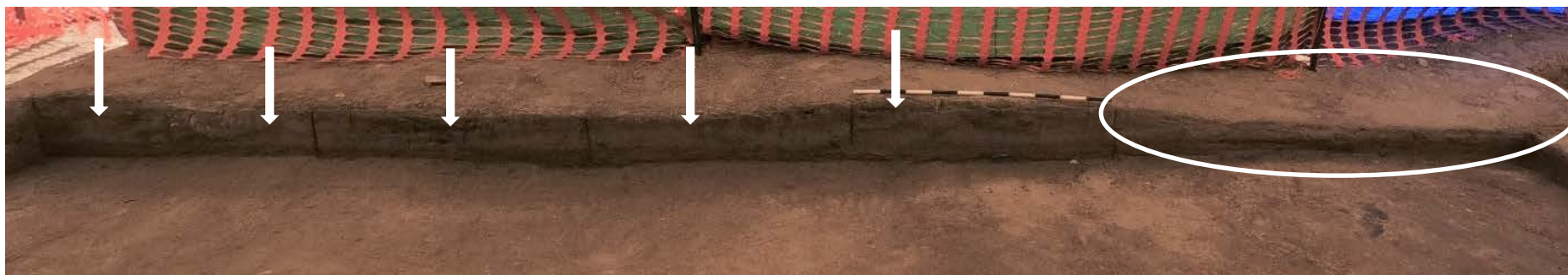


Plate 5-4 View south of south Block A (upper) profile; CU1 marked by arrows; note construction activity has scraped below CU1 (circled); scale in 10 cm increments

Results – EaOq-82
February 2024

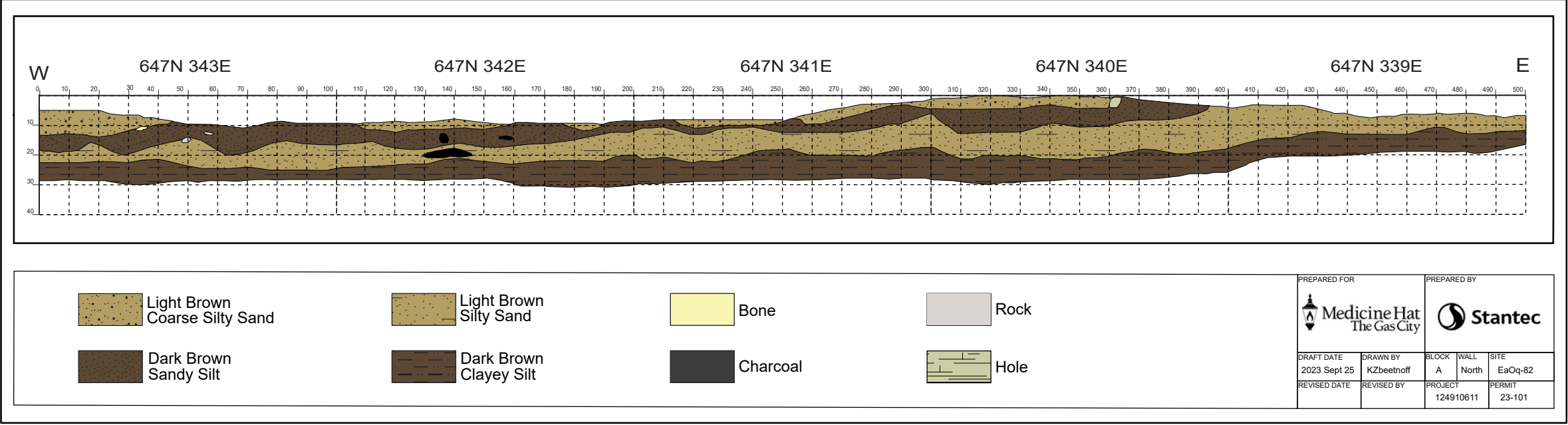


Figure 5-3 Stratigraphic profile of Block A (upper), south wall, units 647N 343E, 647N 342E, 647N 341E, 647N 340E, & 647N 339E, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Block B showcases a truncated, yet continuous profile from Block A (Figure 5-4; Plate 5-5). The light brown fine silty sand below CU1 in Block A is the top sediment observed in Block B (beginning at ~2.7 m b.s.), followed by ~15 cm of dark to medium brown compacted clayey silt which overlays a light brown coarse sand. These alternating bands of sediment (clayey silt, sand, silt, sand, etc.) are repeated throughout the profile of the site and continue below the upper cultural component of the site. Given the contiguous sediments across both blocks, it appears that there is approximately 65 cm of elevation loss across 8 m moving south across the Project area.

Shovel test JR1, located north of Block A and excavated during construction monitoring, reveals a profile that spans the observed sediments in both Blocks A and B (Plate 5-6). The CU1 paleosol is weakly developed but visible in the profile, followed by the alternating bands of sands and silts discussed above. Sediments between the upper and lower cultural components were first observed in the profile of MH_BH1, in which additional cultural material (feature F5) was recorded and alternate in 10 cm to 15 cm thick bands to approximately 3.9 m b.s., where a second paleosol (CU2) consisting of a thin, weakly developed silt with sand is present (Plate 5-2). Shovel test JR3, placed at the bottom of MH_BH1, confirmed that bands of coarse and fine sand are present below CU2 to a maximum observed depth of ~4.1 m b.s. (Plate 5-7).

The lower excavation profiles in Blocks A, B, and C (Figures 5-5 to 5-7; Plates 5-8 to 5-11) showcase near-identical profiles with light brown fine sand (2 cm to 20 cm in depth) overlaying a coarser sand that contains fine traces of charcoal (likely a natural burn event; 15 cm to 30 cm thick) which in turn overlays a paleosol (CU2). CU2 is present at variable depths across the three blocks and showcases undulation of up to 30 cm north to south (most visible in the Block C profile) and nearly 80 cm east to west (between Blocks B and C). Coarse sands, many layers showing remnant water eddies and depositional patterns, are present below CU2. This cultural component correlates to arbitrary 10 cm excavation levels 21 through to 24. However, given the range of depths observed for CU2, the cultural material is assumed to be strictly associated with the paleosol and will be discussed as a single cultural floor.

5.2 ARCHAEOLOGICAL MONITORING RESULTS

Following the initial reporting of the Section 31 finds of faunal material, lithic debitage, and FBR on June 16, 2023, during palaeontological monitoring for the Project, archaeological permit 23-101 was issued to allow for the fulfilment of requirements outlined in HRA 4710-22-0033-002, namely archaeological monitoring of construction activities. During continued archaeological and palaeontological monitoring at site EaOq-82, three distinct areas/features were observed, including a processing area (see Block A discussion below) a secondary activity area along the west portion of the Project footprint (not investigated during mitigative excavations), and an FBR discard feature (F5, see Block C discussion below), the latter associated with the lower cultural deposit (CU2) while the former two are associated with the upper deposit (CU1). Monitoring results are presented in Table 5-1 and will be discussed in further detail in each relevant CU section. Following the completion of the Stage 1 excavations, supplemental monitoring was conducted to observe the completion of sediment removal for the Project; only a small sample of artifacts were collected, all of which were likely from CU2.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82

February 2024

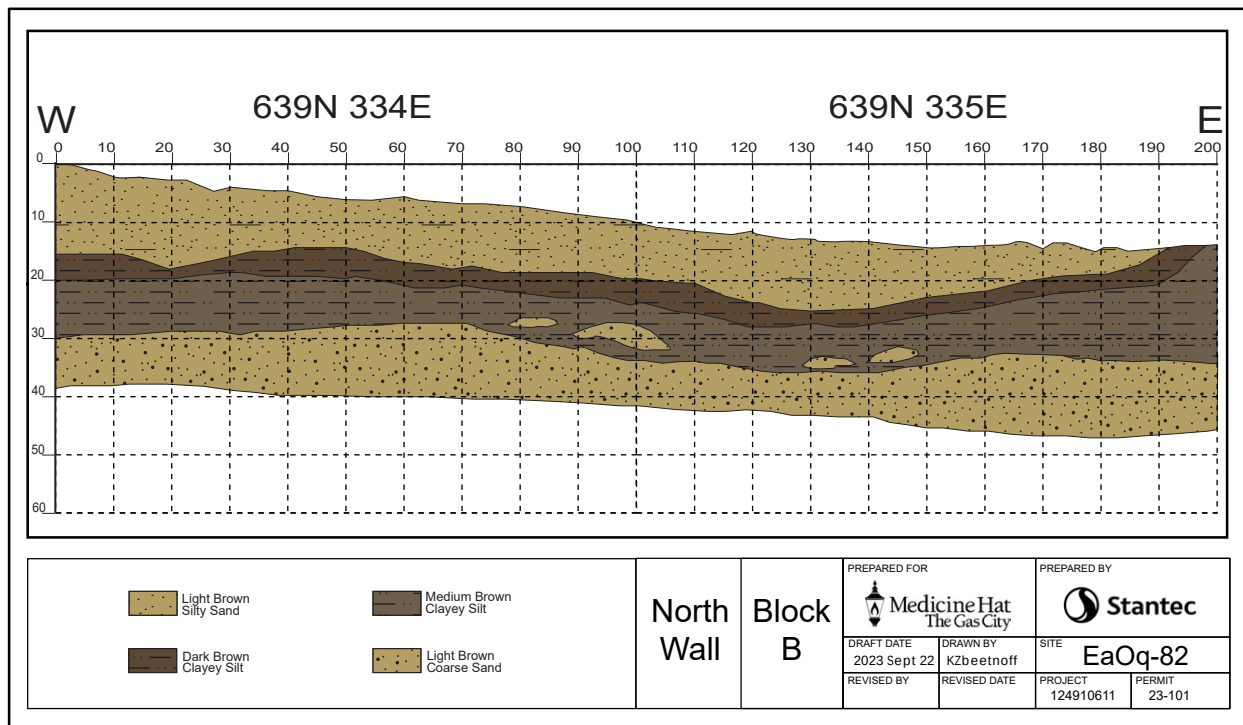


Figure 5-4 Stratigraphic profile of Block B (upper) north wall, Unit 639N 334E and 639N 335E, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-5 View of north profile in Block B (upper), units 639N 334E and 639N 335E; note lack of CU1 paleosol, dark layer is clayey silt; scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-6 View of west wall, shovel test JR1, site EaOq-82; note CU1 paleosol at ~10 cm (arrow); scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-7 View of west wall, shovel test JR3; note charcoal (non-cultural) within coarse sands; top of shovel test is approximate depth of CU2; scale in 10 cm increments

Results – EaOq-82
February 2024

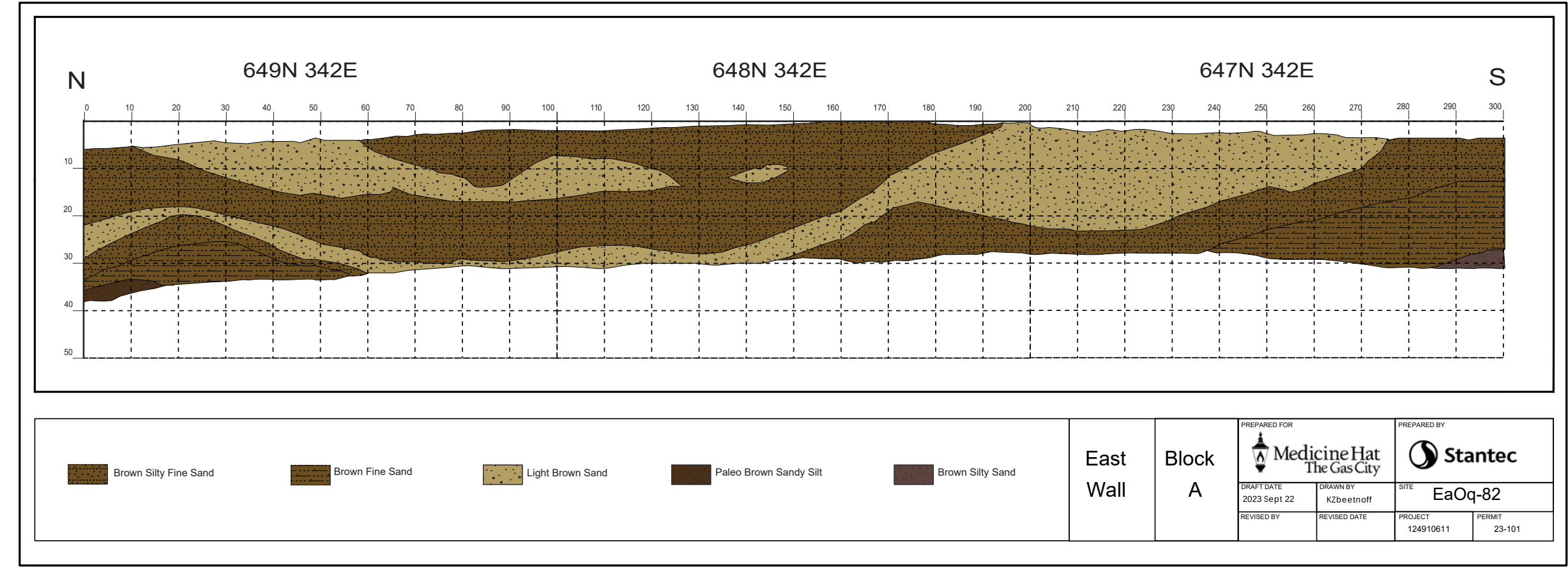


Figure 5-5 Stratigraphic profile of Block A (CU2) east wall, units 649N 342E, 648N 342E, & 647N 342E, site EaOq-82

Results – EaOq-82
February 2024

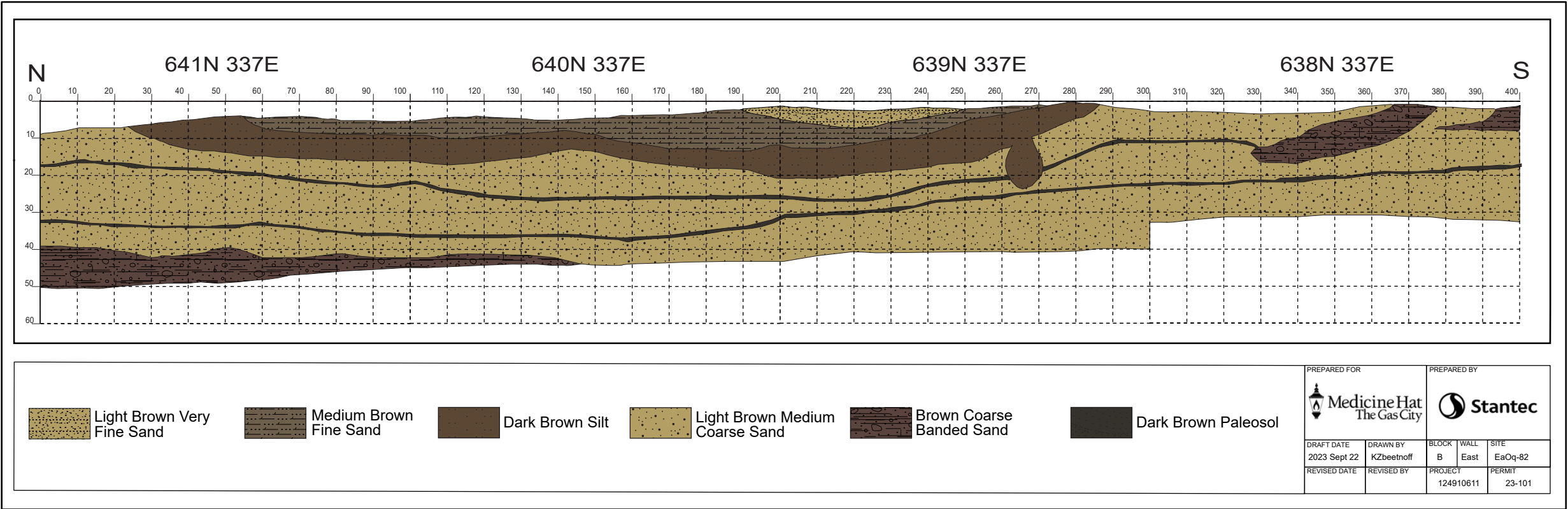


Figure 5-6 Stratigraphic profile of Block B (CU2) east wall, units 641N 337E, 640N 337E, 639N 337E, & 638N 337E, site EaOq-82

Results – EaOq-82
February 2024

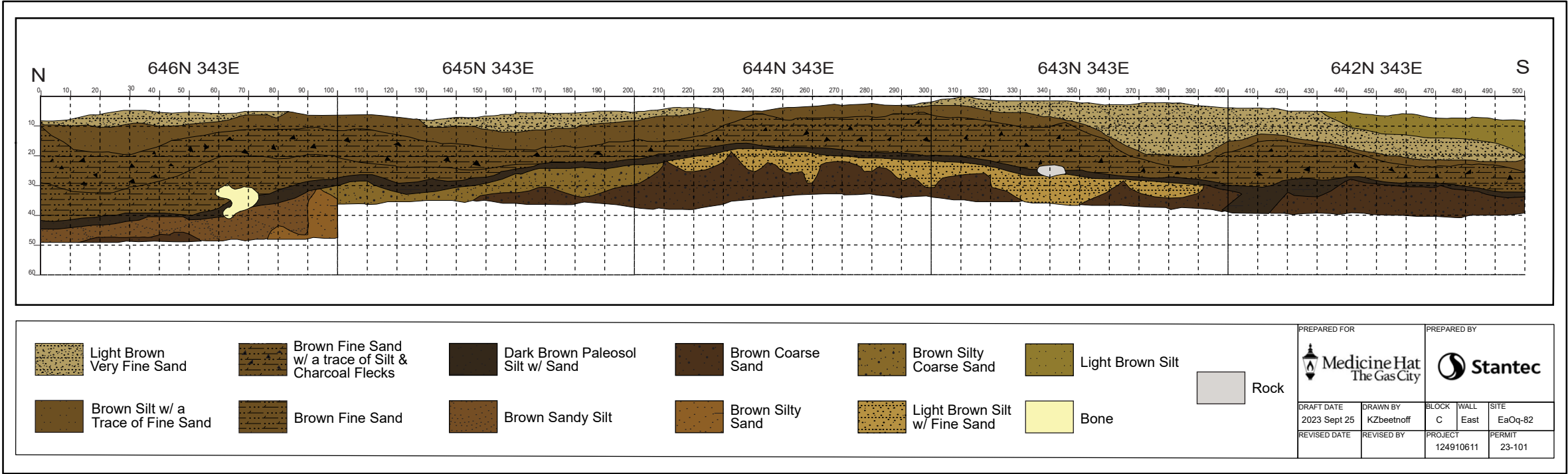


Figure 5-7 Stratigraphic profile of Block C (CU2) east wall, units 646N 343E, 645N 343E, 644N 343E, 643N 343E, & 642N 333E, site EaOq-82

**Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant
Residuals Management Facility, archaeological investigations at site EaOq-82: final report**

Results – EaOq-82
February 2024



Plate 5-8 View east of Block A (CU2) profile, poorly developed CU2 marked with arrow; scale in 10 cm increments

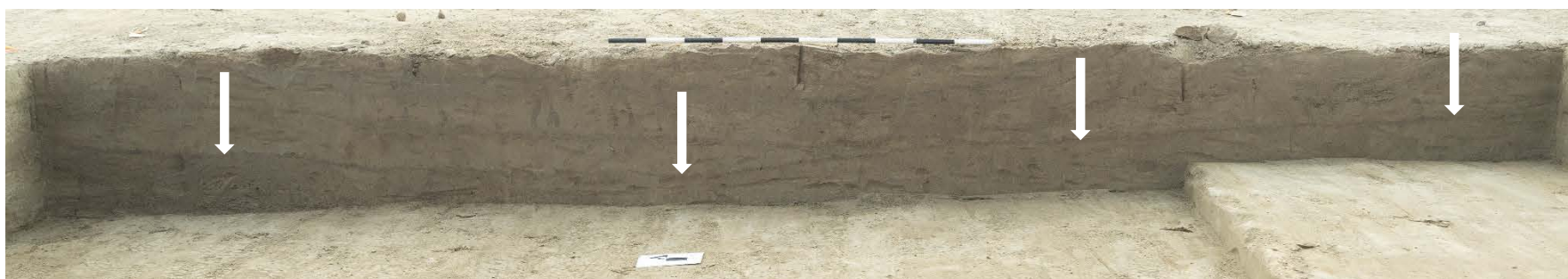


Plate 5-9 View east of Block B (CU2) profile; CU2 marked by arrows; scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-10 View of east profile, Block C (CU2), units 646N 343E, 645N 343E, and 644N 343E; CU2 marked by arrows; scale in 10 cm increments



Plate 5-11 View of east profile, Block C (CU2), units 644N 343E, 643N 343E, and 642N 343E; CU2 marked by arrows; scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-1 Results of Construction Monitoring Pre- and Post-Excavation, site EaOq-82

Data Type	SI_Name	CU	Artifact Type			Comments
			Faunal	Lithic	FBR	
Shovel Test	JR1	CU1	8		1	North of Block A area; 1 calcined bone, all faunal unidentifiable scrap
	JR3	CU2	2			East of Block C area, inside MH_BH1
Backhoe Trench	MH_BH1	CU1/CU2	21		6	6 bison and lg. ungulate faunal elements from CU1; rest of material from F5, Block C
	MH_BH2	CU2	1			Bison tibia
	MH_BH4	CU1/CU2	5		1	Bison P-1, P-2, metacarpal, and cranial frags from CU1; FBR from CU2
Monitoring Waypoints	MH_CF1	CU1	45	110	33	Encompasses MH_CF2 to MH_CF6; burnt/calcined bone, quartzite, Swan River chert and quartz debitage; 1 retouched flake, 1 bone tool
	MH_CF2	CU1	22		3	Bison tibia, phalanges, tooth, rib
	MH_CF3	CU1	3			Bison mandible fragments
	MH_CF4	CU1	4			Bison rib and maxilla
	MH_CF5	CU1	15			Bison/lg. ungulate lower limb (tibia/tarsals)
	MH_CF6	CU1		1		Quartzite core
	MH_CF7	N/A	1			Rib frag from fill on west side of Project; not collected
	MH_CF8	CU1	17		1	Bison vertebrae, pelvis, humerus; adult and foetal
	MH_CF9	CU1		1		Quartzite core
	MH_CF10	CU1	1			Bison scapula
	MH_CF11	CU1	23			Articulated bison front limb (humerus to P3)
	MH_CF13	CU1	24			Bison humerus, radius, scapula, cervical vertebra
	MH_CF14	CU1	2	1		Bison horn core
	MH_CF15	CU1	2			Bison radius, navicular cuboid
	MH_CF16	CU1	1			Bison tibia, large individual
	MH_CF17	CU2	1			Bison metatarsal, broken by excavator
	MH_CF18	CU2			1	Recovered post-excavation monitoring
	MH_CF19	CU2	1			Recovered post-excavation monitoring
	MH_CF20	CU2	1			Recovered post-excavation monitoring
	MH_CF21	CU2	1			Recovered post-excavation monitoring
Total			201	113	46	

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

5.3 EXCAVATION RESULTS

For ease of discussion, excavation results have been divided into CU1 and CU2, as these appear to be discrete, well-separated cultural deposits that would benefit from individual analysis. The following sections will largely provide quantitative data and analysis while section 6 will provide a more qualitative, interpretive presentation of the data.

5.3.1 Cultural Unit 1 (CU1)

CU1 is comprised of cultural material associated with the finds at MH_CF1 through MH_CF6 collected during the construction monitoring as well as those recovered from excavation blocks A and B. These cultural materials were initially recorded as being ~2.5 m b.s. (now measured at 1.8 m b.s. – see below) and consist of large, butchered faunal elements, lithic debitage, and FBR. Additional finds during the construction monitoring (MH_CF8, MH_CF11, etc.) are also likely associated with CU1, which is represented by a well-defined paleosol that varies in thickness across the Project footprint. CU1 appears to represent a discrete, single-use occupation during a period of terrace stability along the south bank of the South Saskatchewan River. Blocks A and B were placed to investigate CU1 during the Stage 1 excavations.

5.3.1.1 CU1 Monitoring Results

The original finds were recorded as monitoring locations (MH_CF1 to MH_CF6), all associated with the upper cultural deposit (CU1; see Table 5-1). Subsequent monitoring areas CF7 through to CF16 contained artifacts, mostly faunal material, that was likely associated with CU1 based on relative depth but, given the lack of highly accurate horizontal and vertical provenience obtained during the monitoring process, a positive correlation between these additional finds and CU1 is not definite but is likely. Notably, feotal bison elements were recovered from MH_CF8 along with adult elements; this location was chosen for further investigation during the Stage 1 mitigative excavations (Block B).

Artifacts from MH_CF7 and MH_CF14, which include a fractured bison skull, lithic debitage and FBR (observed but not collected), as well as several large unmodified cobbles, represent a secondary activity area within site EaOq-82 likely associated with CU1. A shovel test was placed 1 m north of where cultural material was first identified to a depth of 50 cm (total depth ~ 3.0 m b.s.) but no additional cultural material was recovered from this test, suggesting that the secondary activity area is constrained to the west side of the Project footprint and does not extend north. This area was not investigated during the Stage 1 mitigative excavations.

In addition to the collection of cultural material from surface locations after sediment removal, it was determined that excavating a shovel test within the footprint would be suitable to determine maximum vertical and horizontal extents of CU1. A shovel test (JR1) was placed approximately 5 m north of the densest area of monitoring finds (MH_CF1) to determine if material associated with CU1 extended north towards the access road where the current excavation ties into an existing water main. The test was excavated from just above CU1 to a depth of 50 cm (total depth of ~2.9 m to 3.0 m b.s.). A total of eight bone scraps (one calcined) and one fragment of FBR were recovered from the thin paleosol present within the top 10 cm of the profile (total depth ~2.4 m to 2.5 m b.s.) but no artifacts were recovered below

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

this depth, suggesting that CU1 was represented by a thick paleosol within the densest area of bone, lithic debitage, and FBR but immediately outside of this central area, the paleosol thinned quickly and artifact densities quickly dropped to near zero.

Once it was established that monitoring location MH_CF1 (expanded to include a broad area encompassing previously recorded points MH_CF1 to CF6) represented significant finds, construction activities were restricted to backhoe trenching to reach maximum Project depth to perform soil compaction tests. MH_BH1 was excavated 2 m south of the visible extent of cultural material associated with MH_CF1 to the maximum extent of the Project's depth (~4.4 m b.s.). A total of six additional bison/large ungulate fragments (humerus, radius, rib, calcaneum; largely spirally fractured) were recovered in close association with CU1 from MH_BH1 at depths comparative to MH_CF1 (~2.5 m b.s.). Cultural material associated with CU2 was also recovered from MH_BH1; these results are discussed in Section 5.4.1.1

5.3.1.2 Block A

A total of 25 sq. m were excavated at Block A to investigate the upper cultural component (CU1) at site EaOq-82 (Plate 5-12; Figure 5-8). The excavation block was placed overtop of cultural finds (faunal material, lithic tools and debitage, and FBR) identified at locations MH_CF1 through to MH_CF6 during construction monitoring and extends 8 m east-west by 3 m north-south with one unit (646N 337E) excavated as a half unit (northern half) due to proximity to open backhoe trench MH_BH1. Initially, the block was opened as a 3 m by 5 m block with the long axis running east-west to align with the faunal, lithic, and FBR finds in the area around MH_CF1 through MH_CF6. One feature (F1) was identified within the original block (unit 647N 341E) and was determined to be a shallow pit, perhaps used for storage. The block was subsequently expanded west to further investigate the processing area, which resulted in the identification of a hearth feature (F2) as well as two associated post-holes (F3 and F4).

Due to previous impact in portions of the block location from construction activities, it was determined that a natural level of up to 10 cm thick (generally arbitrary level 1) would be excavated until the paleosol (CU1) was exposed, at which point excavation shifted to arbitrary 10 cm levels (levels 2 to 4, or 2 to 6 in the case of features F3 and F4 [see below]). CU1 was generally captured within levels 2 and 3 though, in places where CU1 had been exposed, most of the cultural material was recovered in level 1. *In situ* artifacts were recorded in depths b.d. – all datums were set at 1.80 m b.s. As almost every recovered artifact from Block A is associated with CU1, total counts by level will not be discussed and results will be presented as a holistic discussion of CU1 as a single living floor; the small sample of bone that was recovered below CU1 is described in the relevant section below.

Features

Feature F1 is located in unit 647N 341E and is rectangular in shape and cross section (Figure 5-9; Plates 5-13 and 5-14). The in-fill sediment is similar to that of CU1, that is, a dark sandy silt with traces of charcoal and decaying organics throughout, placing it in stark contrast to the surrounding coarse sands. A total of 10 bone fragments (large ungulate undifferentiated scrap with one calcined fragment, all weighing 4.6 g), nine pieces of lithic debitage, and six fragments of FBR were recovered from inside the feature fill, which was excavated and screened separately from the rest of sediment in the unit.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-12 View east of completed Block A (upper); centre unit excavated to fully record features F3 and F4; scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

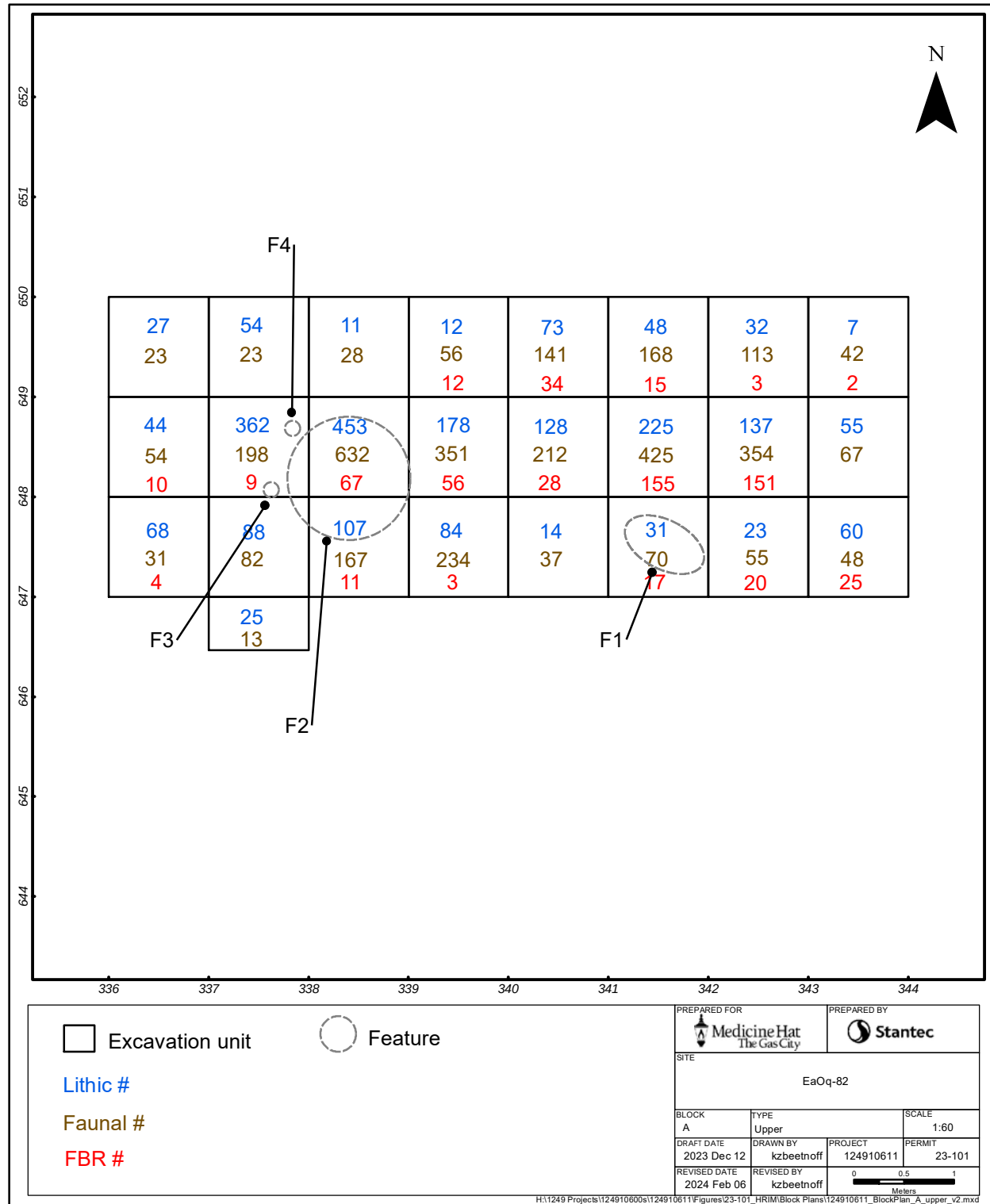


Figure 5-8 Block plan and distribution of recovered artifacts, Block A (upper), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

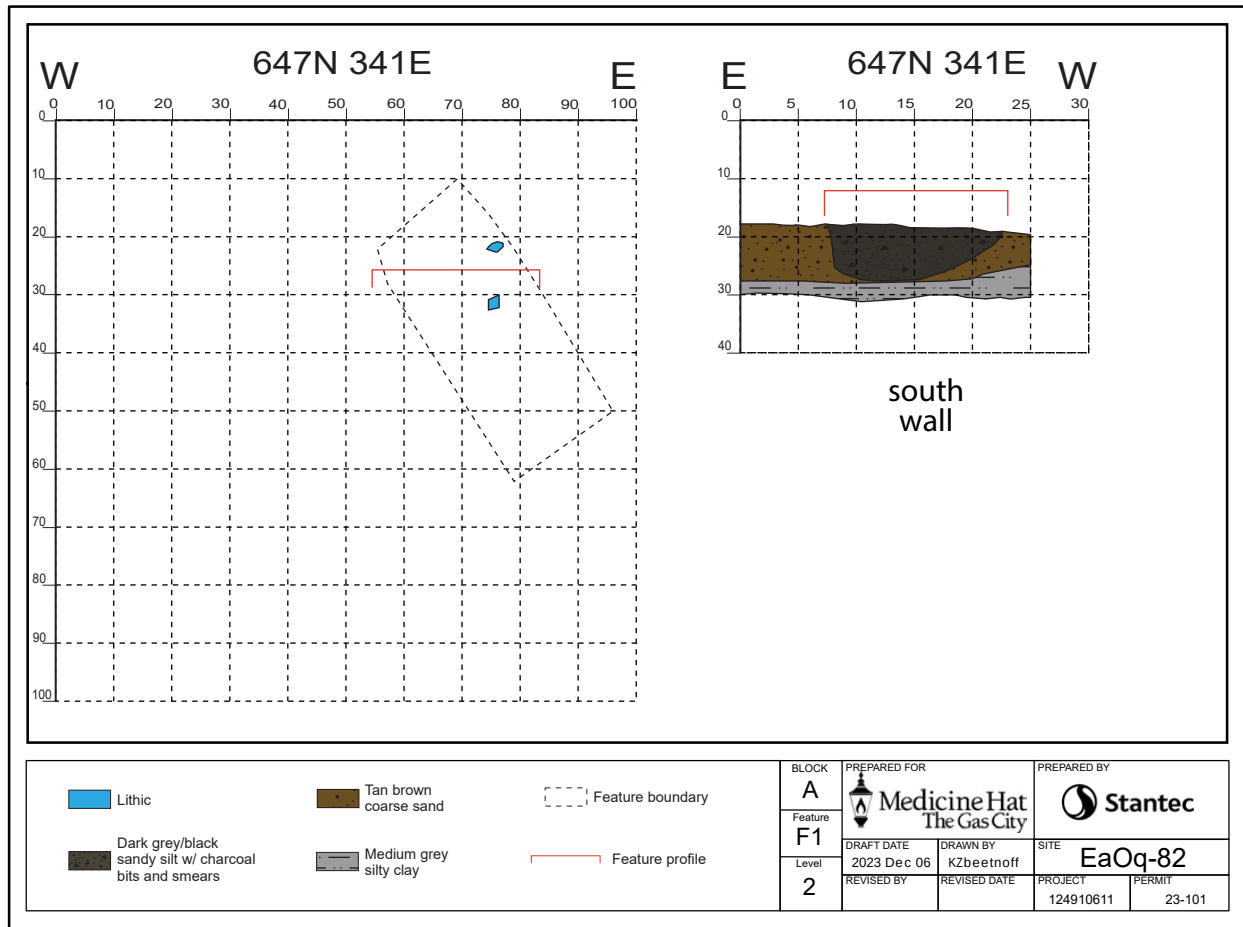


Figure 5-9 Stratigraphic profile & planview of feature F1, unit 647N 341E, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

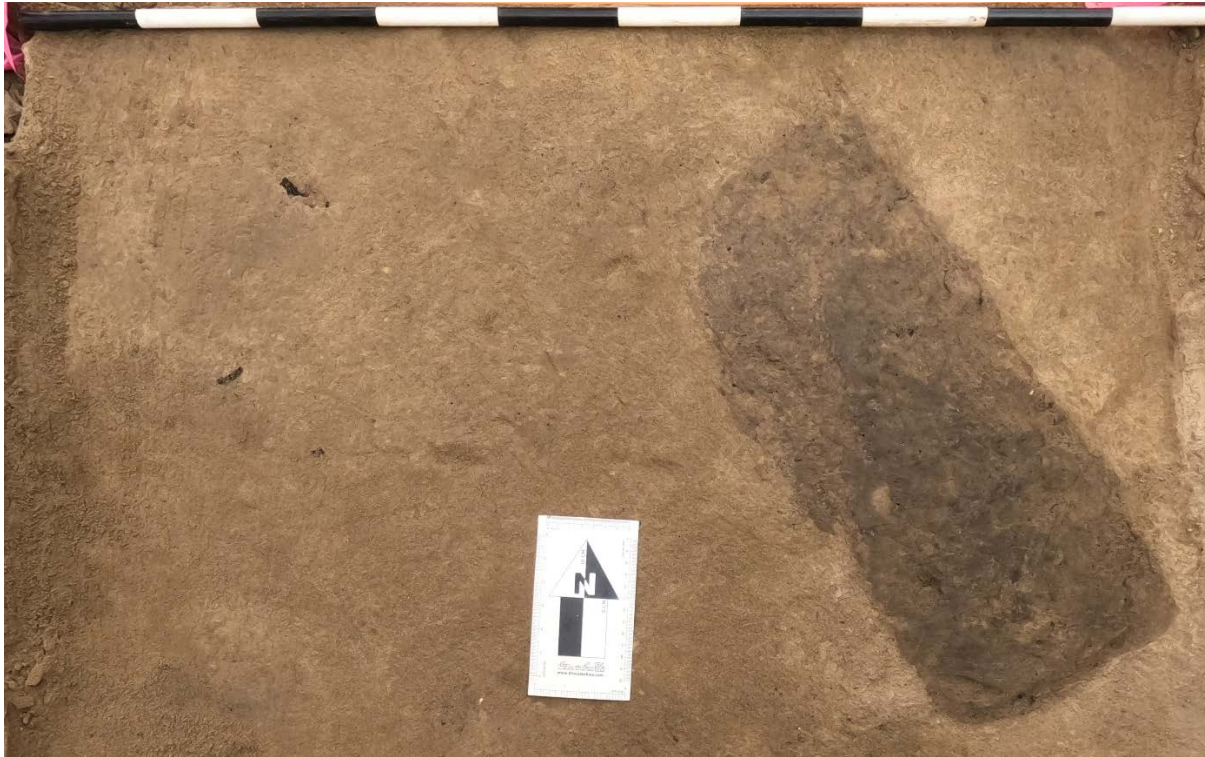


Plate 5-13 Planview of feature F1, unit 647N 341E, site EaOq-82; scale in 10 cm increments



Plate 5-14 View south of cross-section of feature F1, Block A (CU1), EaOq-82; scales in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

The fill is 10 cm thick at its deepest point and extends below the paleosol associated with CU1. It is likely that feature was deeper but it was not identified until the surrounding paleosol had been removed, revealing the dark soil within the pit. Based on the relative scarcity of artifacts within feature, especially when compared to the density of artifacts present within CU1, it is possible that F1 represents a pit, perhaps for storage or other processing, that may have been lined with hide or other material, with cultural material entering the feature after the pit lining had been pulled away.

Feature F2 is a large hearth present across units 648N 337E, 648N 338E, 648N 339E, 647N 337E, and 647N 338E (Plates 5-15 to 5-17; Figures 5-10 and 5-11). The hearth is circular in shape and approximately 1.2 m in diameter. The cross-section shows a deep bowl shape with layers of ash, charcoal, and reddened oxidized soil that is approximately 20 cm deep. Four lithic tools (projectile point, perforator, and two retouched flakes), two bipolar cores, and a large quantity of both unburned and burnt/calced bone (n=697), lithic debitage (n=611), and FBR (n=81) were recovered from the hearth fill (Figure 5-12); several soil samples were taken for future analysis. Where possible, artifacts were mapped in situ and fine mesh screening was utilized to collect small fragments of burned or calcined bone and microdebitage. Eight large FBR cobbles, possible hearth encircling stones or remnant evidence of cobble heating for roasting slabs or use in boiling pits elsewhere in the site, are present around the northern and southern extents of the feature as well as near the centre.

A bison horn core and maxillary fragments were recovered on the east and north sides of F2 respectively. The bison fragments include a maxillar molar, shaft pieces from a left radius and ulna, distal metapodial condyles, and pieces from a minimum of two right scapulae. The majority of pieces are large ungulate scrap. Of this total, 534 large ungulate or mammal fragments were burned or calcined, with a total weight of 238.0 g. This accounts for 77% of the feature sample by count, and 23% by weight. None of the pieces identified as bison were burned. Within the feature, fragments from the fine screened sample account for 66% of the total feature count by number, and 8% by weight.

The high density of artifacts in and around feature F2 suggest that this was a heavily utilized activity area and was likely the focal point of this part of the site. Given that the feature is located at the east edge of the high density processing area within Block A, it is likely that the hearth served several functions: a source of heat and light to those individuals engaging in butchering activities, a readily accessible cooking area for said processing, and a heating tool for large FBR cobbles (to be used in a boiling pit?) and/or heat treatment of lithic materials, specifically Swan River Chert (see further discussion on lithics below).

In close association with Feature F2 are Features F3 and F4, both postholes, located in units 648N 337E and 648N 338E respectively. Feature F3 is circular in shape and bell-shaped in cross-section, being approximately 12 cm in diameter and approximately 25 cm deep (Plates 5-18 and 5-19; Figure 5-13). Lithics (n=17), FBR (n=13) and faunal fragments (n=49 with ~27% burned/calced), including one upright bone peg (bison rib fragment) protruding from the feature, were recovered from the in-fill sediment (associated with CU1). As with F1 and F2, the sediment from within feature F3 was screened separately from the surrounding (sterile) sands and a fine mesh screen was utilized to recover small fragments of bone and microdebitage. Aside from the upright bone, the rest of the faunal material are all small pieces of undifferentiated scrap.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-15 Planview of feature F2, Block A (CU1), site EaOq-82; scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-16 View of east profile, feature F2, Block A (CU1), site EaOq-82; scales in 10 cm increments



Plate 5-17 View of west profile, feature F2, Block A (CU1), site EaOq-82; note vertical bone peg in feature F3 in left foreground and multiple basins of hearth; scale in 10 cm increments

Results – EaOq-82
February 2024

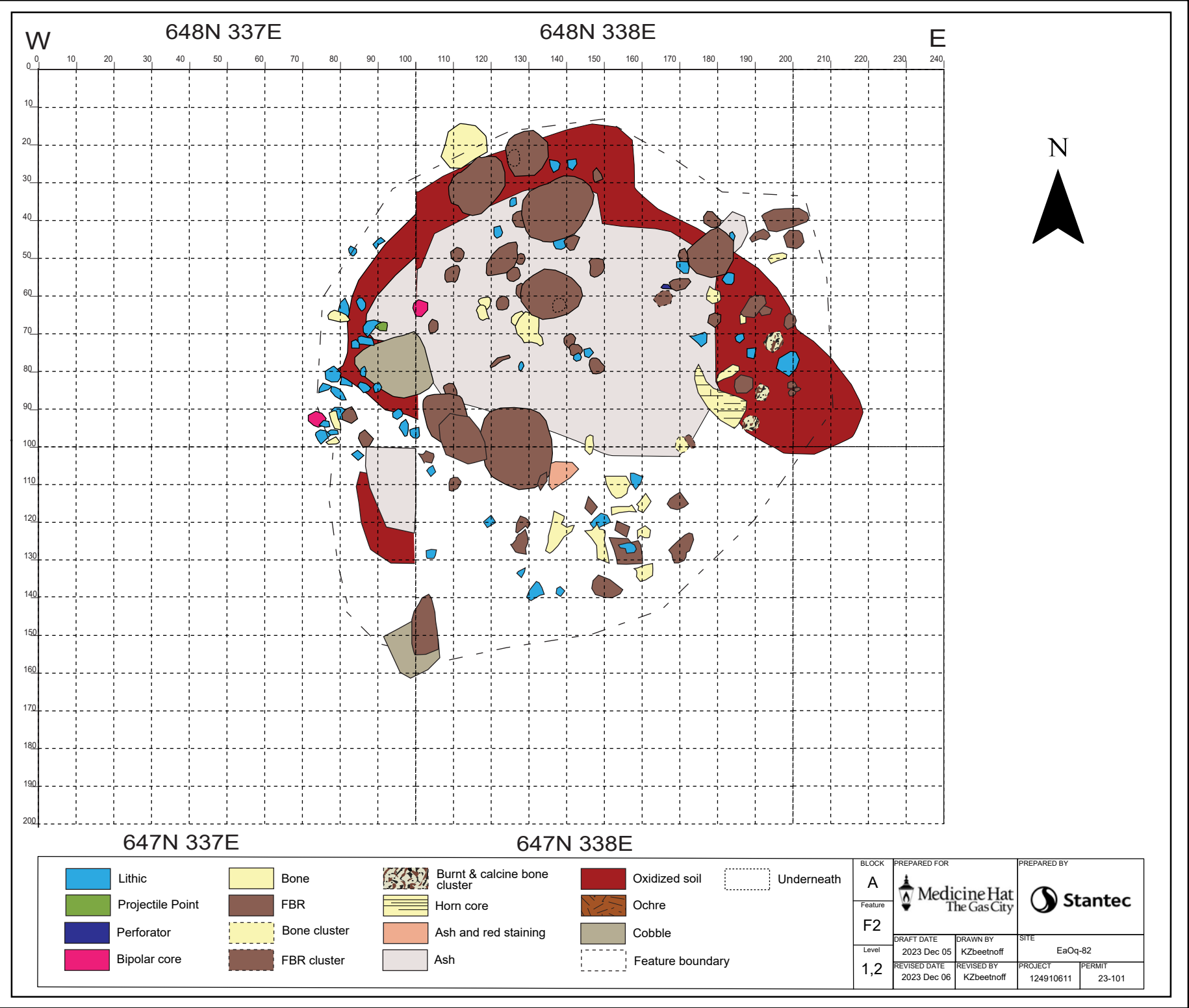


Figure 5-10 Planview of feature F2, Block A (CU1), units 648N 337E, 648N 338E, 647N 337, & 647N 338E, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82

February 2024

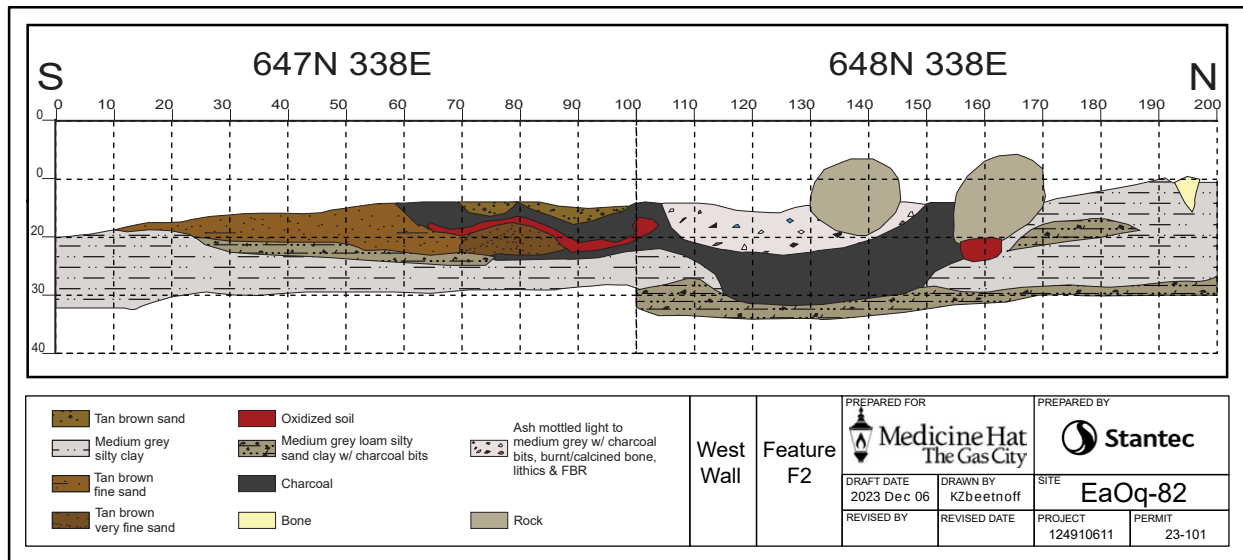


Figure 5-11 Stratigraphic profile of west wall of feature F2, unit 647N 338E and 648N 338E, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

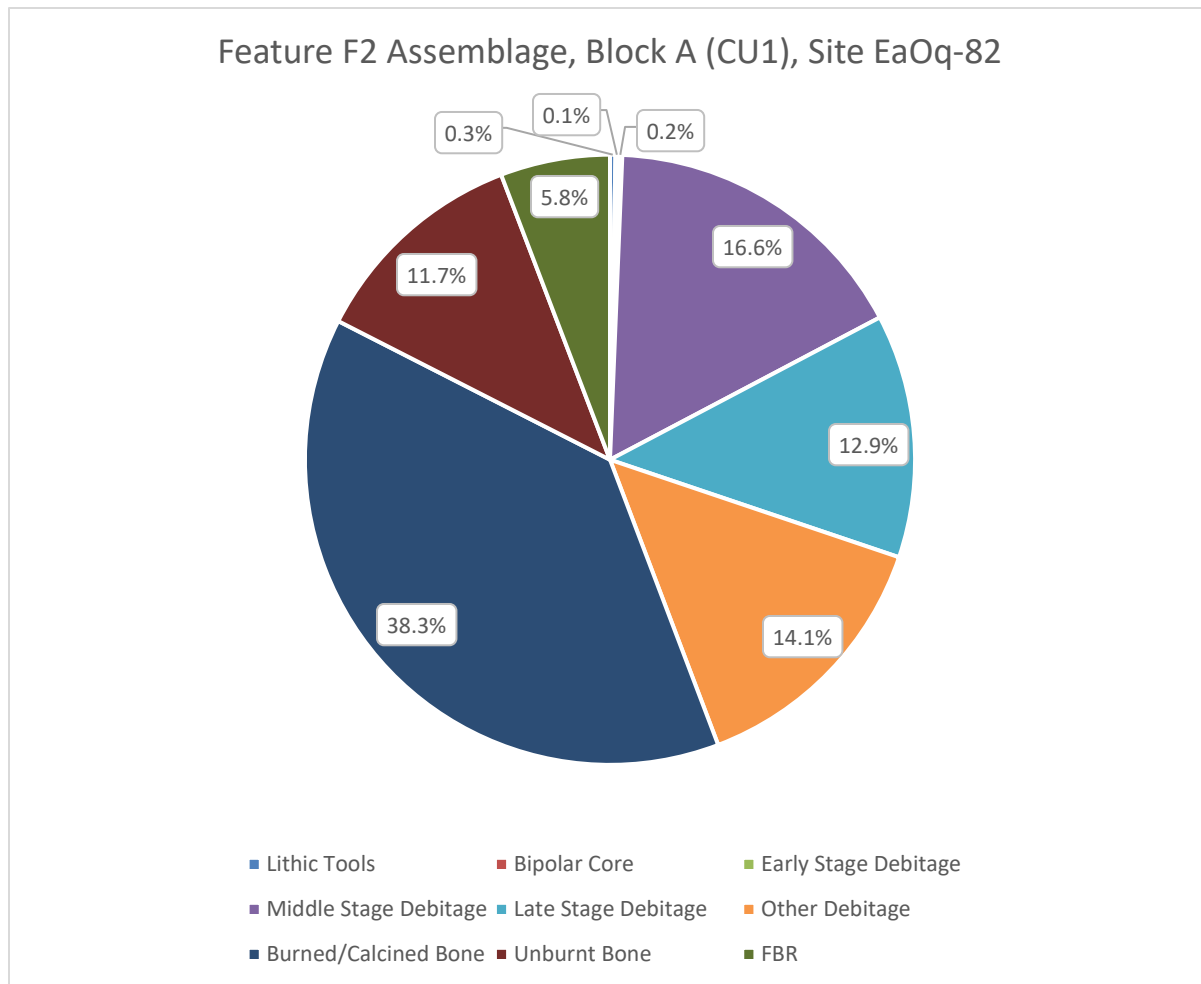


Figure 5-12 Feature F2 Artifact Assemblage, Block A (CU1), Site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82

February 2024



Plate 5-18 Planview of feature F3, unit 648N 337E, Block A (CU1), site EaOq-82; note bone peg upright inside feature; scales in 10 cm increments



Plate 5-19 View west of feature F3 profile, unit 648N 337E, Block A (CU1), site EaOq-82; scales in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82

February 2024

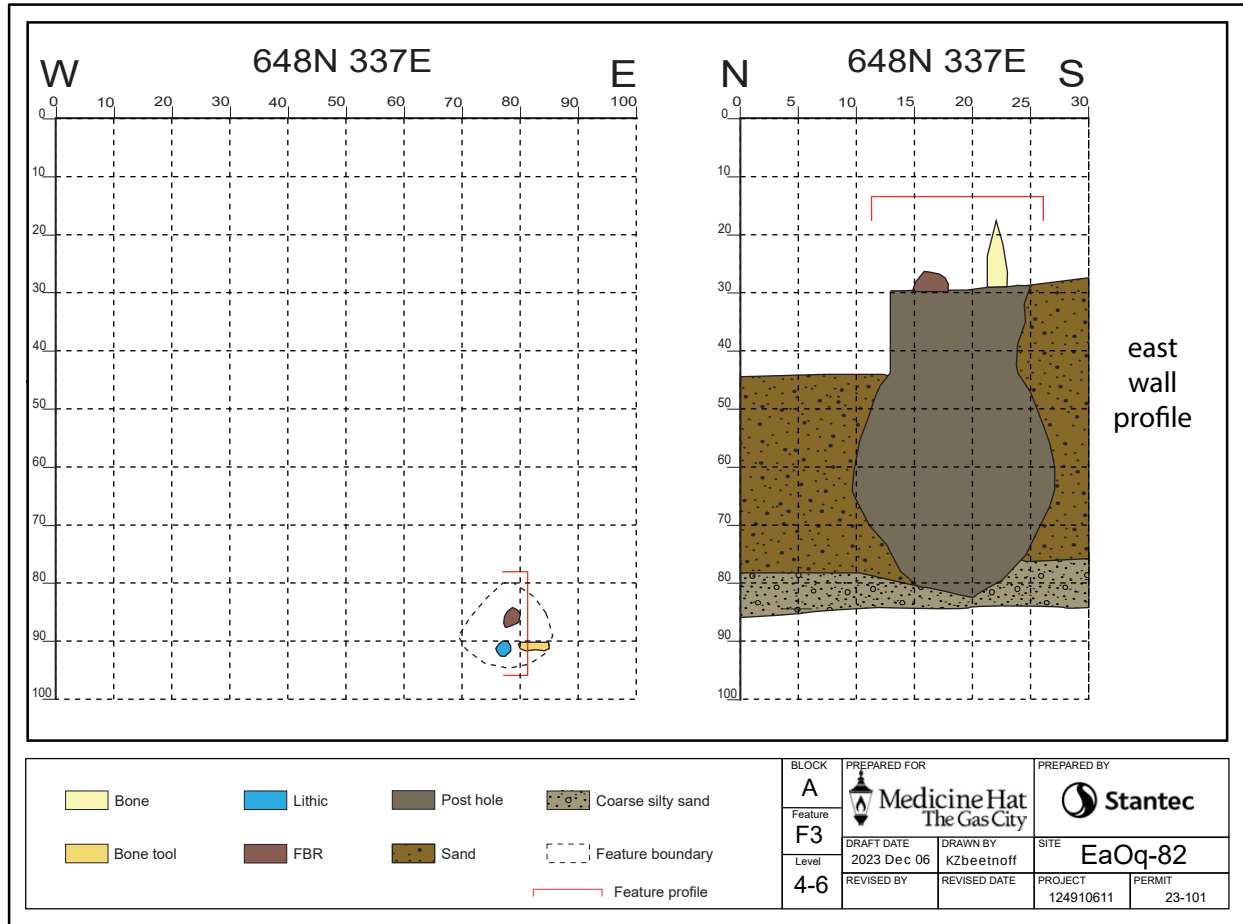


Figure 5-13 Stratigraphic profile & planview of feature F3, unit 648N 337E, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Feature F4 shares similar metrics with F3, being approximately 14 cm in diameter and approximately 26 cm deep, though F4 is slightly conical in shape, tapering to ~11 cm at the base. more of a conical cross-section (Plates 5-20 and 5-21; Figure 5-14). In-fill sediment from CU1 containing a core fragment, FBR (n=7), lithic debitage (n=73), and faunal material (n=29 with ~65% burned/calced) comprised the interior of F4. All cultural material was recovered from F4 using fine screen mesh. Based on the similarities in shape and depth, it is very likely that features F3 and F4 represent postholes, with the bone peg in F3 likely utilized as a stabilizer for a wooden post.

The location of both features in close proximity to feature F2 in a relatively even spacing around the perimeter suggest that there may have been an erected wooden structure near to or set above the F2 hearth, such as a drying/smoking rack (Glenbow Museum 2023) or some large structure. Such features are difficult to see archaeologically but despite the lack of organic (wood) evidence from features F2, F3, and F4, the positioning of all three features is highly suggestive of some form of wooden, post-based superstructure used in this area of the site.

Cultural Material

A total of 6,813 artifacts were recovered from Block A during the Stage 1 mitigative excavations at site EaOq-82, including lithic artifacts (n=2,346), faunal remains (n=3,642) and FBR (n=825) (Table 5-2). All of these artifacts, with the exception of 18 faunal elements, are associated with CU1; the outlying faunal elements are not associated with any other cultural material and may be representative of natural processes.

Lithics

A total of 2,346 lithic artifacts were recovered from Block A (CU1) during the Stage 1 excavations, including projectile points (n=3 or <1%), formed tools (n=5 or <1%), expedient tools (n=15 or <1%), cores and core fragments (n=20 or ~1%), and debitage (n=2303 or ~98%) (Table 5-3). Lithic artifacts were present in all units and excavation levels.

Projectile Points

The three projectile points recovered from Block A (CU1) are likely representative of Late Period point typologies, though only one example was complete (Figure 5-15; Plate 5-22).

EaOq-82: 7216 is a complete Avonlea projectile point made from Swan River Chert recovered from unit 648N 338E from within Feature F2. The point features excurvate lateral edges, an angular, rounded tip, and a biconvex cross-section. Flake scars are present across the body in an irregular pattern, several featuring step fractures. Edge scars do not extend across the body of the point. The side notches are rounded and shallow and the base features a concave shape with a lack of basal grinding. The base is asymmetrical, having a longer “ear” on one side. The maximum length of the point is 22.0 mm, the maximum width is 10.6 mm, the maximum thickness is 3.0 mm, and the weight is 0.6 g.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-20 Planview of feature F4, Block A (CU1), EaOq-82; scale in 10 cm increments



Plate 5-21 View north of feature F4 profile, Block A (CU1), EaOq-82; scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82

February 2024

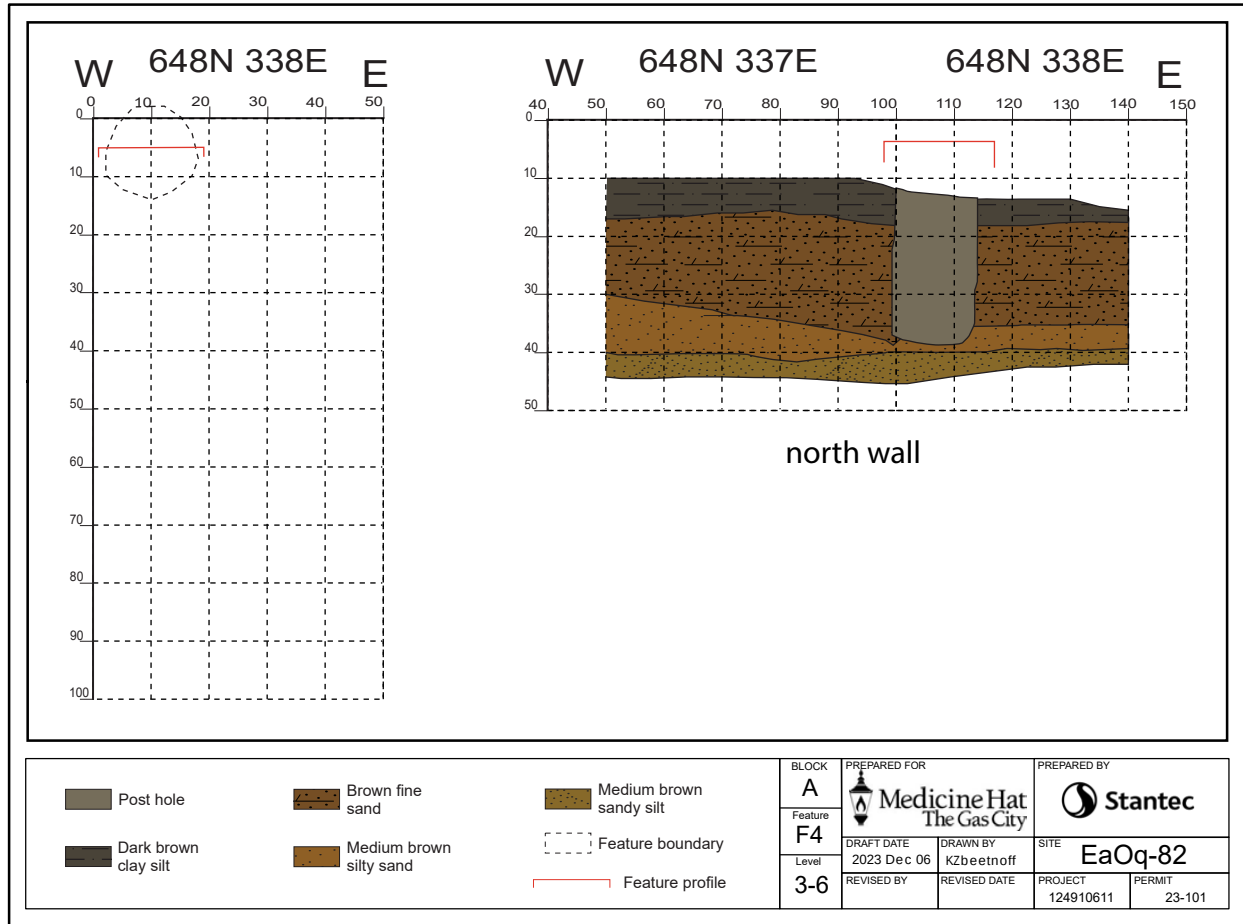


Figure 5-14 Stratigraphic profile & planview of feature F4, unit 648N 337E & 648N 338E, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-2 Results of Stage 1 Excavation, Block A (all artifacts)

Artifact Type		Total
Lithics	Projectile Point	3
	Biface	2
	Biface Fragment	2
	Perforator	1
	Retouched Flake	13
	Utilized Flake	2
	Core, Multidirectional	9
	Core, Bipolar	6
	Core Fragment	5
	Primary Decortication Flake	19
	Secondary Decortication Flake	44
	Bifacial Reduction Flake	44
	Bipolar Flake	2
	Platform Bearing Flake	1042
	Retouch/ Resharpening Flake	249
	Microdebitage	75
	Flake Fragment	618
	Block Shatter	210
	Lithic Subtotal	2346
Faunal	Antelope	1
	Bison	204
	Large Ungulate	2964
	Lepus	2
	Mammal	464
	Medium Mammal	2
	Small Canid	2
	Small Mammal	3
Faunal Subtotal		3642
FBR		825
Excavation Total		6815
Monitoring Results (MH_CF1 to CF6)		
Lithics		111
Faunal		89
FBR		36
Monitoring Subtotal		236
Grand Total		7051

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-3 Lithic Artifacts by Material Type, Block A (CU1), site EaOq-82

Artifact Type	Lithic Material												Total
	Argillite	Banded Siltstone	Chalcedony	Chert	Coarse Grained Material	Granite	Montana Chert	Petrified Wood	Quartz	Quartzite	Siltstone	Swan River Chert	
Projectile Point				1						1		1	3
Biface												2	2
Biface Fragment												2	2
Perforator				1									1
Retouched Flake		1		1						6		5	13
Utilized Flake												2	2
Core, Multidirectional									1	4		4	9
Core, Bipolar				1						2		3	6
Core Fragment									2	2		1	5
Primary Decortication Flake						1				15		3	19
Secondary Decortication Flake									1	28		15	44
Platform Bearing Flake	23		3	10	6	4	8	1	34	409	2	542	1042
Bipolar Flake												2	2
Bifacial Reduction Flake			2	3			1			4		34	44
Retouch/ Resharpener Flake	1		12	16			19			29	2	170	249
Microdebitage			1						1	4	1	68	75
Flake Fragment	4		1	3	4	5	2		20	201	1	377	618
Block Shatter						8			1	16		185	210
Total	28	1	19	36	10	18	30	1	60	720	6	1416	2346

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

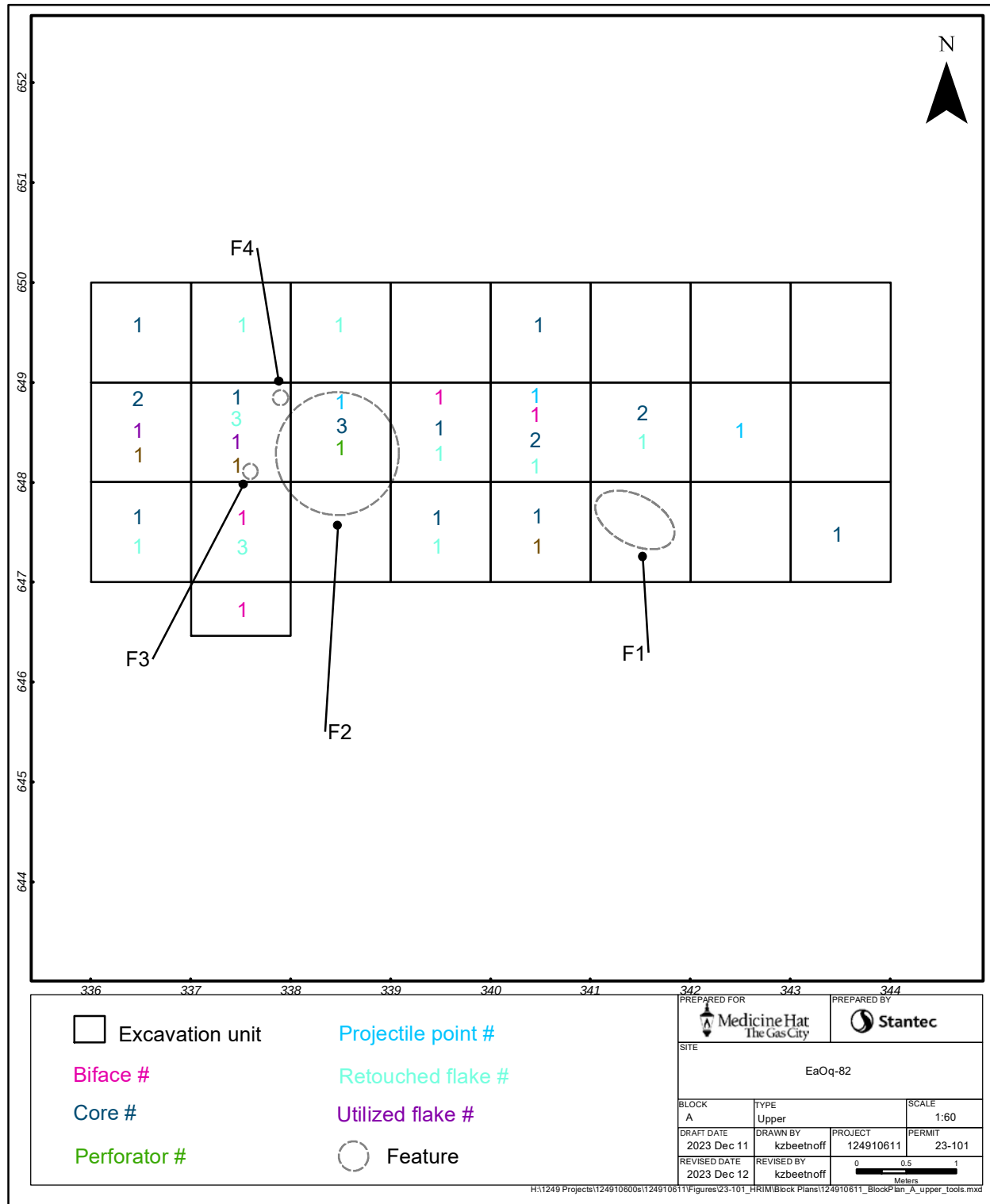


Figure 5-15 Tool and core distribution, Block A (CU1), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

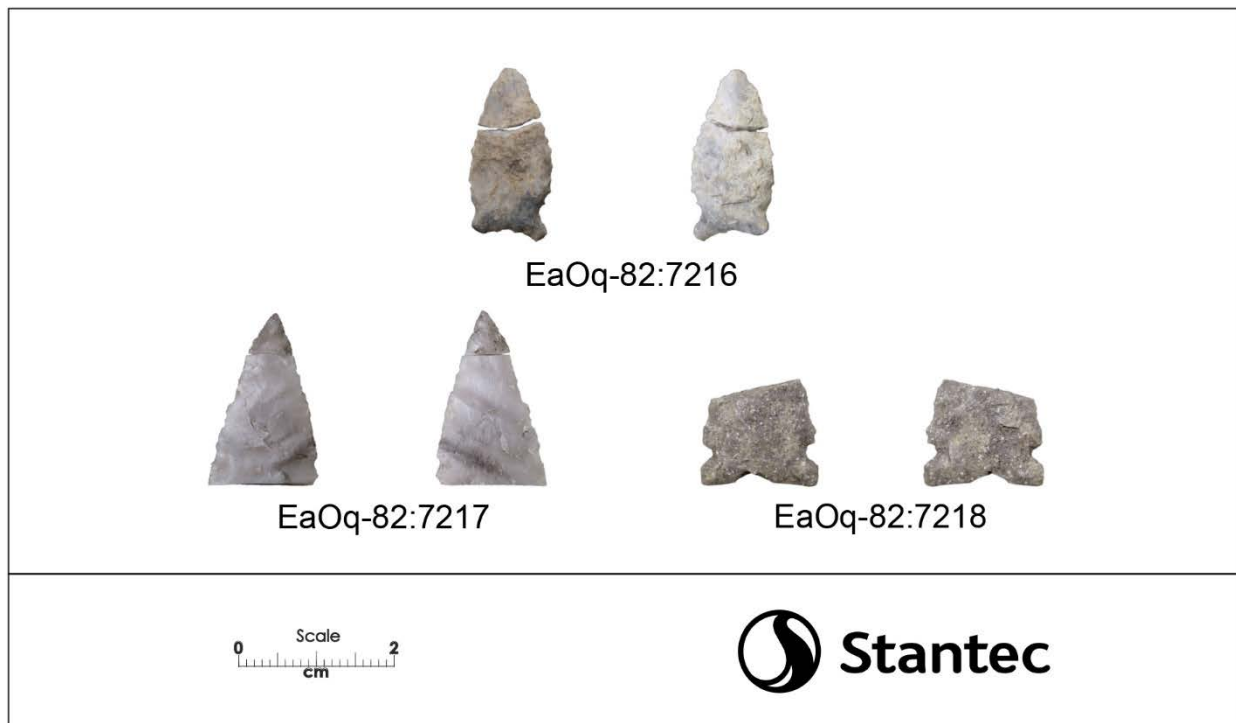


Plate 5-22 **Projectile points recovered from Block A (CU1), site EaOq-82**

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

EaOq-82: 7217 is a broken projectile point made from grey chert and recovered from unit 648N 340E. The notches, shoulders, and base are missing from the point with a large portion of the body, including the tip, above the shoulders present. The sides are straight and terminate in a sharp, angular tip, which is slightly offset from the centreline of the point. Flake scars extend diagonally across the body of the point, which is biconvex in cross-section. Metrics were not able to be taken for the tool given its fragmented nature.

EaOq-82: 7218 is a side-notched point base made from grey quartzite recovered from unit 648N 342E. The sides are straight to excurvate with broad, shallow, angular notches and the straight, ground base features a recent chip. The point features a biconvex cross-section and based on the form of the notches and overall small size, it is possible that this point may be associated with Avonlea. The base width is 15.0 mm.

Formed Tools

The formed tools recovered from Block A consist of a perforator, one complete biface, and three biface fragments (Plates 5-23 and 5-24).

EaOq-82: 7215 is a complete perforator made from grey chert recovered from unit 648N 338E within feature F2. The tool is roughly triangular with an angled tip and an asymmetrical shape. One edge is excurvate while the other is relatively straight. Wide flake scars are present across both ventral and dorsal surfaces that run diagonally across the body of the tool. The tip is much narrower than the main body of the tool and features a partially serrated edge on one side. The base of the tool is flat and straight. The maximum length is 25.4 mm, the maximum width is 13.8 mm, the maximum thickness is 4.1 mm and the weight of the tool is 1.2 g.

EaOq-82: 3022 is a biface fragment made from Swan River Chert recovered from unit 646N 337E. The tool is broken on three sides and features minimal bifacial retouch along the one intact edge. The fragment is relatively thick and features large flake scars across all surfaces, indicating an early stage of reduction. Metrics were not able to be determined for this tool given the level of fragmentation; the weight of the tool is 15.3 g.

EaOq-82: 3162 is a complete biface made from Swan River Chert recovered from unit 647N 337E within feature F2. The tool is triangular in shape with a slight left skew towards the point. The right lateral edge is excurvate and the left edge is straight with a relatively straight base. Bifacial flake scars are present along all edges of the tool. The maximum length is 20.6 mm, the maximum width is 16.3 mm, the maximum thickness is 5.5 mm and the weight of the tool is 1.7 g.

EaOq-82: 4230 is a biface fragment made from Swan River chert recovered from unit 648N 339E in close proximity to feature F2. The tool is rectangular in shape (due to a missing tip) with straight sides and a straight base. Bifacial thinning has occurred across the tool and bifacial retouch is present along all three intact sides, indicating that it was a finished form. Metrics were not able to be determined for this tool given the level of fragmentation; the weight of the tool is 0.8 g.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-23 Perforator recovered from Block A (CU1), site EaOq-82

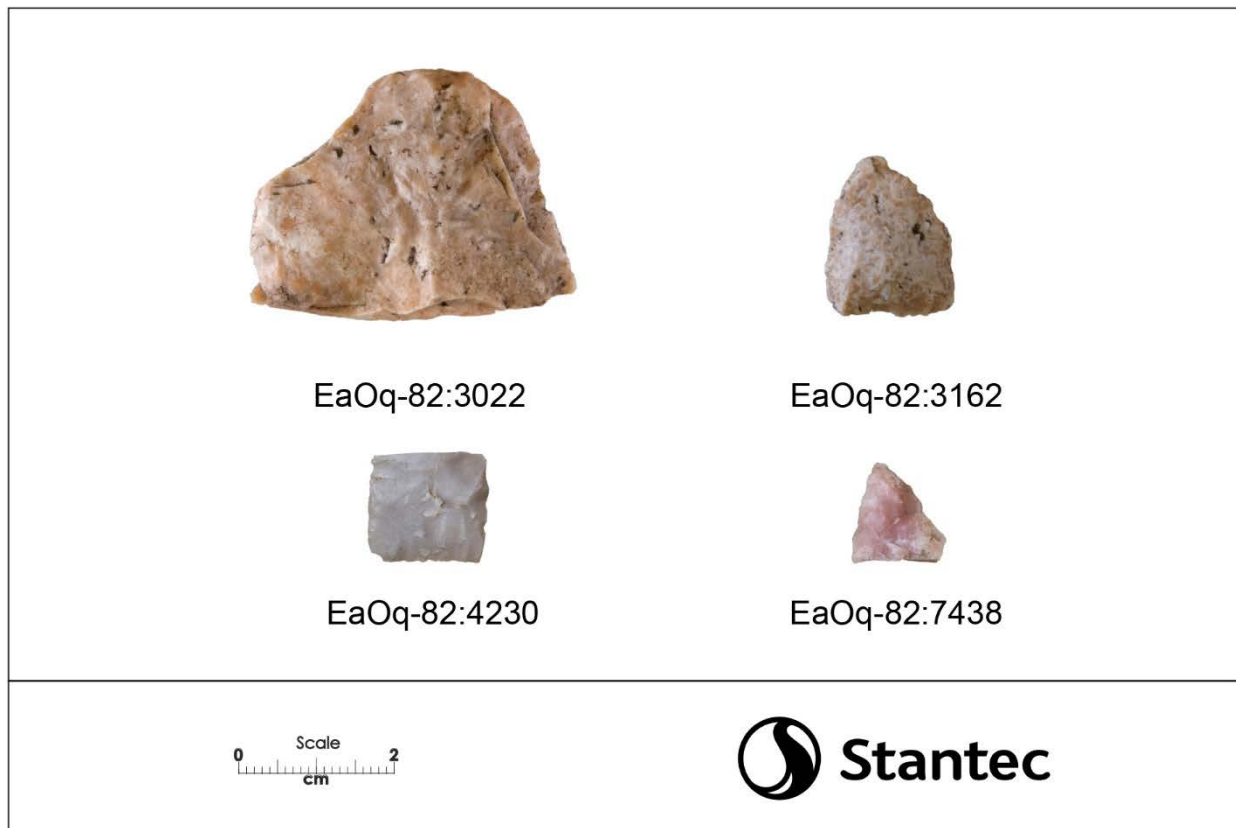


Plate 5-24 Biface and biface fragments recovered from Block A (CU1), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

EaOq-82: 7438 is a biface fragment made from Swan River Chert recovered from unit 648N 340E. The tool consists of a biface tip that is triangular in shape and biconvex in cross section. It is possible, given the shape and level of bifacial reduction present on the small fragment, that this belonged to a late stage biface or projectile point preform. Metrics were not able to be determined for this tool given the level of fragmentation; the weight of the tool is 0.6 g.

All formed tools are made from cherts, with all biface and biface fragments being made from Swan River Chert. These tools are likely representative of various processing activities within the Block A area, with the biface tools likely utilized for cutting/slicing meat and the perforator likely used for hide processing. Formed tools were located in units containing or within 1 m of the hearth feature (F2), suggesting that all of the associated processing activities were focused around the south and east sides of the hearth.

Expedient Tools

Both retouched (n=13) and utilized flakes (n=2) were recovered from Block A (CU1) from 10 units across the block (Table 5-4; Plates 5-25 to 5-28). The highest density of expedient tools was found in units 648N 337E (n=4) and 647N 337E (n=3) adjacent to the hearth feature (F2) while the remaining tools were scattered around the hearth to the east, north, and west. As with the formed tools, the distribution of expedient tools across the block suggests that processing activities were highly focused around the hearth with secondary cutting and slicing activities occurring west of the hearth nearby. Both local and exotic lithic materials were used to create the expedient tools with Swan River Chert being the dominant lithic material (n=7 or ~47%) followed by local quartzites (n=6 or 40%), chert, and banded siltstone (n=1 each).

Cores

A total of 15 cores and 5 core fragments were recovered from Block A (CU1) (Table 5-5; Plate 5-29 to Plate 5-31). Distribution of cores mirrored the overall artifact densities, with the majority of specimens being found along the midline (648N) of the block. Locally sourced materials (quartzite, quartz, and chert) were used more frequently (n=12) but Swan River Chert is also well-represented as a core material (n=8), suggesting that large nodules of Swan River Chert were transported to this location and broken down on site, rather than traded as a tool blank as is often seen with exotic materials. As shown in Table 5-4, the heaviest cores are made from quartzite, likely a product of easy access from the nearby river. Cores and core fragments were present in 12 of the 24.5 units excavated in Block A and were distributed largely across the middle of the block from east to west. This may indicate that tool manufacturing took place in situ wherever processing activities were taking place as well as within close proximity to the hearth where flakes were likely used to further break down foodstuffs prior to or during the cooking process.

Debitage

A total of 2,303 pieces of lithic debitage were recovered from Block A (CU1) which represents the bulk of the lithic material within the CU1 assemblage (~98%). All stages of lithic reduction are represented within the assemblage, with middle stage reduction (n= 1,044 or 45%) and other debitage (n=828 or 36%), including flake fragments and block shatter, comprising the majority of the debitage (Figure 5-15).

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-4 Retouched and Utilized Flake Attributes, Block A (CU1), site EaOq-82

Artifact	Unit	Material	Retouch Type	Area of Retouch/Utilization	L (mm)	W (mm)	Th (mm)	Wgt (g)
EaOq-82: 3031	647N 336E	Quartzite	Bifacial and unifacial	Distal end and ventral surface	86.3	64.1	27.5	146.5
EaOq-82: 3094	647N 337E	Quartzite	Unifacial	Dorsal surface, right lateral edge	45.4	39.8	18.6	25
EaOq-82: 3118	647N 337E	Swan River Chert	Bifacial	Lateral and distal edges	N/A	43.9	14.4	26.9
EaOq-82: 3291	647N 339E	Quartzite	Unifacial	Lateral edge	N/A	N/A	N/A	13.7
EaOq-82: 3431	648N 336E	Swan River Chert	N/A	Utilization on left lateral edge	36.3	14	5.9	3.2
EaOq-82: 3483	648N 337E	Swan River Chert	N/A	Utilization on right lateral edge	26.8	25	6.8	3.6
EaOq-82: 3488	648N 337E	Swan River Chert	Unifacial	Left lateral edge, ventral surface	30.4	N/A	10.1	7.7
EaOq-82: 3762	648N 337E	Swan River Chert	Bifacial	Three sides	N/A	16.5	3.1	0.9
EaOq-82: 3792	648N 337E	Quartzite	Bifacial	Lateral edges	N/A	N/A	N/A	0.3
EaOq-82: 4291	648N 339E	Chert	Unifacial	Lateral edge, dorsal surface	N/A	N/A	N/A	1.5
EaOq-82: 4403	648N 340E	Quartzite	Bifacial and unifacial	Right lateral edge; left lateral edge, ventral surface	58.3	43.5	19.4	50.1
EaOq-82: 4549	648N 341E	Swan River Chert	Unifacial	Lateral edge, dorsal surface	N/A	N/A	N/A	5.7
EaOq-82: 4984	649N 337E	Banded Siltstone	Unifacial	Left lateral edge, dorsal surface	N/A	N/A	N/A	4
EaOq-82: 6728	649N 338E	Swan River Chert	Unifacial	Right lateral edge, dorsal surface	17.9	27	5.7	2.5
EaOq-82: 7227	647N 337E	Quartzite	Bifacial and unifacial	All edges	62	61.2	22.8	103.3

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

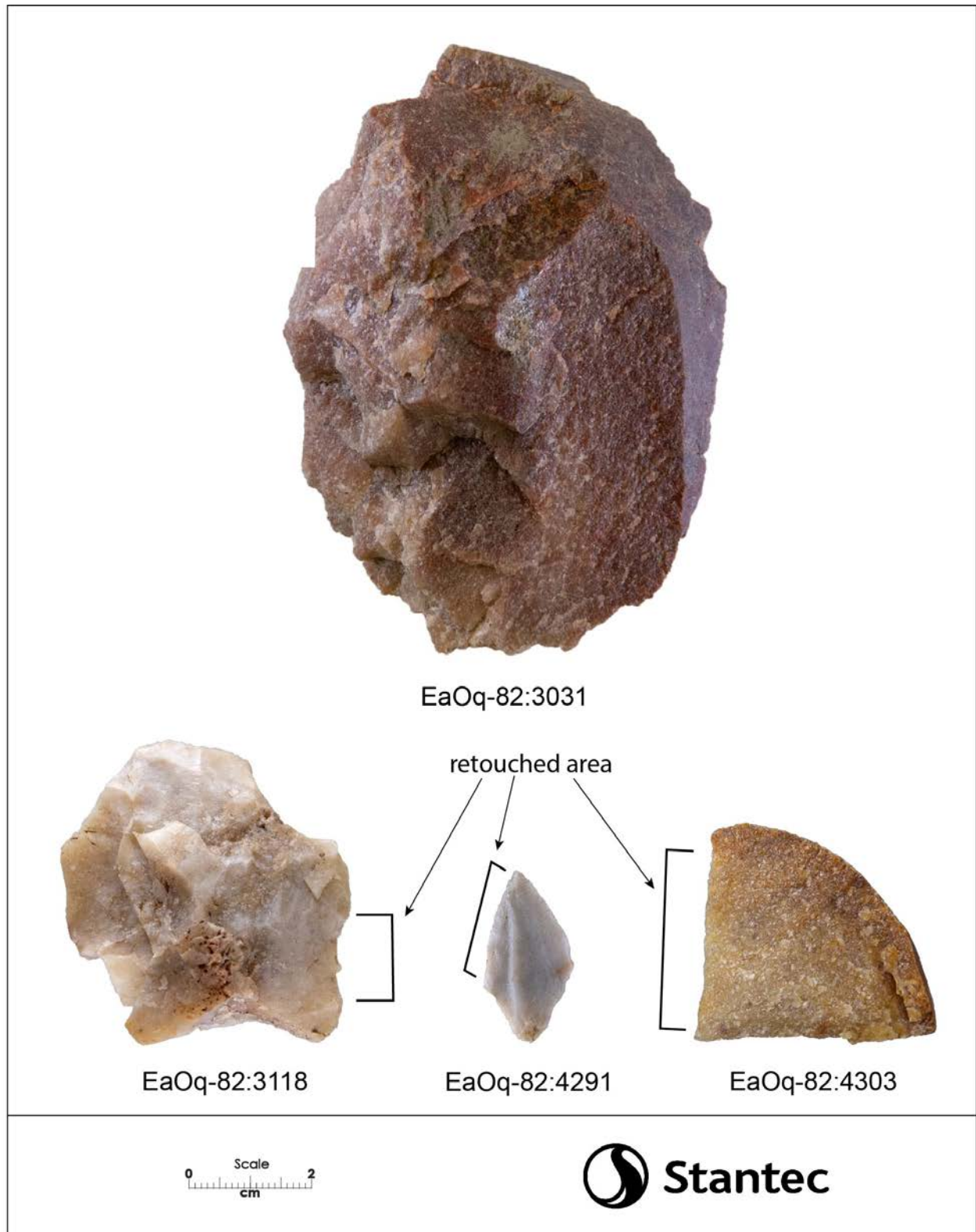


Plate 5-25 **Examples of retouched flakes from Block A (CU1), site EaOq-82**

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

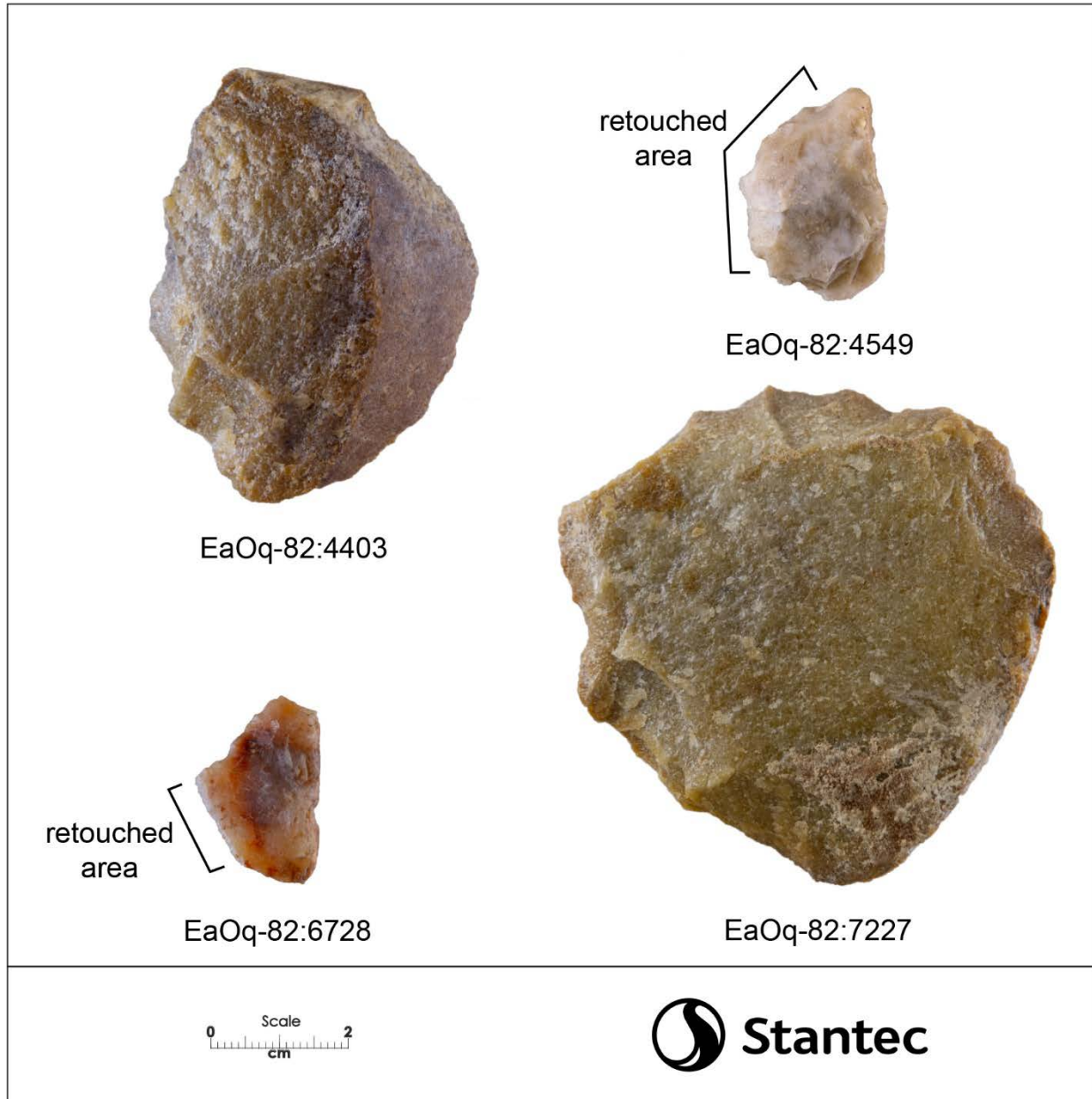


Plate 5-26 **Additional examples of retouched flakes from Block A (CU1), site EaOq-82**

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-27 Retouched flake with fossil recovered from Block A (CU1), site EaOq-82

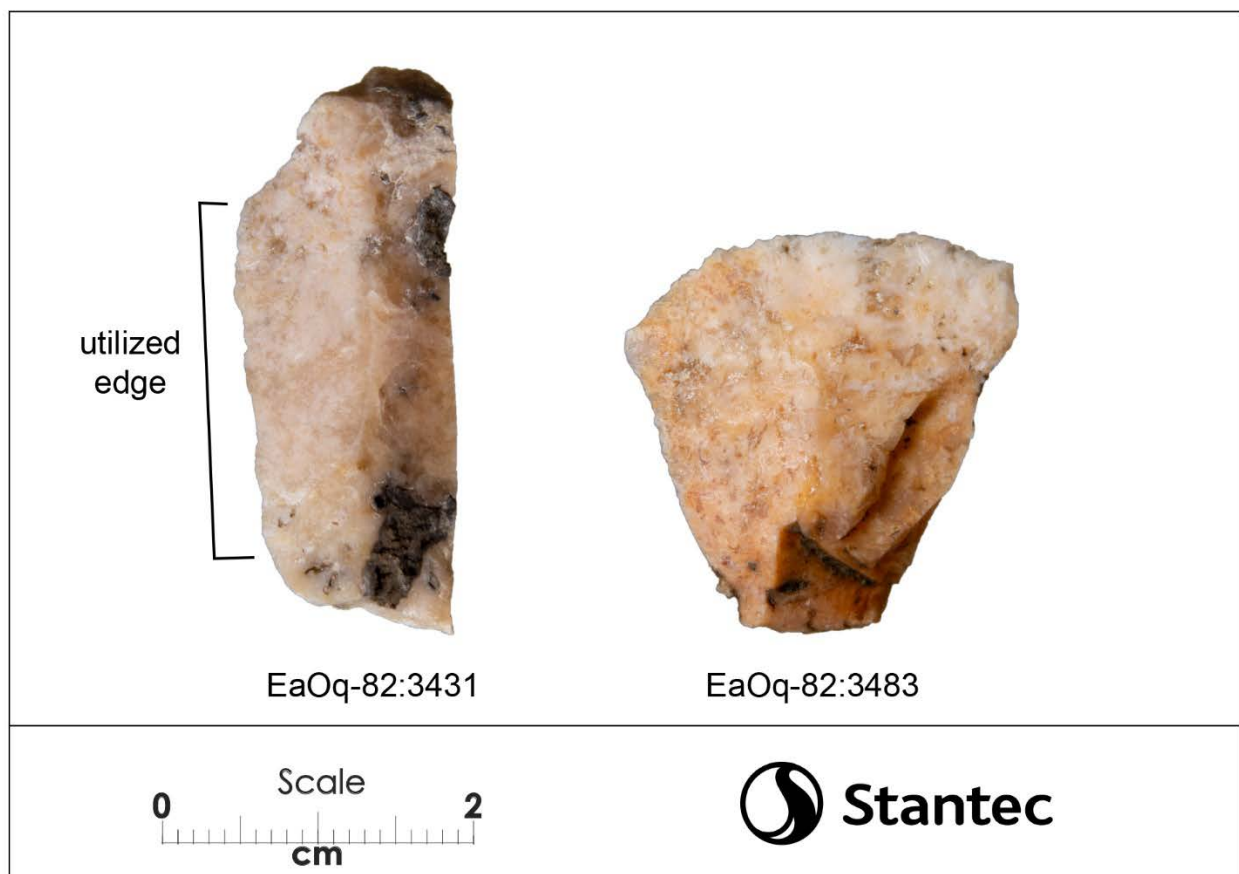


Plate 5-28 Utilized flakes recovered from Block A (CU1), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-5 Core and core fragment metrics, Block A (CU1), site EaOq-82

Artifact	Unit	Material	Core Type	Comments	MLD (mm)	Wgt (g)
EaOq-82: 3029	647N 336E	Swan River Chert	Bipolar	Exhausted	24.7	3.2
EaOq-82: 3287	647N 339E	Quartzite	Multidirectional	Some cortex present	43.6	22
EaOq-82: 3343	647N 340E	Quartz	Fragment	Some cortex present	33.7	8.9
EaOq-82: 3416	647N 343E	Swan River Chert	Bipolar	Exhausted	50.6	15.4
EaOq-82: 3429	648N 336E	Swan River Chert	Fragment	Cortex on opposite ends	48.8	22.9
EaOq-82: 3436	648N 336E	Quartzite	Bipolar	Exhausted	33.1	5.5
EaOq-82: 3574	648N 337E	Quartzite	Bipolar		44.5	21.4
EaOq-82: 3842	648N 338E	Quartzite	Multidirectional		89.8	382.7
EaOq-82: 4000	648N 338E	Swan River Chert	Bipolar		44.5	45.9
EaOq-82: 4215	648N 339E	Swan River Chert	Multidirectional		42.6	28.8
EaOq-82: 4290	648N 339E	Quartz	Multidirectional		51.2	59.8
EaOq-82: 4293	648N 339E	Swan River Chert	Multidirectional		35.5	9.8
EaOq-82: 4409	648N 340E	Chert	Bipolar		60.2	41
EaOq-82: 4412	648N 340E	Quartzite	Multidirectional	Cobble with ends flaked	95.6	302.8
EaOq-82: 4533	648N 341E	Quartzite	Fragment		85	103.7
EaOq-82: 4541	648N 341E	Swan River Chert	Multidirectional		39.1	26.2
EaOq-82: 4555	648N 341E	Quartzite	Multidirectional		36.2	11.9
EaOq-82: 4946	649N 336E	Swan River Chert	Multidirectional		75.3	124.1
EaOq-82: 6763	649N 340E	Quartz	Fragment		56.8	52.2
EaOq-82: 7349	648N 338E	Quartzite	Fragment		35.7	14.2

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

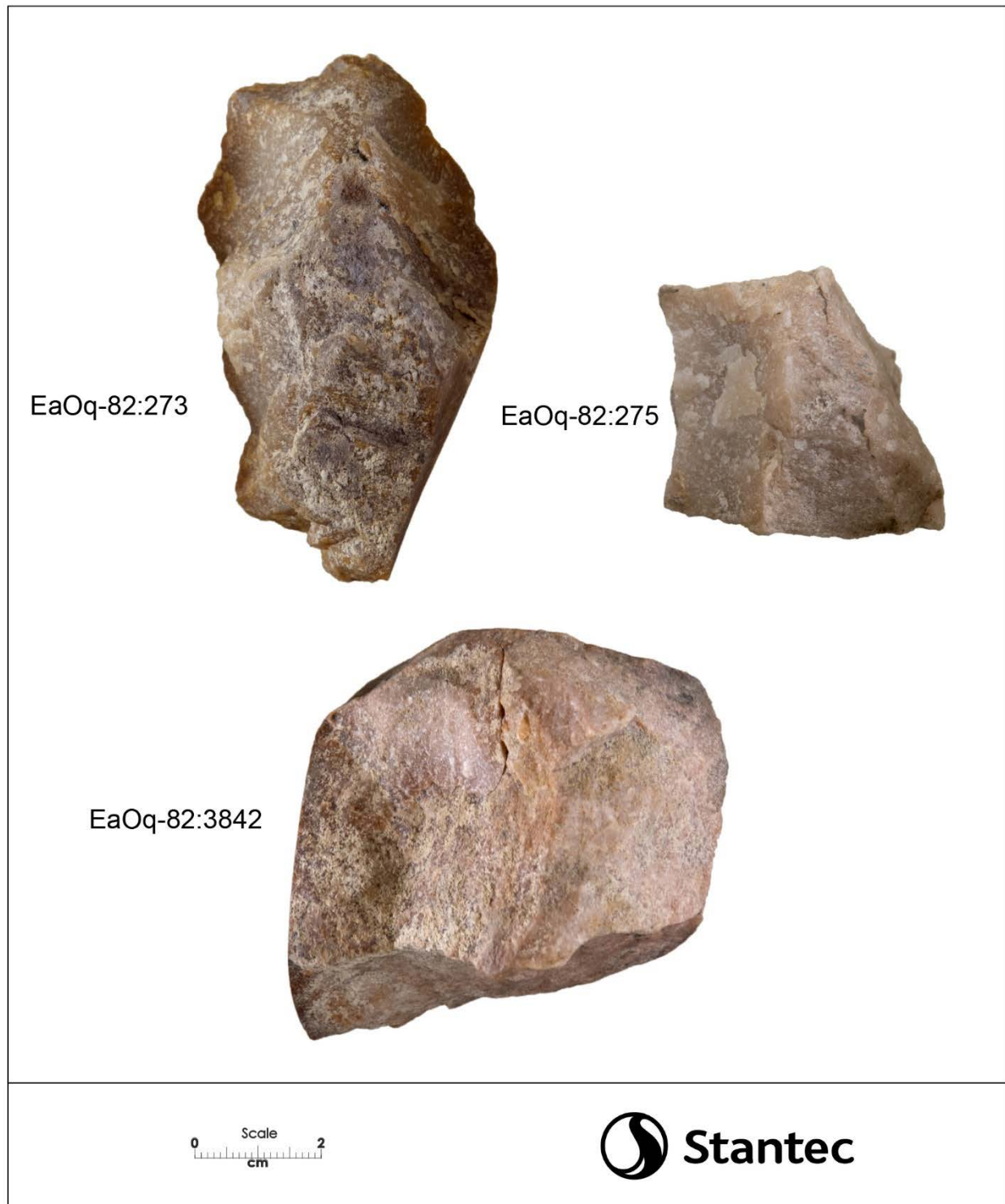


Plate 5-29 **Examples of quartzite cores and core fragments recovered from Block A (CU1), site EaOq-82**

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

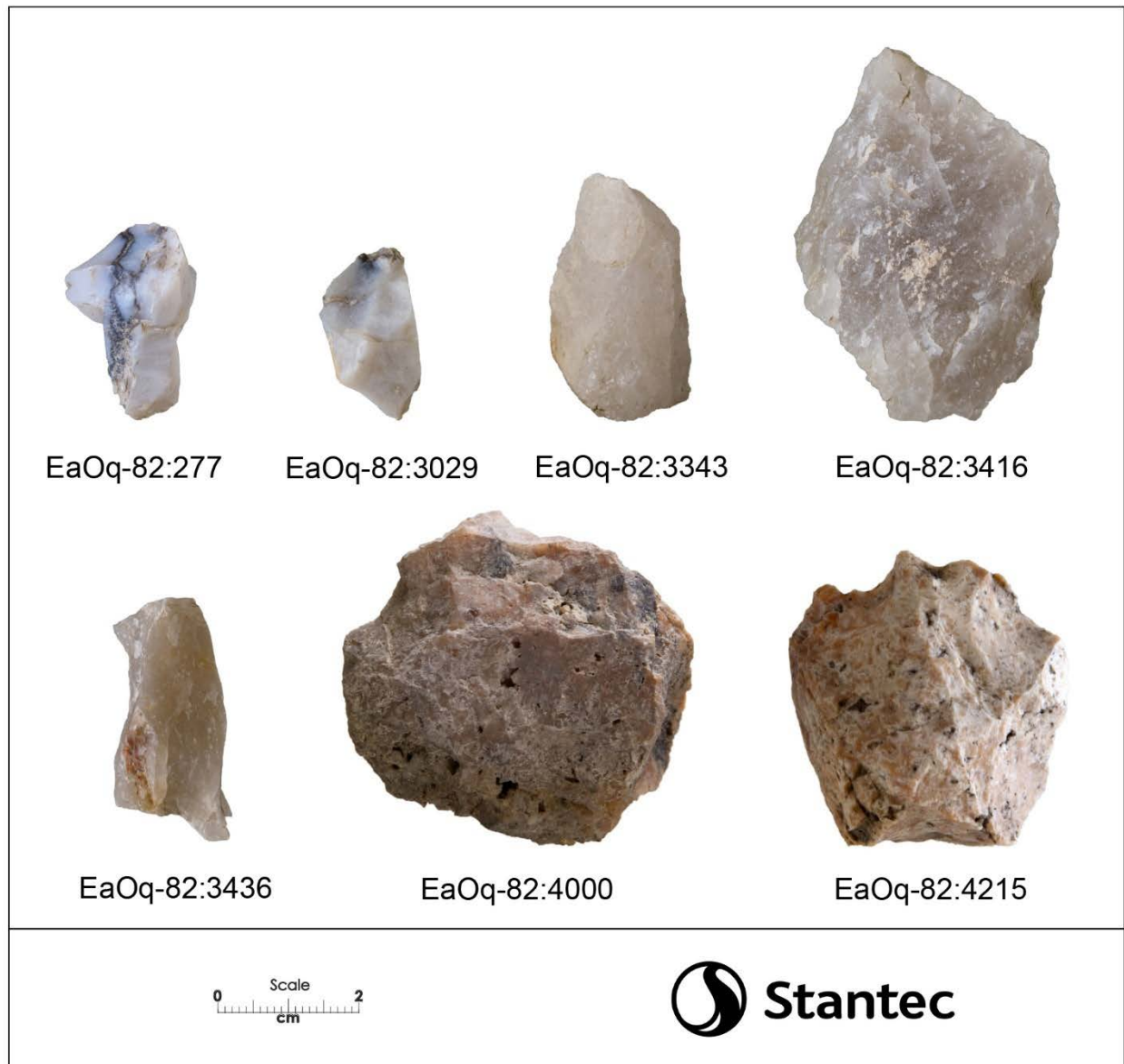


Plate 5-30 **Examples of non-quartzite cores, Block A (CU1), site EaOq-82**

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-31 **Multidirectional cores (EaOq-82: 4290 and EaOq-82: 4946) and bipolar core (EaOq-82:4409) recovered from Block A (CU1), site EaOq-82**

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

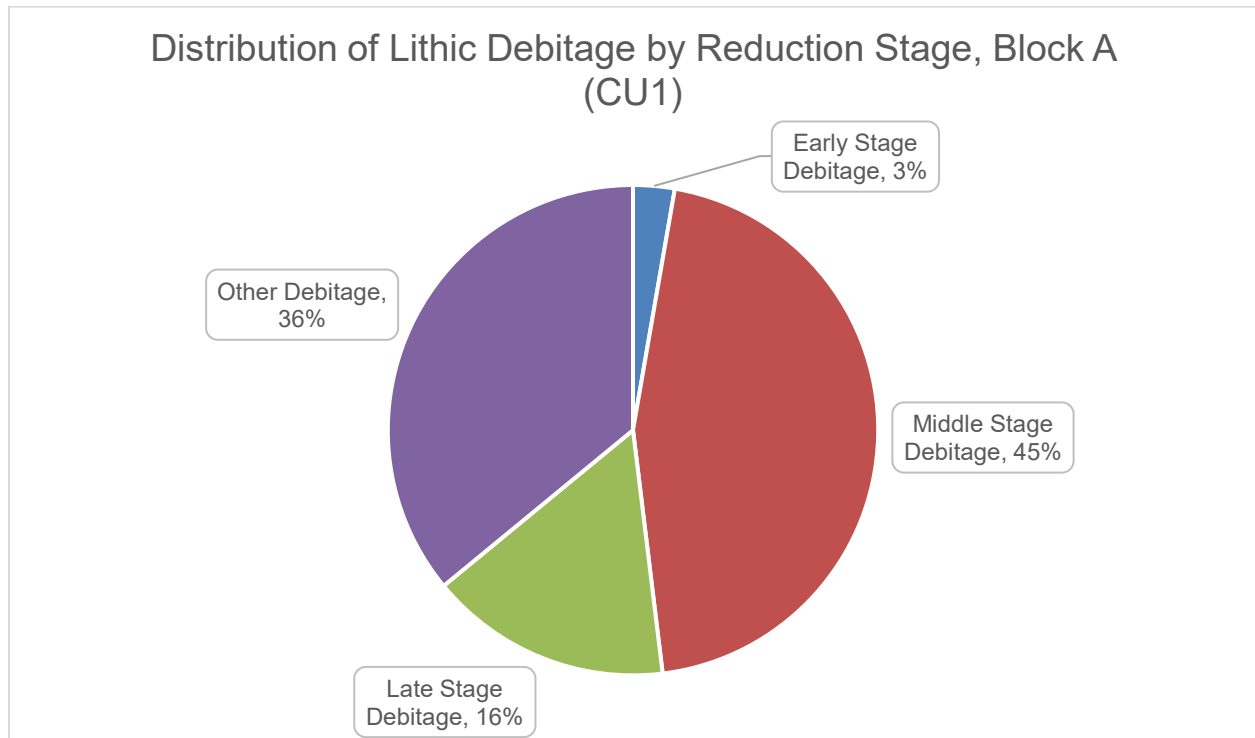


Figure 5-16 Distribution of lithic debitage by reduction stage, Block A (CU1), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

This suggests that most of the early stage reduction (inclusive of primary and secondary decortication flake removal) was conducted elsewhere, either in a different location within the site boundary or off-site, and prepared cores were further broken down on site.

Lithic debitage within the Block A (CU1) assemblage is represented by 11 different lithic materials with ~92% represented by two types, quartzite (n=705 or ~31%) and Swan River Chert (n=1,396 or ~61%) with the remaining nine materials representing ~1% each respectively (Table 5-6). Exotic materials, especially those that are sourced at great distance from a site, tend to be highly prized and were continually reworked and/or resharpened to extend the life of the tool. Additionally, the relative frequency of exotic materials within an assemblage may be correlated to distance of the parent material. Material acquired from great distances was more likely to have been traded in tool blanks to reduce weight of material, thus leaving little for the final user to do other than final thinning and shaping, resulting in little to no early or middle stage debitage (Kooyman 2000).

Therefore, the presence of all stages of lithic reduction represented by Swan River Chert suggests easier access to larger pieces of stone, either through trade or from a local glacial till source (Grasby et al 2002). Middle stage and “other” reduction flakes are the most prevalent flake type created from this material (~79%) with late stage reduction flakes present in much lower quantities; early stage reduction flakes made from Swan River Chert are scarce within the assemblage, suggesting that although larger nodules of material may have been easier to access, prepared Swan River Chert cores were likely brought to site before further reduction occurred.

Quartzite is represented in all stages of lithic reduction, as is quartz (n=57 or ~2%). Nearly 68% of all early stage reduction flakes were made from quartzite; given that quartzite was likely accessed locally from the riverbed less than 100 m away from the site, it is expected that a higher frequency of early stage reduction would be seen within the assemblage. As seen with Swan River Chert, quartzite debitage skewed heavily towards middle stage reduction flakes and “other” debitage (50% and 38% respectively) while late stage reduction was present in low frequencies. Comparing these results to the tool assemblage for the block, quartzite tools were largely represented by retouched flakes.

These are generally larger flakes (often middle stage reduction) that require little finishing work that would have resulted in a higher frequency of late stage reduction. Conversely, a broader array of tools were formed from Swan River Chert, including formed tools such as bifaces and projectile points, resulting in a more even distribution of middle and late stage debitage. Quartz shows a similar distribution to quartzite, with the majority of debitage presenting as either middle stage or “other” with very few early or late stage flakes. Given the complex internal structure of quartz crystal, a high percentage of waste flakes (often presenting as flake fragments or block shatter) is expected.

The remaining eight lithic materials are present in very low quantities within the assemblage. The highest quality lithic materials (chalcedony, chert, and Montana chert) are almost exclusively represented by late stage reduction flakes with very few instances of “other” debitage and minimal middle stage reduction.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-6 Frequencies of Lithic Debitage by Material Type, Block A (CU1), site EaOq-82

Lithic Reduction Stage	Lithic Material											Total
	Argillite	Chalcedony	Chert	Coarse Grained Material	Granite	Montana Chert	Petrified Wood	Quartz	Quartzite	Siltstone	Swan River Chert	
Early	-	-	-	-	1	-	-	1	43	-	18	63
Middle	23	3	10	6	4	8	1	34	409	2	544	1044
Late	1	15	19	-	-	20	-	1	37	3	272	368
Other	4	1	3	4	13	2	-	21	217	1	562	828
Total	28	19	32	10	18	30	1	57	705	6	1396	2303

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

This is suggestive of two things: the high frequency of late stage debitage likely represents maintenance of tools that were later taken off-site or discarded outside of the extents of the Stage 1 block; and several tools that were utilized on site were brought to the area as either complete tools that required minimal sharpening throughout their use on site or were brought as tool blanks that were then formed for purpose on site. Argillite features a similar debitage distribution to quartz and quartzite, which may indicate that this material was largely utilized for expedient tool use. Coarse-grained material, granite, petrified wood, and siltstone were not recovered in high enough quantities to provide relevant interpretive information other than these would have all likely been collected from local sources (i.e. the South Saskatchewan River).

Horizontal distribution of debitage across the block was similar to that seen in the overall artifact distribution, that is, flakes were concentrated in and around the hearth feature (F2) in unit 648N 338E and along the middle of the block to the west (Table 5-7). This bolsters the interpretation that the hearth was the focal point of activity with secondary processing activities taking place nearby.

Faunal

A total of 3,642 faunal elements were recovered from Block A during Stage 1 investigations. With the exception of a small sample of bone found below the CU1 paleosol (n=18 or ~0.5% of block total), all bone is associated with CU1 and represents a dense living floor featuring intensive butchering and processing of faunal material. Bison and large ungulate pieces account for by far the majority of bone in CU1, by both count and weight (Table 5-8). Isolated elements from antelope, hare or rabbit, and a small canid are present, along with a number of small fragments that could only be identified as mammal. Most of these unidentified pieces are burned or calcined fragments from feature F2, and all are less than 3 cm in size.

Bison and Large Ungulate

For ease of discussion, bison and large ungulate were interpreted together given that no other large ungulate was found within the assemblage and, other than moose, bison is the largest (and most pervasive) ungulate species across the northern plains. When observing bison and large ungulate pieces together, cranial, mandibular, and limb elements dominate the assemblage. Distal elements are poorly represented. The elements have all been comprehensively butchered; the only complete elements are some of the smaller tarsals, carpals, sesamoids, and phalanges. This includes the articulated bone unit ABU2, a group including complete ankle elements recovered from unit 646N 337E and 647N 337E. Where fusion could be observed, practically all the elements were fused. An MNI of five mature bison would account for the observed pieces, based on the count of scapulae (Table 5-9). The fragments from the skull include elements from at least two individuals. There are horn cores attached to portions of the frontal, paired frontal segments still attached at the suture, anterior frontals attached to posterior portions of the nasal, lachrymal and zygomatic segments of the orbit, a premaxilla, a maxilla with molars, isolated molars, and an auditory meatus. In addition, there are a number of fragments not identified beyond being part of the skull.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-7 Distribution of Lithic Debitage, Block A (CU1), site EaOq-82

		Unit Easting							
		336	337	338	339	340	341	342	343
Unit Northing	649	26	53	10	12	72	48	32	7
	648	41	357	448	173	123	221	136	55
	647	66	84	107	82	13	31	23	59
	646		24						

Table 5-8 Count and weight of faunal pieces by taxon from Block A (CU1), site EaOq-82

Taxon	Count	% of total count	Weight (g)	% of total weight
Bison	198	5.5%	7832.4	66.5%
Large Ungulate	2952	81.5%	3843	32.6%
Antelope	1	0.0%	6.4	0.1%
Lepus	2	0.1%	1.6	0.0%
Small Canid	2	0.1%	0.5	0.0%
Medium Mammal	2	0.1%	2.3	0.0%
Small Mammal	3	0.1%	0.8	0.0%
Mammal	464	12.8%	88.9	0.8%
Total	3624	100.0%	11775.9	100.0%

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-9 Count (and minimum number of elements [MNE] by side) of bison and large ungulate elements, Block A (CU1), site EaOq-82

Element	Bison	Large Ungulate	Total
Skull	13 (2)	43	56
Upper Tooth	7		7
Mandible	19 (1L, 2R)	3	22
Lower Tooth		6	6
Tooth Fragment		25	25
Hyoid	1		1
Thoracic Vertebra	1		1
Lumbar Vertebra	1		1
Rib	9	28	37
Scapula	34 (4L, 5R)	7	41
Humerus	9 (3R)		9
Radius	13 (3L, 1R)	1	14
Ulna	15 (2L, 3R)		15
Fifth Metacarpal	1		1
Intermediate Carpal	1R		1
Metacarpal	7 (2R)		7
Pelvis	1L	1	2
Femur	11 (1R)	1	12
Tibia	22 (4L, 2R)	2	24
Astragalus	1L		1
C. Pes	2 (1L, 1R)		2
Navicular Cuboid	2 (1L, 1R)		2
Lateral Malleolus	1L		1
Second Metatarsal	2		2
Calcaneum	4 (1L)		4
Metatarsal	9 (1L, 1R)		9
Metapodial	3		3
Distal Sesamoid	2		2
P-1	3 (2L, 1R)	2	5
P-3	4 (3L, 1R)		4
Undifferentiated Vertebra		2	2
Undifferentiated Long Bone		146	146
Undifferentiated Scrap		2685	2685
Total	198	2952	3150

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

A minimum of one left and two right mandibles are present. This is based on the presence of an articulated pair of anterior mandibles with all the incisors and canines, and a right anterior portion (Bone Unit or BU 6). No whole mandibles were present, and the elements were quite comprehensively butchered. There is a complete left row of cheek teeth, and a partial right row (BU 14), both with the ventral border removed, as well as a segment of alveoli (BU 18). There are portions of the ventral border of the horizontal ramus (BU 15), the right ascending ramus (BU 24, 37), the left and right mandibular condyle (BU 3, 30), a right coronoid process (BU 40), a partial coronoid process (BU 29), and a right and left angle (BU 9, 28 and 47). Mandible EaOq-82:800 is a complete left toothrow, with all teeth permanent and in wear. The style on M1 is worn to a loop, on M2 to a circle, and on M3 it is not yet in wear; this suggests an age of 3.5 – 4.5 years old (Frison and Reher 1970; Winchell 1963).

Mandible EaOq-82:2230 is a right toothrow, including P2 through M1, where the style is worn to a loop. The six isolated lower teeth from this mandible are all incisors or canines. Finally, a single hyoid body is present.

The axial skeleton is poorly represented within the assemblage. There is a lumbar vertebra transverse process, and a thoracic vertebral spine fragment. There is a rib head (BU 9), a substantial portion of the body (BU 10), and a segment through the neck (BU 4). All the remaining rib fragments are longer (BU16) or shorter (BU 15) body segments. The forelimb is well represented, particularly the scapula. A minimum of five right and four left elements are represented, although there are no whole elements. These include whole glenoids with various portions of the neck (BU 2, 17), partial glenoids (BU 4, 13), portions of the posterior border (BU 14), the blade (BU 18), and the spine (BU 5, 9, 11). Humerus shaft fragments are present, from an MNE of three right elements (BU 8, 13, 20, 39). A minimum of four left and one right radii are represented, with fragments from the proximal end (BU 3, 21), the distal end (BU 2), and shaft (BU 4, 18). Two of the left radius elements measure as female (Speth 1983; Walde 1991).

A minimum of two left and three right ulnae are represented, with fragments comprising the ulnar notch and articular surfaces (BU 2, 14), the proximal end of the olecranon (BU 7), and shaft fragments (BU 3). Four of the posterior radius shaft pieces articulated cleanly with ulnar shaft or ulnar notch pieces, so that the butchering unit should really be considered as a combination of the two elements. Only two carpals are present. A minimum of two right metacarpals are present, based on the count of distal ends (BU 6) and shaft fragments (BU9), one of which measures as male.

The hindlimb is well represented. There are two fragments from the ischiatic spine of the pelvis (BU 13). Most of the femur fragments are mid shaft pieces (BU 18), but there is also a right shaft fragment with the supracondylid fossa (BU 4). The tibia is well represented by posterior shaft fragments (BU 6), some with the nutrient foramen (BU 5), which gives an MNE of four left and two right elements. There are also fragments from the base of the crest (BU 2), as well as a left and right fused distal end (BU 4) that both measure as female. A minimum of one left and one right metatarsals are present, with pieces from the proximal end (BU 2, 5), substantial shaft portions (BU 10), and an unfused distal half (BU 8). The proximal ends measure as a left and a right female or immature male. There are also a small number of fragments only identifiable as metapodial, either pieces of the distal condyle (BU 2) or shaft (BU 10).

ABU2 is an articulated left ankle group, including the lower mid tibia, the ankle bones, and the upper metatarsal. This was found in unit 646N 337E, in level 2. The whole ankle elements include the

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

astragalus, navicular cuboid, lateral malleolus, cuneiform pes, and second metatarsal. The calcaneum was found in four separate pieces that refit to form a complete element.

The lower limb is represented by two distal sesamoids, as well as first and third phalanges. The first phalanx is represented by whole elements (two left and a right), plus proximal (BU 7) and distal (BU 12) portions. The third phalanx is represented by a whole right element, and articular surfaces from three left elements (BU 2, 3, 8).

Considered all together, an MNI of 5 would account for all the observed bison and large ungulate elements. This is based on scapula glenoids. All epiphyses were fused, with the sole exception of a distal metatarsal and a vertebral epiphysis fragment. Some elements were quite rugged and appeared to be from a large, mature individual.

When sex measures are considered (Table 5-9), there are at least one male, two females, and a female/immature male individual present. This does not change the MNI count of 5.

Distribution of bison/large ungulate elements across the block is dense, with the highest quantities spread through the middle row of excavation units (648N) and numbers decreasing closer towards the edges of the block (Table 5-10). The heaviest elements and greatest weight of bone appears at the east end of the block furthest from feature F2 with a moderate weight of bone present around the hearth and decreasing towards the edges of the block (Table 5-11; Plate 5-32). These opposing distribution patterns make sense based on size class; elements and fragments closer to the hearth feature a higher degree of fracturing which increases quantity but reduces weight while larger butchered elements do not provide large quantities but are responsible for more weight per element. This suggests that the larger elements stripped of meat were left further away from the hearth while smashed elements, perhaps for use in a boiling pit, are present closer to the hearth.

Bone Tools

Three bone tools were recovered from Block A (CU1), including a bone awl (Plate 5-33), a bone upright, and an unknown tool (Plate 5-34). The bone awl (EaOq-82:6579) was recovered from unit 648N 336E, approximately 1.5 m west of feature F2. It was found partially upright though, due to the soft nature of the sandy sediment and the thin, delicate nature of the tool, it is likely that this is a product of discard rather than evidence for use as a peg. The tool is highly polished and, as shown in Plate 5-33, features striations along the tip, evidence for repeated use. The bone upright (EaOq-82:1064) is made from a broken bison rib and was recovered from within feature F3, likely utilized as a shim or stabilizing pin for the post that would have sat within the posthole. Cutmarks are present along the lateral edges of the tool and the proximal end shows signs of green breakage. The third bone tool (EaOq-82:63) was recovered during initial construction monitoring in the vicinity of where Block A was later placed. The long bone fragment is highly polished but lacks diagnostic features that would allow for positive element identification. However, the degree of polish compared to the rest of the assemblage is only matched by the bone awl, suggesting that this fragment of bone may have been used in a repeated rubbing motion, possibly as an annealer or hide softener.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-10 **Bison sex measurements from CU1, minimum number of elements**

Element	Male	Female	Female/immature male
Radius		2 left	
Metacarpal	1 right		
Tibia		1 left, 1 right	
Metatarsal			1 left, 1 right

Table 5-11 **Distribution of Bison/Large Ungulate Elements by Quantity, Block A (CU1), site EaOq-82**

		Unit Easting							
		336	337	338	339	340	341	342	343
Unit Northing	649	25	23	28	51	138	166	113	42
	648	53	117	340	349	211	427	354	67
	647	31	81	126	201	37	72	55	48
	646		13						

Table 5-12 **Distribution of Bison/Large Ungulate Elements by Weight, Block A (CU1), site EaOq-82**

		Unit Easting							
		336	337	338	339	340	341	342	343
Unit Northing	649	48.7	50	179.5	433	316.3	260	207.2	35.5
	648	239.4	434.8	1002	1311	618.7	1136	1938	233.6
	647	157.9	358.1	766.8	540.2	261.1	256.3	516.8	204
	646		319						

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-32 Planview of Block A (647-649N 338-342E) showcasing distribution of faunal material along centre of block at floor of CU1; scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

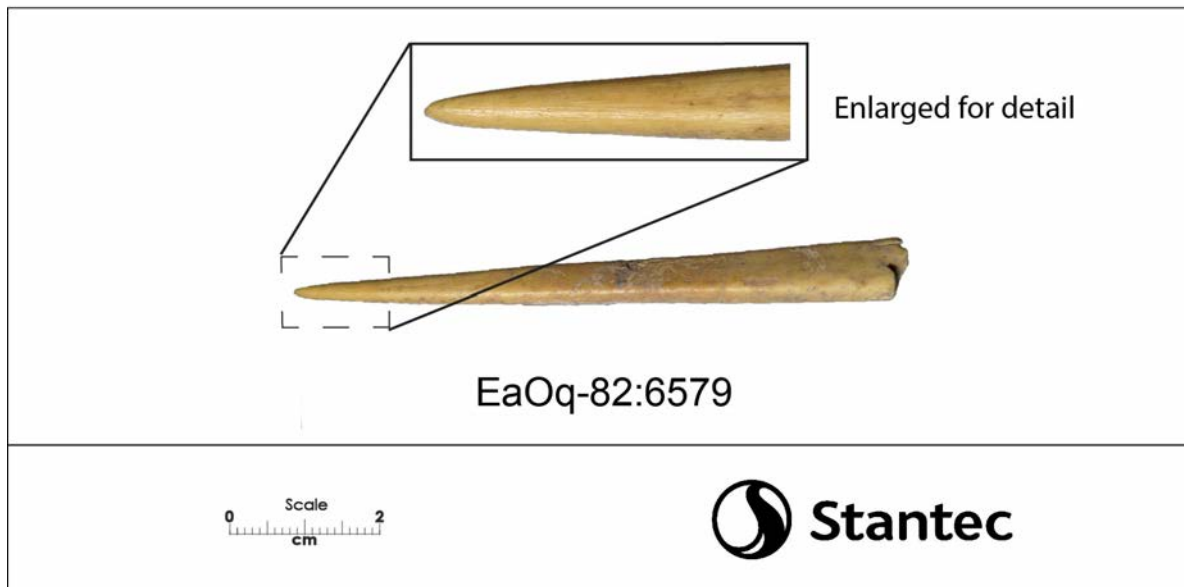


Plate 5-33 Bone awl recovered from Block A (CU1), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-34 Polished bone tool (EaOq-82:63) and bone upright (EaOq-82:1064), Block A (CU1), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Non-Bison

A total of 474 faunal fragments were identified as non-bison/large ungulate from CU1 represented by two identifiable species (antelope and rabbit) and four more general categories (small canid, medium mammal, small mammal, and mammal; Table 5-13). Very few elements were able to be positively identified and non-bison elements were very closely associated with the hearth (F2). This is largely due to the unidentifiable nature of the fragments within the hearth fill (mammal undifferentiated scrap) but even the elements that were positively identified are located in close proximity to F2 (Table 5-14). These elements provide a more holistic understanding of the dietary trends of the site and point towards a bison-heavy, yet varied, consumption pattern.

Faunal Material below CU1

In all, 18 faunal pieces were recovered from the levels below CU1 within Block A, which generally correlate to excavation levels 3 and 4 or where identified as “below CU1”. The most significant collection of bone below CU1 is ABU1, recovered from unit 648N 342E, level 3 which consists of a group of six elements from a right bison forelimb, weighing 145.6 g: a proximal half of a metacarpal, magnum, unciform, radial carpal, intermediate carpal, and ulnar carpal. The metacarpal from this articulated group measures as female or immature male. The remainder of the faunal assemblage collected from below CU1 consists of a small sample of bone, generally undifferentiated scrap, that totals 111.2 g and provides little additional interpretive value.

FBR

FBR comprises only ~12% of the overall Block A (CU1) assemblage and features an inverse distribution pattern when compared to the lithic and faunal assemblages. Where the latter two assemblages were concentrated around the large hearth feature (F2) and along the middle of the excavation to the block west of F2, FBR is more densely concentrated in the west half of the block (Table 5-15). This concentration is adjacent to feature F1 (unit 647N 341E), suggesting some relationship between the two. However, the distribution of FBR by weight (Table 5-16) features a similar pattern to lithic and faunal artifacts, with the hearth feature (F2) containing the greatest amount of FBR by weight; the units adjacent to F1 contain a total weight below the mean weight across the block, a product of the small size of FBR present in these units. FBR in unit 648N 338E is largely comprised of fragments falling in the 5-10 cm range (n=21), 10-15 cm range (n=3), 15-20 cm range (n=5) and >20 cm range (n=1) where the units around F1 do not contain any fragments larger than the 10-15 cm range (n=1 in unit 648N 341E). FBR is scattered across the rest of the block in a relatively linear manner, being denser along the middle of the block with more diffuse amounts (both in total numbers and weight) to the north and south.

Raw materials within the FBR assemblage consist of quartzite (n=683), granite (n=120), UCGM (n=11) and hard cobbles where the interior of the stone was not able to be observed (n=11) (Table 5-17). These materials would have been easily acquired from the riverbank and were all likely sourced from within 100 m of the site. Nearly all of the FBR (~98%) of the assemblage features crenellation and water fracturing; the remaining ~2% is heat treated, suggesting a boiling pit used for grease extraction was utilized in conjunction with processing and cooking activities.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-13 Count and weight by taxon and element for non-bison taxa, Block A (CU1), site EaOq-82

Taxon, element	Count	Weight (g)
Antelope	1	6.4
Metatarsal	1	6.4
Lepus	2	1.6
Tibia	2	1.6
Small Canid	2	0.5
Upper Tooth	2	0.5
Medium Mammal	2	2.3
Rib	1	0.8
Undifferentiated Long Bone	1	1.5
Small Mammal	3	0.8
Undifferentiated Long Bone	3	0.8
Mammal	464	88.9
Skull	6	3.5
Tooth Fragment	1	0.4
Undifferentiated Scrap	457	85
Grand Total	474	100.5

Table 5-14 Distribution of Non-Bison Taxa Elements by Quantity, Block A (CU1), site EaOq-82

		Unit Easting							
		336	337	338	339	340	341	342	343
Unit Northing	649	0	0	0	5	6	2	0	0
	648	1	81	292	2	1	0	6	0
	647	0	1	41	36	0	0	0	0
	646		0						

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-15 Distribution of FBR by Quantity, Block A (CU1), site EaOq-82

		Unit Easting							
		336	337	338	339	340	341	342	343
Unit Northing	649	2	0	1	12	34	16	56	2
	648	11	31	74	59	80	160	156	18
	647	7	15	12	7	5	20	20	27
	646		0						

Table 5-16 Distribution of FBR by Weight, Block A (CU1), site EaOq-82

		Unit Easting							
		336	337	338	339	340	341	342	343
Unit Northing	649	9.5	0	0.6	234.9	1937.7	853.2	332.6	57
	648	521.1	7167.2	29959	1371.3	1261.1	1414.7	1181.1	128
	647	1134.5	256.3	2350.5	193.4	599.1	208.1	172.3	218.1
	646		0						

Table 5-17 Distribution of FBR Fracture Type by Raw Material, Block A (CU1), site EaOq-82

Fracture Type	Raw Material				Total
	Granite	Hard Cobble	Quartzite	UCGM	
Heated Cobble		10			10
Indeterminate	1				1
Spall			2		2
Unmodified Cobble		1			1
Water	119		681	11	811
Total	120	11	683	11	825

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

It is possible that feature F1, given the high frequency of small fragments of FBR nearby, may have functioned as a boiling pit, with the density of nearby FBR representing a clean-out/discard event; small fragments would not have been able to be re-heated and reused for the boiling process.

5.3.1.3 Block B

A total of 4 sq. m were excavated at Block B to investigate the upper cultural component (CU1) at site EaOq-82 (Plate 5-35; Figure 5-17). The excavation block was placed near cultural finds, specifically bison elements including foetal remains identified at location MH_CF8 and articulated bison remains identified at MH_CF11 during construction monitoring. Due to additional sediment stripping after the finds had been documented and collected during monitoring, Block B was placed between the waypoints for MH_CF8 and MH_CF11, as no remains were left in situ to inform block placement.

It was determined that the block should be first excavated as a 2 m by 2 m block to investigate the possibility of recovering additional remains and then expanded as needed up to 15 sq. m; if artifact recovery rates were low with no diagnostic information, the block would not be expanded with the remaining 11 units reserved for investigation of the lower component (W. Unfreed pers. comm. Aug 2, 2023). The dearth of artifacts/features and the stratigraphic evidence suggesting that Block B had been stripped below CU1 during construction monitoring resulted in the excavation of only 4 sq. m at Block B. In situ artifacts were recorded in depths b.d. – all datums were set at 2.16 m b.s

Cultural Material

A total of 23 artifacts were collected during excavations at Block B, including one piece of lithic debitage (quartzite flake fragment) and 22 pieces of faunal material (Table 5-18). Faunal material was largely comprised of undifferentiated scrap bone, though all canid bones as well as the bison element were identifiable (metatarsals for the former, radius for the latter). The bones were largely present in the first 10 cm excavation level (2.50 m to 2.64 m b.s., dependent on ground slope) with the greatest representation of the material present in unit 639N 335E (Table 5-19). Cultural modification was only present on one lumbar vertebra in the form of a shallow cut mark; many of the other elements were poorly preserved, resulting in crumbling and further degradation after collection. Only the canid elements were found to have a higher degree of preservation.

The artifact assemblage was collected from sediments consistent with those seen below CU1 in Block A and are therefore not associated with the activities observed in Block A. The small Block B assemblage may be a product of natural processes; there were no observed rodent burrows or other signs of intrusive deposition that would suggest that the cultural material in Block B is associated with CU1. Due to the low artifact yields as well as a lack of features and diagnostic artifacts, further interpretation of the Block B results are not possible. It is deemed unwarranted to assign a new cultural unit to these scant remains given that no other cultural material within the Project footprint was identified below the thick layer of clayey silt.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-35 Planview of completed Block B (CU1), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82

February 2024

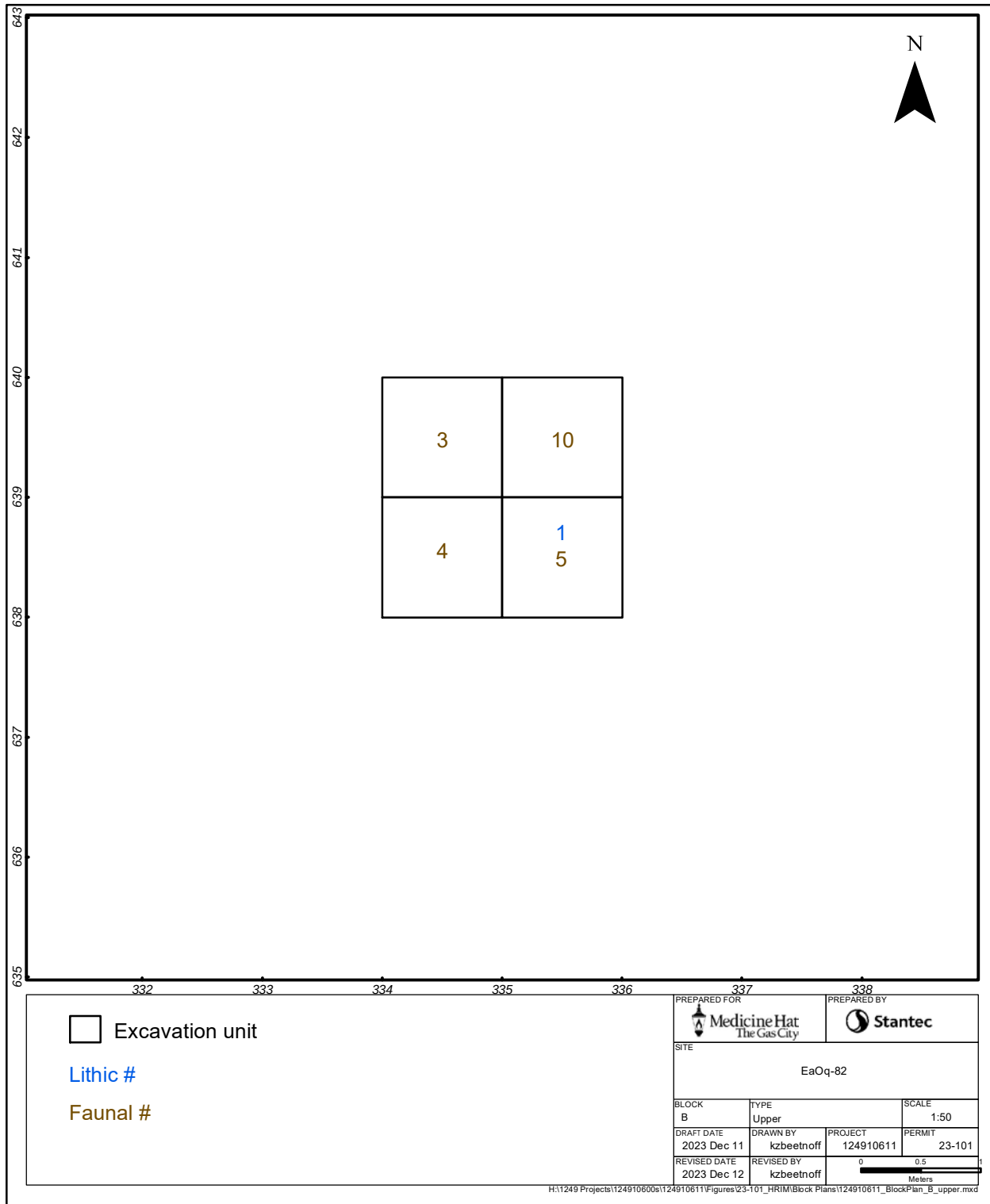


Figure 5-17 Block plan and distribution of recovered artifacts, Block B (upper), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-18 Artifact Assemblage, Block B (upper), site EaOq-82

Artifact Type		Total
Lithic	Flake Fragment	1
Faunal	Bison	1
	Large Canid	3
	Large Ungulate	9
	Mammal	1
	Medium Mammal	8
Total		23

Table 5-19 Distribution of Faunal Material, Block B (CU1), site EaOq-82

		Unit Easting	
		334	335
Unit Northing	639	4	5
	638	3	10

5.3.1.4 Radiocarbon Dating Results – CU1

Radiocarbon analysis (AMS bone collagen dating) was performed by BETA Analytic Testing Laboratory on two samples sent from Block A (CU1): a bison ulna fragment recovered from feature F2 in unit 648N 338E and a large ungulate (likely bison) spirally fractured long bone fragment recovered from unit 648N 341E. The analysis produced conventional radiocarbon dates of 1240 +/- 30 years BP and 1250 +/- 30 years BP (Appendix E). The dates (when calibrated) fall within the range of 679 to 880 AD at the 95% confidence level. These date ranges fall well within the Avonlea Phase (1,300-1,100 BP) (Peck 2011; Reeves 1983), which is bolstered by the Avonlea projectile points recovered from Block A and further strengthens the interpretation that the Block A assemblage is representative of a single living floor. Only a handful of Avonlea sites (all campsites) are within proximity (30 km or less) to EaOq-82, which means that this site provides unique interpretive potential for the beginning of the Late Precontact Period.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

5.3.2 Cultural Unit 2 (CU2)

CU2 is comprised of cultural material associated with the feature (F5) identified at the bottom of backhoe trench MH_BH1 during the construction monitoring, which contained a large quantity of FBR, a proximal bison tibia, fragmented antelope long bones, and a small quantity of lithic debitage. These cultural materials were initially recorded as being ~4.3 m b.s., now measured at 3.5 m b.s. from the site datum. Additional cultural material recovered from MH_BH4 at a similar depth (near Block B) is also assumed to be associated with CU2, as are the few artifacts collected during monitoring of excavations following the completion of Stage 1 mitigative excavations (MH_CF17 to MH_CF21; Table 5-1). Based on the stratigraphy observed within the block profiles, it is likely that CU2 represents a short-term occupation of a highly active environment at the edge of the South Saskatchewan River, possibly on a relict sandbar. Blocks A and B were re-placed in their previous locations after backhoe stripping and Block C was newly opened overtop of feature F5 within MH_BH1 to investigate CU2 during the Stage 1 excavations. As very little of the lower cultural component was uncovered and the starting surface was relatively flat, it was determined that excavation in 10 cm arbitrary levels, pausing where necessary to map and photograph the cultural floor, was an appropriate excavation method for CU2.

5.3.2.1 CU2 Monitoring

Cultural material associated with CU2 was first observed at the bottom of MH_BH1 in what was initially assumed to be a hearth feature (F5; see Block C below) that contained numerous large cobbles, some of which featured blackening and/or reddening, as well as a spirally fractured bison tibia, scattered long bone fragments and one molar from a more gracile ungulate (later confirmed to be antelope), as well as FBR and scattered charcoal fragments. Following the identification of the feature, a shovel test (JR3) was placed in the bottom of the backhoe trench to 40 cm to determine if additional cultural material was present below the feature. Two unidentifiable mammal bone fragments were recovered from the top 5 cm of the shovel test (at the same relative depth as the hearth) but no other cultural material was observed.

A large, reddened cobble was recovered from the bottom of MH_BH4 (Table 5-1) which is assumed to be associated with CU2 based on approximate depth of the find (initially recorded as ~4 m b.s.). Finally, several artifacts, including a bison metatarsal, mandible, first phalanx, and an ulna, as well as a large fragment of FBR, were collected from locations MH_CF17 to MH_CF21 during monitoring of sediment removal after the completion of Stage 1 excavations to the maximum Project depth across the bottom of the Residuals Clarifier Building foundation pit. These monitoring finds are also assumed to be associated with CU2 based solely on depth (<3.5m b.s.) as their provenience was highly disturbed during the completion of sediment removal.

5.3.2.2 Block A

A total of 15 sq. m in Block A were further excavated to investigate CU2 following stripping of non-cultural sediment between CU1 and CU2 (Plate 5-36; Figure 5-18). Due to the angle of the slope along the east wall of the Project area after removal of overburden was complete, a 3 m by 5 m block was opened and excavated 30 cm below the new starting surface (~15 cm above the cultural material first observed in MH_BH1 or ~3.5 m b.s.).

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-36 Planview of completed Block A (CU2), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

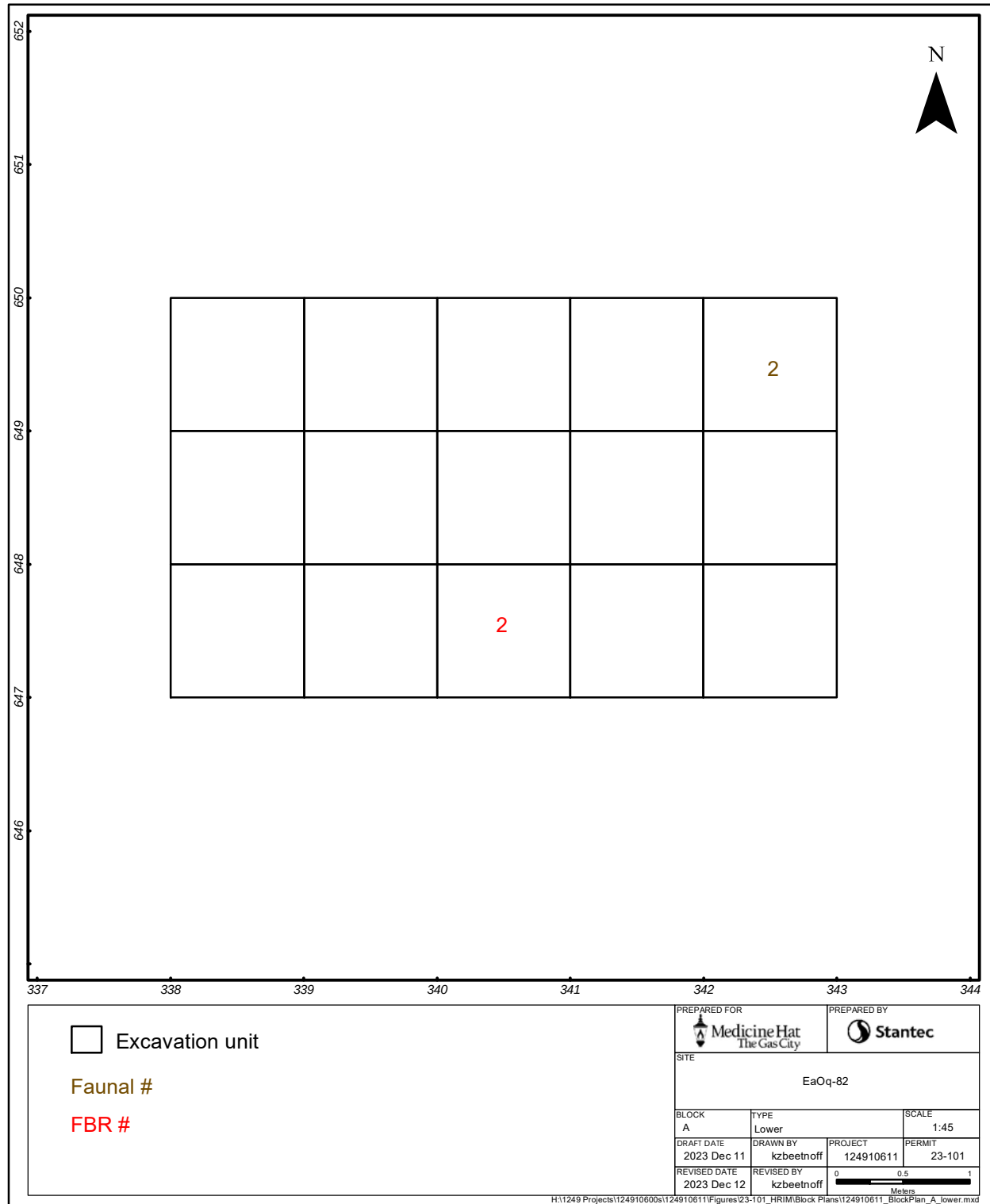


Figure 5-18 Block plan and distribution of recovered artifacts, Block A (CU2), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Unit location within the site grid established during CU1 excavation was maintained for CU2 investigations to within 0.5 cm. In situ artifacts were recorded in depths b.d. – all datums were set at 3.05 m b.s.

Cultural Material

A total of four artifacts and two charcoal samples were collected from CU2 in Block A, including two pieces of FBR and two fragments of antelope long bone. These cultural materials were recovered from units 647N 340E (FBR and charcoal samples) and 649N 342E (faunal material) between 3.76 m to 3.86 m b.s. and 3.61 m to 3.71 m b.s. respectively. Both fragments of FBR feature crenellation fractures, providing evidence for their use in boiling water. The antelope elements are unmodified and represent an MNI of 1 based on a mandible fragment and a nearly complete proximal phalanx. These artifacts appear to be the outer scattering of cultural material associated with the features present in Block C (see below for discussion) and further interpretation of data based solely on the Block A assemblage will not provide additional results. Based on the dearth of artifacts and lack of features, it was determined that no further expansion of Block A was required (W. Unfreed pers. comm., Aug. 12, 2023).

5.3.2.3 Block B

A total of 16 sq. m were excavated at Block B to investigate cultural remains associated with CU2 (Figure 5-19). The 4 sq. m block excavated to investigate CU1 was replaced to within 0.5 cm of its original location following overburden stripping between the cultural units. Subsequently, the block was expanded north and east based on observed artifact densities and the presence of a hearth feature (F7, see below). Six of the “flex metres” were used to further expand the block to a 4 m by 4 m area. In situ artifacts were recorded in depths b.d. – all datums were set at 3.31 m b.s.

Features

Feature F7 is a shallow hearth feature present in units 640N 335E, 640N 336E, 639N 335E, and 639N 336E with the bulk of the feature present in 640N 335E (Figures 5-20 and 5-21; Plates 5-37 and 5-38). The hearth is roughly circular in shape and approximately 90 cm in diameter. The cross-section shows a shallow, bowl-like shape with layers of ash, charcoal, and reddened oxidized soil that is approximately 10 cm deep. Three lithic tools (projectile point and two retouched flakes), a moderate quantity of both unburned and burnt/calced bone (n=112), lithic debitage (n=103), and FBR (n=66) were recovered from the hearth fill; several soil samples were taken for future analysis (Figure 5-22). Where possible, artifacts were mapped in situ and fine mesh screening was utilized to collect small fragments of burned or calcined bone and microdebitage. One cobble, present in the south portion of the feature, was the only artifact to protrude from the hearth; all other artifacts were found within the fill material. Ash and charcoal were present in a ~5 cm thick layer above reddened, oxidized soil, also ~5 cm deep, within the shallow profile and the hearth was recorded between 3.86 m to 3.94 m b.s. The shallow nature of F7 is suggestive of a short-term, lower intensity use than what was seen in F2. While bone is present, the relatively even distribution of artifact frequencies suggests that this hearth was multi-purpose, allowing for cooking activities to occur as well as providing light for lithic reduction and a source of heat for stone heating.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

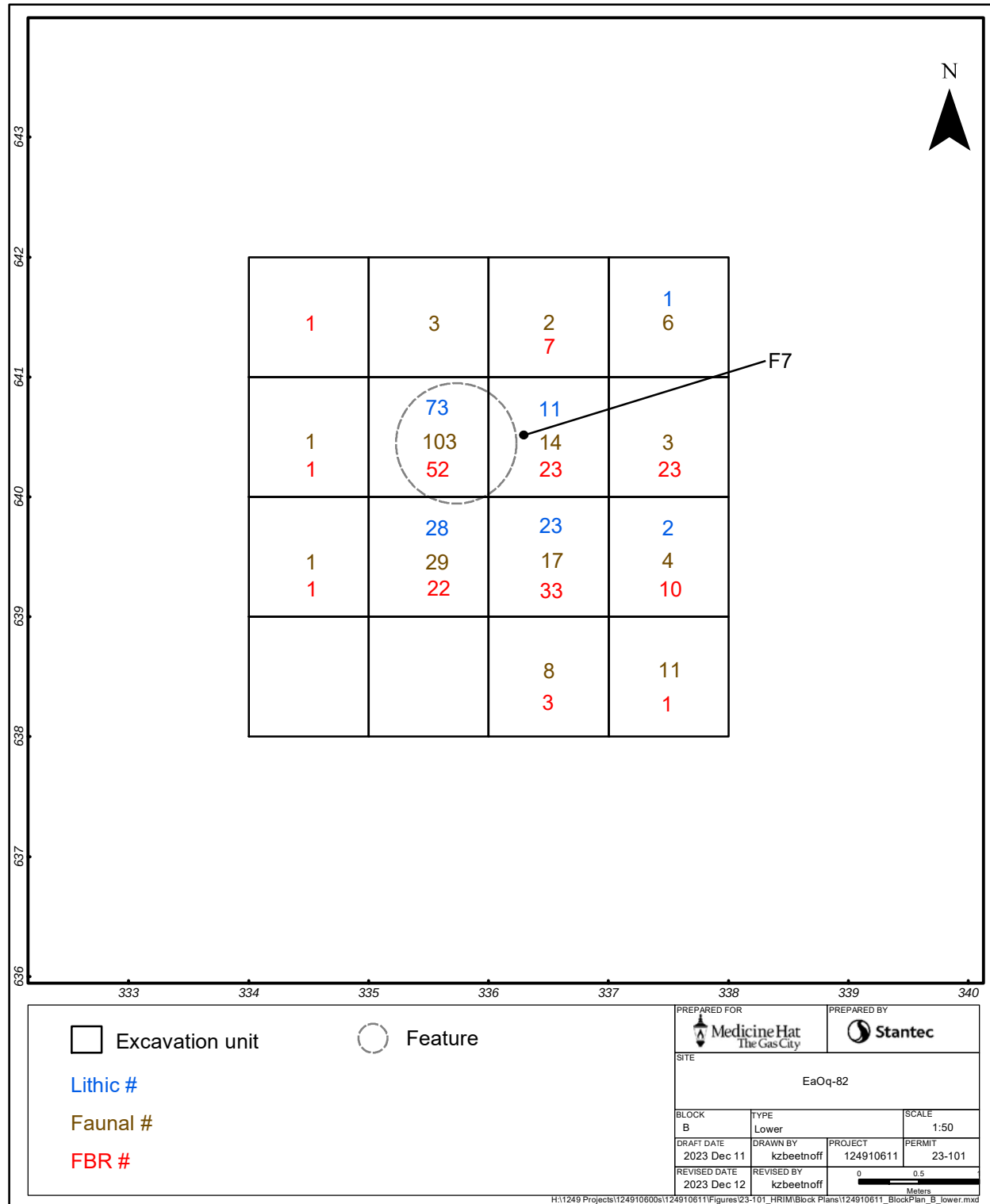


Figure 5-19 Block plan and distribution of recovered artifacts, Block B (CU2), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

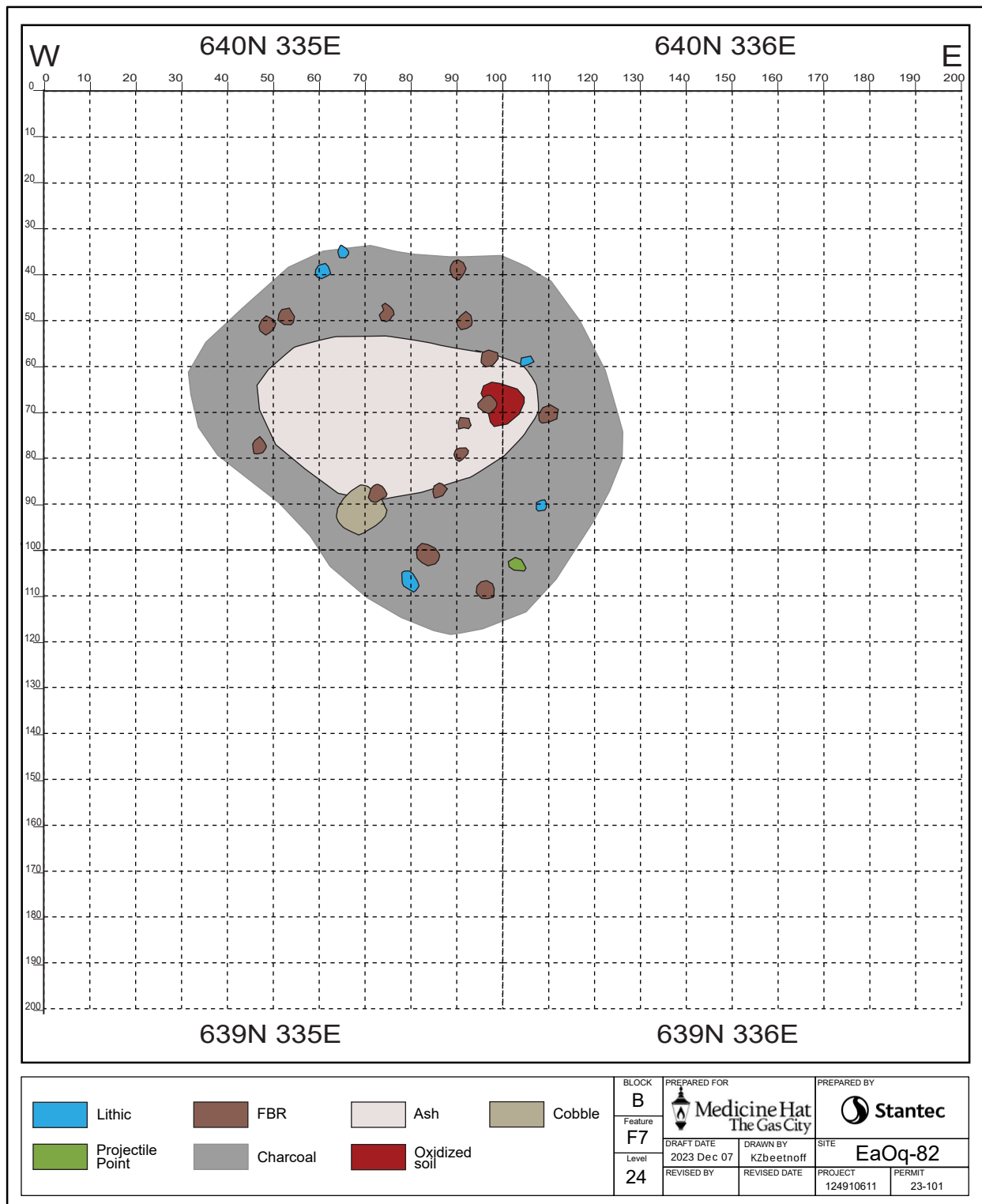


Figure 5-20 Planview of feature F7, units 640N 336E, 640N 335E, 639N 336E and 639N 335E, Block B (CU2), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82

February 2024

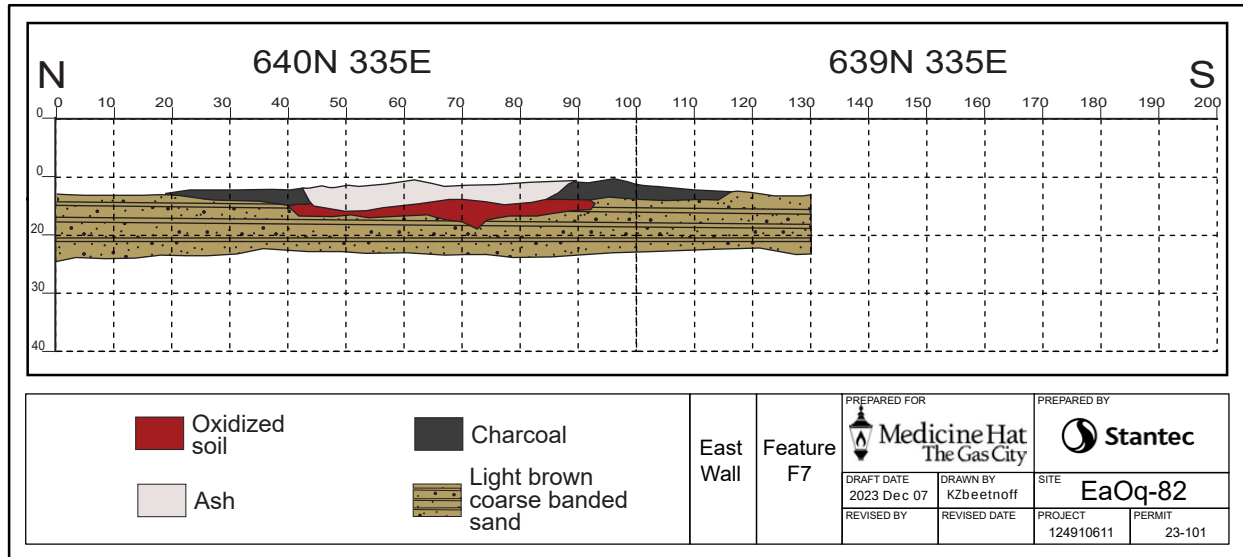


Figure 5-21 Stratigraphic profile of east wall of feature F7, unit 640N 335E and 639N 335E, Block B (CU2), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-37 Planview of feature F7, Block B (CU2), site EaOq-82; scale in 10 cm increments



Plate 5-38 East profile of feature F7, Block B (CU2), site EaOq-82; scale in 10 cm increments

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

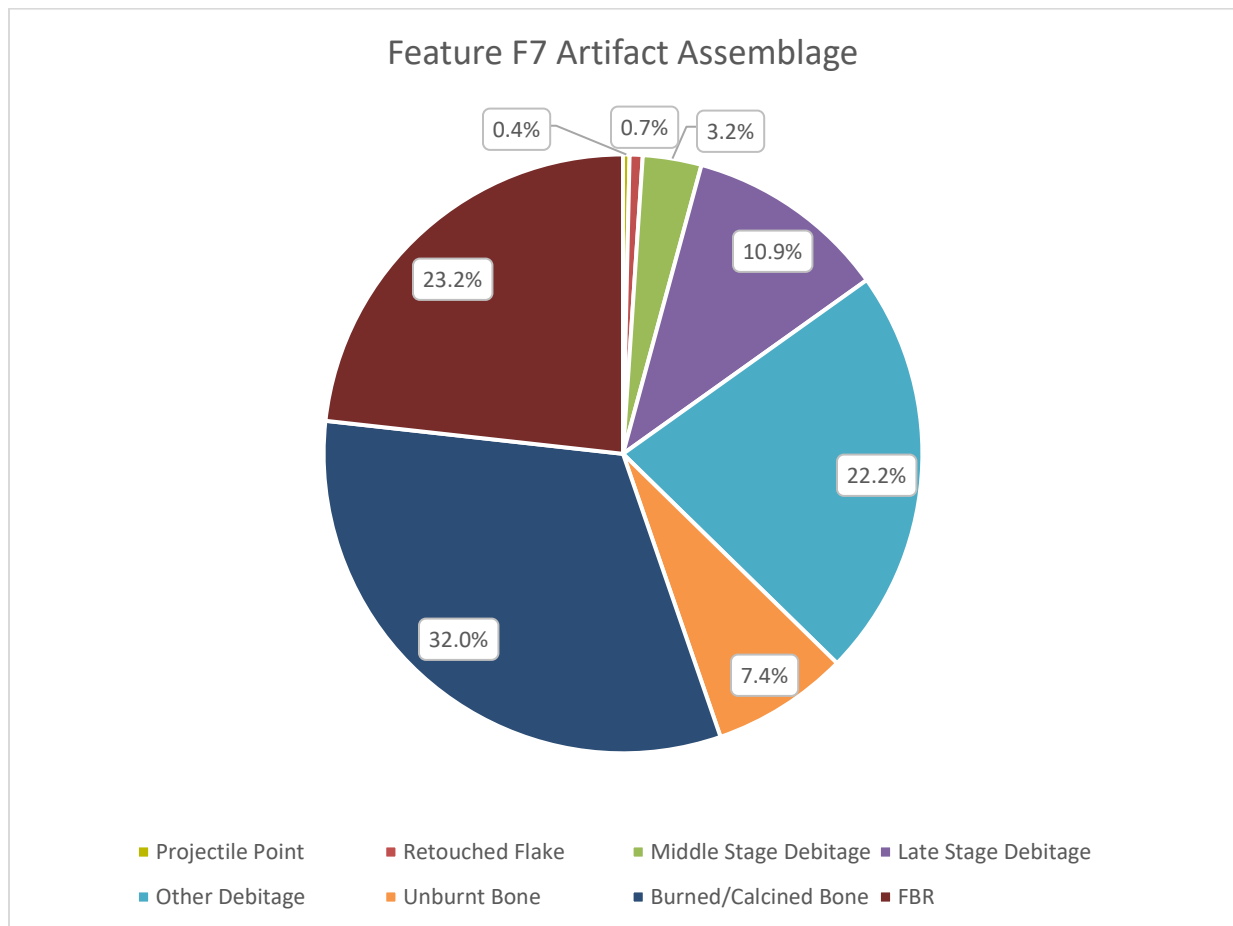


Figure 5-22 Feature F7 Artifact Assemblage, Block B (CU2), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

The high quantity of small debitage (0.66 cm – 2.5 cm; n=98 or 95% of F7 lithic assemblage) may indicate that the hearth was an area of discard as well, the remnant flakes left from tool creation/maintenance swept into the fire once the activity was complete.

Cultural Material

A total of 517 artifacts were recovered from Block B (CU2) during the Stage 1 mitigative excavations, including faunal remains (n=202), FBR (n=177) and lithic artifacts (n=138) (Table 5-20).

Lithics

A total of 138 lithic artifacts were recovered from Block B (CU2) during the Stage 1 excavations, including projectile points and point preforms (n=7 or ~5%), a biface (n=1 or <1%), expedient tools (n=5 or ~4%), and debitage (n=125 or ~91%) (Tables 5-21 and 5-22). Lithic artifacts were only present in six of the 16 units and within the lower two excavation levels which are associated with the undulating paleosol that represents CU2.

Projectile Points

The projectile points from Block B showcase several different styles and may represent a transitional time period where both Middle Period and Late Period points were being produced and utilized (Plate 5-39).

EaOq-82: 6811 is a projectile point preform made from brown chalcedony recovered from unit 639N 336E in close proximity to feature F7. Much of the retouch is restricted to the edges, which have been bifacially retouched and a relatively even manner along both excrucate edges of the point. The base has been marginally thinned and retouched and is flat along much of the width. Large, irregular flake scars are present across the dorsal side of the point with no scarring along the ventral surface; the flake characteristics are still prominently featured along much of the point. The lack of a defined base shape and lack of notching precludes the assignment of this point to any known typology. The maximum length of the point preform is 27.7 mm, the maximum width is 18.7 mm, the maximum thickness is 3.1 mm, and the weight is 1.3 g.

EaOq-82: 6813 is a projectile point preform made from brown chalcedony recovered from unit 639N 336E in close proximity to feature F7. The sides are excrucate and terminate in a sharp, angular point. The base is slightly convex and fine bifacial retouching is present along every edge of the preform. Regular flake scarring is present across the entire dorsal surface; flake scars are larger and more irregular along the ventral surface. The preform does not feature any notches but based on the overall size, it is possible that this preform may have become a Late Period-style projectile point. The maximum length of the point preform is 24.9 mm, the maximum width is 15.2 mm, the maximum thickness is 3.4 mm, and the weight is 1.3 g.

EaOq-82: 7219 is a broken projectile point made from brown chalcedony recovered from unit 640N 335E from within feature F7. Both the tip and the base are missing from the point, appearing to have been snapped off. The sides are excrucate and asymmetrical, with one side featuring a much more vertical angle than the other. Fine bifacial retouch flaking is present along the entire length of both edges as well as across the body with the ventral surface showing more evidence for thinning than the ventral surface.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-20 Block B (CU2) Artifact Assemblage, site EaOq-82

Artifact Type		Total
Lithics	Projectile Point	6
	Projectile Point Preform	1
	Biface	1
	Retouched Flake	5
	Bifacial Reduction Flake	3
	Platform Bearing Flake	14
	Retouch/ Resharpening Flake	20
	Microdebitage	12
	Flake Fragment	54
	Block Shatter	22
	Lithic Subtotal	138
Faunal	Antelope	13
	Large Ungulate	8
	Mammal	6
	Medium Mammal	157
	Small Rodent	1
	Small Ungulate	17
Faunal Subtotal		202
FBR		177
Total		517

Table 5-21 Distribution of Lithic Artifacts, Block B (CU2), site EaOq-82

		Unit Easting			
		334	335	336	337
Unit Northing	641	0	0	0	1
	640	0	73	11	0
	639	0	28	23	2
	638	0	0	0	0

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-22 Lithic Artifacts by Material Type, Block B (CU2), site EaOq-82

Artifact Type	Lithic Material											Total
	Banded Siltstone	Chalcedony	Chert	UCGM	Granite	Montana Chert	Petrified Wood	Petrified Wood/ Petrified Peat	Quartzite	Sandstone	Swan River Chert	
Projectile Point	1	2	1								1	5
Projectile Point Preform		1	1									2
Biface							1					1
Retouched Flake						2	1	2				5
Bifacial Reduction Flake			1								2	3
Platform Bearing Flake		4	1	1	1				5		2	14
Retouch/ Resharpener Flake		2	12								6	20
Microdebitage			10								2	12
Flake Fragment		5	11				1	6	14	1	16	54
Block Shatter			1	20					1			22
Total	1	14	38	21	1	2	3	8	20	1	29	138

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

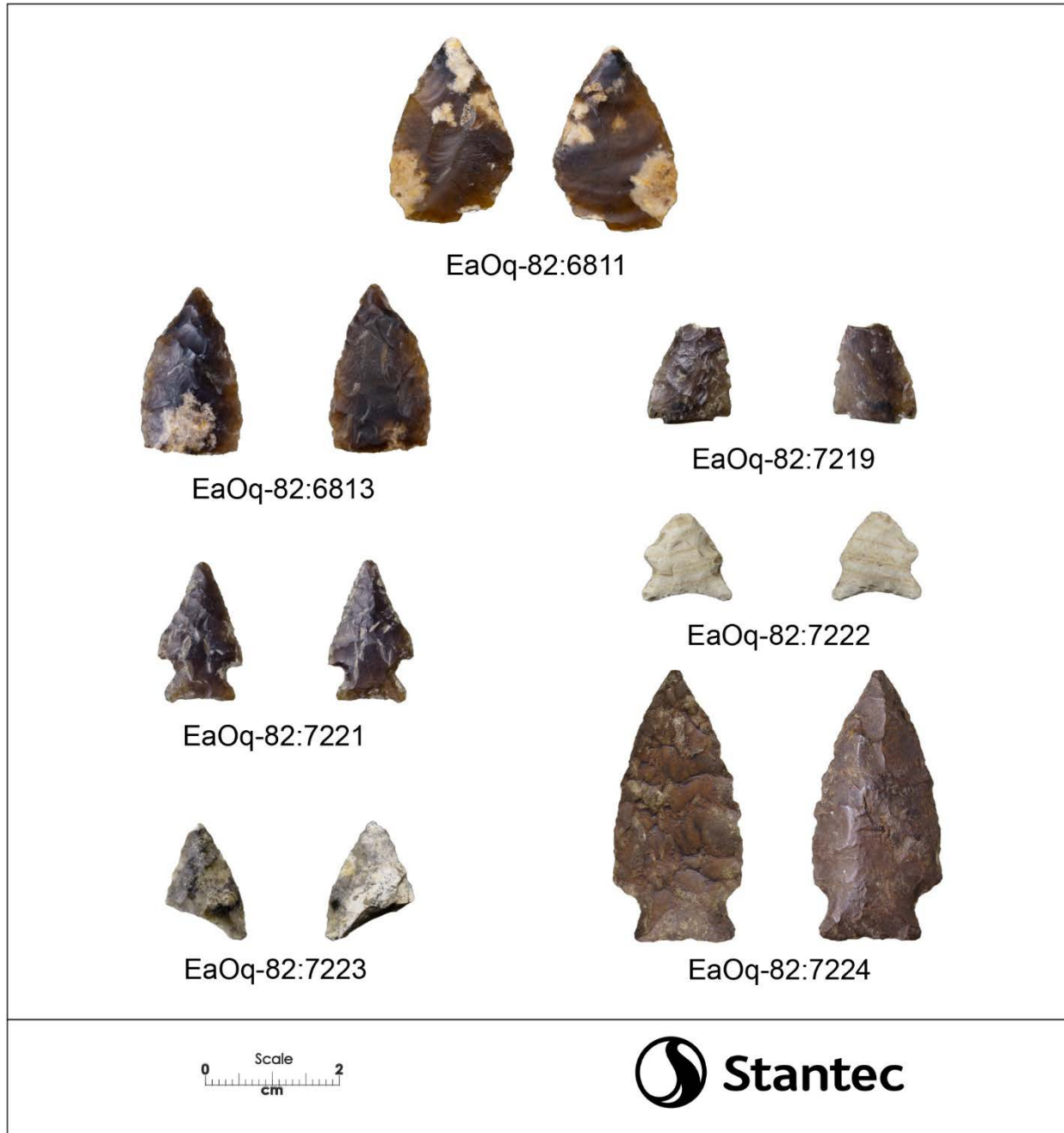


Plate 5-39 Broken projectile points (EaOq-82:6811, 6813, 7219, 7223), Samantha/Avonlea arrow points (EaOq-82:7221, 7222) and a Besant dart point (EaOq-82:7224) from Block B (CU2), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

The cross-section of the point is biconvex and the small remnant of the notches appear to be side notched. Given the small size of the point, it is likely that this represents a Late Period-style point typology. The maximum length and thickness was not able to be determined but the maximum width is 12.2 mm and the weight is 0.4 g.

EaOq-82: 7221 is a complete projectile point made from brown chalcedony recovered from unit 640N 335E in close proximity to feature F7. The point is triangular in shape with one straight side and one convex side that terminate in a rounded angular tip. The base is slightly concave and the corner notches are rounded. Fine bifacial retouch is present across the body of the tool as well as along both edges and the base with smaller flake scars present on the upper half of the point towards the tip. Based on the size and shape of the point, it is likely an arrowhead, possibly a Samantha point. The maximum length of the point is 20.7 mm, the maximum width is 12.7 mm, the maximum thickness is 3.2 mm, the neck width is 7.5 mm, and the weight is 0.7 g.

EaOq-82: 7222 is a complete projectile point made from banded siltstone recovered from unit 640N 335E in close proximity to feature F7. The point is triangular in shape with asymmetrical sides (one straight, one excurvate) that terminate in a rounded angular tip. The point shows signs of heavy reworking, with the tip worn down to nearly nothing. The base, which features basal thinning, is concave and the side notches are shallow and rounded. Based on the size and shape of the point as well as the evidence for reworking, it is possible that this is a Samantha point or an Avonlea point. The maximum length of the point is 13.8 mm, the maximum width is 13.2 mm, the maximum thickness is 3.0 mm, the neck width is 10.0 mm, and the weight is 0.5 g.

EaOq-82: 7223 is a projectile point tip made from Swan River Chert recovered from unit 640N 335E in close proximity to feature F7. The tip includes approximately half of the body but has no other defining characteristics (notches, shoulders, base, etc.). The tip is sharply angular and both edges appear to be excurvate. The tip features a biconvex cross section and fine bifacial retouch is present along both edges. No metrics were taken for this artifact.

EaOq-82: 7224 is a complete Besant projectile point made from brown chert recovered from unit 640N 336E in close proximity to feature F7. The edges are excurvate and terminate in a sharply angular tip. Flake scars are present across both ventral and dorsal surfaces, with step fractures present along the midline of the point. The point features a biconvex cross section and shallow, rounded side notches. The base is straight and shows evidence for basal grinding. Very little retouching is present along the edges of the point, possibly indicating that it had been used only a handful of times and resharpening had not yet occurred on the point. The maximum length of the point is 39.6 mm, the maximum width is 18.8 mm, the maximum thickness is 5.5 mm, the neck width is 12.4 mm, and the weight is 5.2 g.

Projectile points in Block B were found either within feature F7 or in very close proximity (~50 cm) from the hearth, suggesting that this was a work area where point production and reworking took place. Brown chalcedony similar to Knife River Flint appears to have been chosen for tool use with four of the seven projectile points /preforms being made from this high-quality lithic material. Two of the three complete examples feature characteristics, including their diminutive size, more similar to Late Period points than with Middle Period points, yet artifact EaOq-82:7224 is a classic example of Besant dart point technology. The presence of both arrow and dart points suggests that CU2 may be representative of a transitional

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

period between the Middle and Late Precontact periods, likely towards the end of the Besant Phase, where both dart and arrow points were utilized.

Formed Tools

A single formed tool, a biface fragment, was recovered from Block B from unit 640N 336E in close proximity to feature F7 (Plate 5-40). EaOq-82: 6902 is formed from a late stage broken flake made of petrified wood and features bifacial retouch along three edges. The tool is rectangular in shape, largely from a missing tip, and features a plano-convex cross section. The biface has been heavily thinned, with a large inclusion in the parent material causing a large spall along the ventral surface. Maximum length was not able to be determined due to the damaged nature of the tool but the maximum width is 20.7 mm, the maximum thickness is 4.2 mm, and the weight is 2.1 g.

Expedient Tools

Five retouched flakes were recovered from Block B and as seen with other tools, were all found either within or in very close proximity to feature F7 (Plate 5-41). Lithic materials used for expedient tool use were either petrified wood/peat or Montana Chert and were generally found to be on broken flakes.

EaOq-82:6786 is a broken retouched flake made from mottled brown Montana Chert and recovered from unit 639N 335E. There is unifacial retouch along the dorsal surface on the left lateral edge. The maximum width is 23.6 mm, the maximum thickness is 3.44 mm, and the weight is 2.4 g; maximum length was not able to be determined.

EaOq-82: 6788 is a complete retouched flake made from petrified wood recovered from unit 639N 335E. The tool features unifacial retouch flaking around the right lateral edge on the distal surface with flake scars reaching to the midline of the flake. There is bifacial flaking on the distal end towards the left lateral edge the showcases a steep working angle, suggesting that this tool may have been used for scraping various materials. The maximum length is 34.1 mm, the maximum width is 21.8 mm, the maximum thickness is 9.6 mm, and the weight is 8.0 g.

EaOq-82: 6842 is a broken retouched flake made from mottled brown Montana Chert recovered from unit 640N 335E outside of feature F7. The tool features unifacial retouch on the dorsal surface along the right lateral edge; retouch flakes are small and are restricted to the edge of the flake but do extend along the entire length of the right lateral edge. The maximum width is 17.7 mm, the maximum thickness is 2.4 mm, and the weight is 1.3 g; the maximum length could not be determined.

EaOq-82: 6853 is a retouched flake fragment made from petrified wood/peat recovered from unit 640N 335E from within the fine screen sample of the hearth fill inside feature F7. Unifacial retouch is present along one end of the flake fragment. Metrics were not able to be obtained for the tool.

EaOq-82: 6854 is a retouched flake fragment made from petrified wood/peat recovered from unit 640N 335E from within the fine screen sample of the hearth fill inside feature F7. Unifacial retouch is present along one end of the flake fragment. Metrics were not able to be obtained for the tool.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-40 Biface fragment from Block B (CU2), site EaOq-82

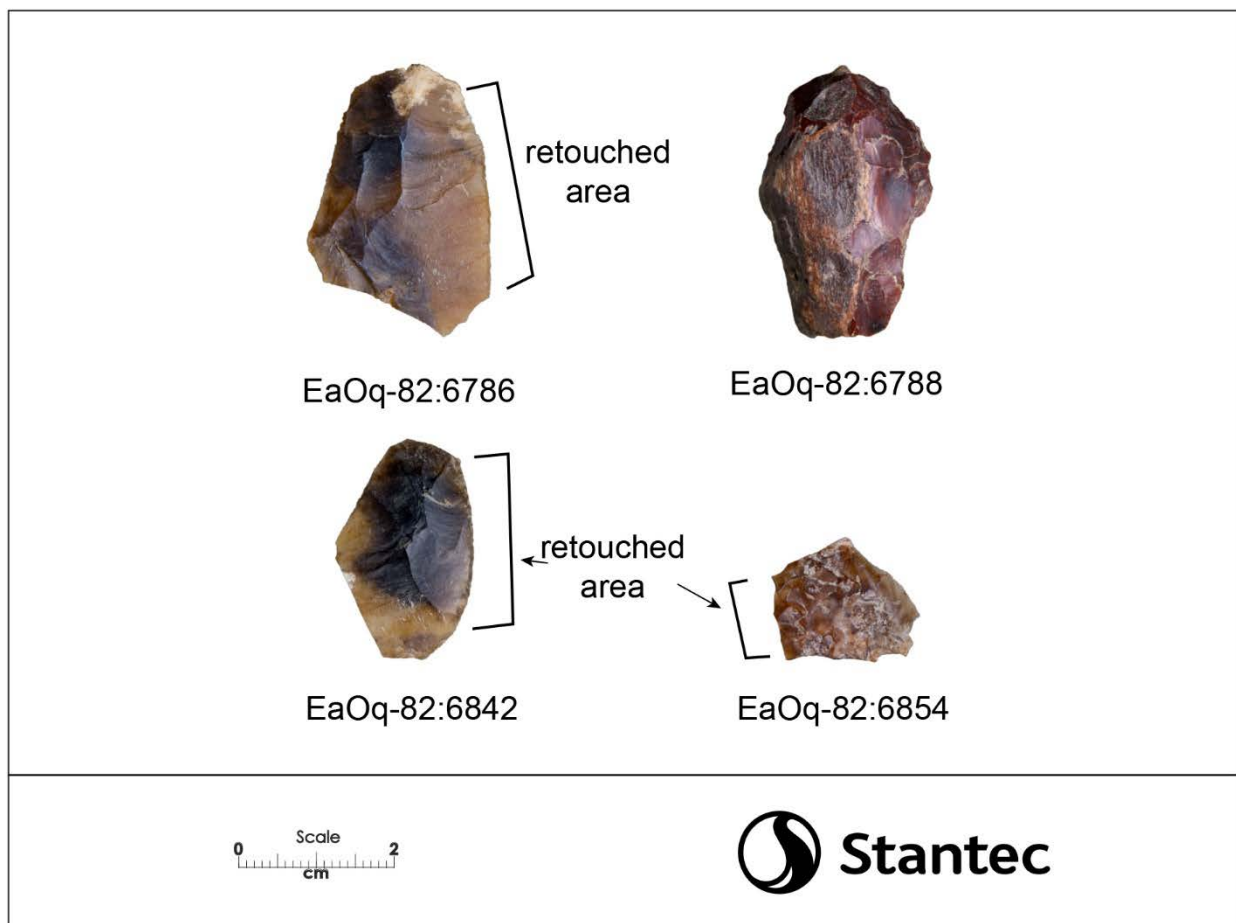


Plate 5-41 Sample of retouched flakes from Block B (CU2), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Debitage

A total of 125 pieces of lithicdebitage were recovered from Block B during the CU2 investigations which comprises ~90% of the Block B lithic assemblage or ~24% of the total block assemblage. Notably, early stage reduction is absent from the assemblage with only middle (n= 14), late (n=35), and other (n=76) stages of reduction being represented. Given the relatively high percentage (~10%) of tools within the Block B assemblage, the debitage reflects a focus on tool creation and maintenance rather than forming tool blanks from larger, early-stage flakes. With a large portion of the debitage being recovered from the feature F7 as discussed above (~82% of the block debitage), it is clear that activities related to tool production and maintenance took place directly around the hearth with the feature likely also acting as a refuse and/or discard area. Debitage was only recovered from six of the 16 excavation units, almost all of which were present around feature F7 (Table 5-23).

Lithicdebitage within Block B (CU2) is represented by nine different lithic materials with a relatively even distribution of three types: coarse grained material, quartzite, and Swan River Chert (all between ~16% and ~22% of the assemblage) with chert representing the most frequent material (n=28%) and chalcedony falling around ~8%; all other material were present in very low quantities (<5%) (Figure 5-23). Much of the assemblage is comprised of locally available materials with Swan River Chert being the only definitively exotic material – the chalcedony, while appearing similar in color to Knife River Flint, is from an unknown source and may or may not represent an additional exotic material. The distribution of materials suggests a desire to extend the life of the tools present on site through extensive reworking and resharpening, particularly for those made from high-quality and/or exotic lithic materials – these materials are exclusively represented by late stage debitage. The more locally available materials were identified as either middle or “other” stage debitage; the high frequency of “other” stage debitage is likely a product of knapping material that is prone to having inclusions or other internal inconsistencies that lend themselves to a higher degree of flake failure.

Table 5-23 Distribution of Lithic Debitage, Block B (CU2), site EaOq-82

		Unit Easting			
		334	335	336	337
Unit Northing	641	0	0	0	1
	640	0	66	9	0
	639	0	26	21	2
	638	0	0	0	0

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

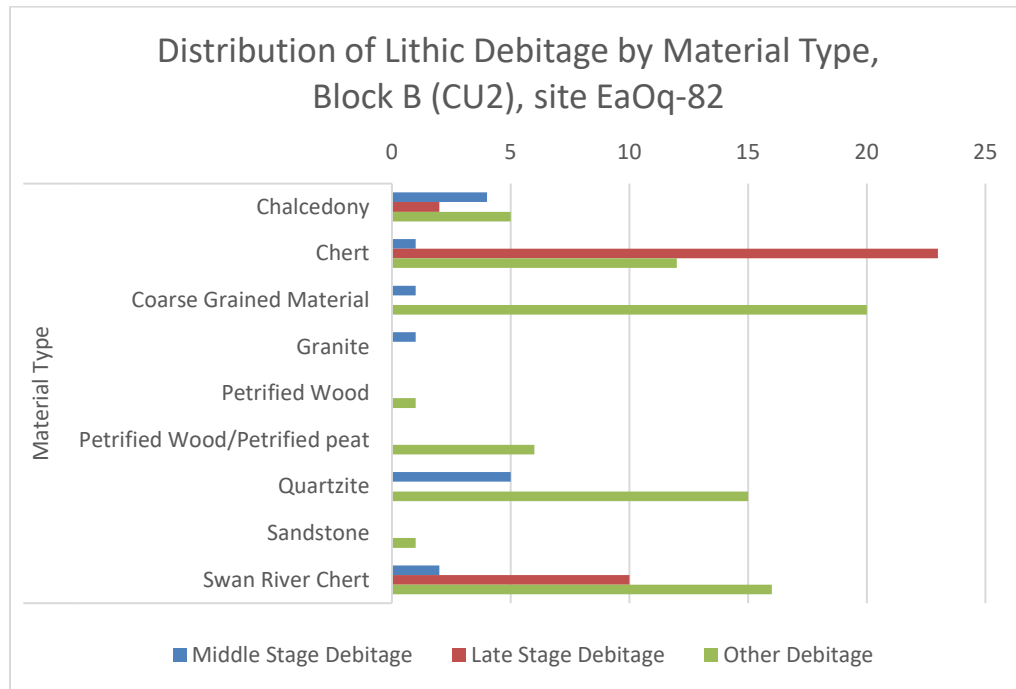


Figure 5-23 Distribution of Lithic Debitage by Material Type, Block B (CU2), site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Faunal

Faunal material recovered from Block B (CU2) comprises a total of 202 fragments or ~39% of the block assemblage and is represented by six taxonomic categories (Table 5-24). Antelope is the only represented taxon that was able to be identified to the species level and, much like the grouping of bison and large ungulate in the Block A (CU1) discussion, the interpretation of the CU2 results groups antelope with small ungulate; the appearance of the bone, in size and colour, and the breakage pattern is the same between the groups. Other small ungulates, such as deer, were utilized for comparative purposes but did not provide an adequate correlation. By count, antelope and small ungulate represent a relatively low percentage of the Block B assemblage (n=30 or ~15%) but by weight comprise over half of the recovered bone (131.g or ~65%).

The portions of the antelope elements present in Block B display a distinct and highly unusual butchering pattern. There are isolated elements, such as a lumbar vertebra and one proximal phalanx but the overwhelming majority of pieces are spirally fractured long bone shaft fragments. There are no pieces of the articular long bone ends (with the exception of some proximal metapodial surfaces), and no tarsals and carpals. This cannot be a preservation issue, as the dense tarsals and carpals generally preserve well, along with such compact and dense articular surfaces as a distal tibia. A number of tibiae are present in the collection, but not a single distal articular tibia. The elements present were in very good condition, and not visibly weathered, suggesting that the preservation of these elements is a product of cultural activity rather than natural site formation processes.

Over half of the faunal material from Block B was recovered from Feature F7 (see above; n=112 or ~55%), of which a large portion was unidentifiable bone, largely burned and/or calcined. The hearth feature and the units in close proximity contain the largest amount of bone, both by weight and by count, with frequencies decreasing as distance from the hearth increases (Tables 5-25 and 5-26). MNI was only able to be determined for antelope at an MNI of two based on the tibia fragments; three right tibia fragments were recovered from Block B but based on the element portions, some of the fragments could have conceivably come from the same element, resulting in an MNI of two.

FBR

FBR comprises ~34% of the overall Block B (CU2) assemblage and mirrors the distribution patterns observed for both the lithic and faunal assemblages, namely a concentration around feature F7 in the middle of the block with a dispersal of artifacts as distance from F7 increases (Table 5-27). This distribution pattern shifts when observing concentrations by weight, with unit 640N 337E on the east side of the block containing the highest weight of FBR (~4340 g or nearly 30% of the total FBR weight within the block) (Table 5-28). Units around feature F7 feature a much lower total weight of FBR, averaging at ~697 g per unit, with many falling well below this threshold. These disparate results are the product of many small fragments populating feature F7 and the area immediately surrounding the hearth while larger fragments are present further away from the hearth.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-24 Count and Weight of Taxon, Block B (CU2), site EaOq-82

Taxon	Count	% of total count	Weight (g)	% of total weight
Antelope	13	6.4%	92	44.5%
Small Ungulate	17	8.4%	41.6	20.1%
Large Ungulate	8	4.0%	8.7	4.2%
Medium Mammal	157	77.7%	63.1	30.5%
Small Rodent	1	0.5%	1	0.5%
Mammal	6	3.0%	0.2	0.1%
Grand Total	202	100.0%	206.6	100.0%

Table 5-25 Distribution of Faunal Material (all taxa) by Quantity, Block B (CU2), site EaOq-82

		Unit Easting			
		334	335	336	337
Unit Northing	641	0	3	2	6
	640	1	103	14	3
	639	1	29	17	4
	638	0	0	8	11

Table 5-26 Distribution of Faunal Material (all taxa) by Weight, Block B (CU2), site EaOq-82

		Unit Easting			
		334	335	336	337
Unit Northing	641	0	3.8	7.4	3.5
	640	5.9	46.7	17.4	29.6
	639	12.4	24.2	22	5.4
	638	0	0	12.9	15.4

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-27 Distribution of FBR by Quantity, Block B (CU2), site EaOq-82

		Unit Easting			
		334	335	336	337
Unit Northing	641	1	0	7	0
	640	1	52	23	23
	639	1	22	33	10
	638	0	0	3	1

Table 5-28 Distribution of FBR by Weight, Block B (CU2), site EaOq-82

		Unit Easting			
		334	335	336	337
Unit Northing	641	19	0	1231.5	0
	640	13.2	1594.1	2167.7	4338.9
	639	46.3	200.04	1009.6	1585.3
	638	0	0	1320.1	1060.7

The distribution of larger pieces of FBR towards the east side of the block suggests that there may have been a separate feature between Blocks B and C that was not uncovered during the Stage 1 investigations, such as a boiling pit, that would have utilized large, heated cobbles. An increased count of small fragments (0-5 cm) within and around feature F7 is likely indicative of cobble heating within the hearth, with small pieces fragmenting from the larger cobbles during the reheating process.

Raw materials within the FBR assemblage consist of quartzite (n=138), granite (n=19), UCGM (n=10) and hard cobbles where the interior of the stone was not able to be observed (n=10) (Table 5-29). As seen in the Block A (CU1) assemblage, these materials were likely acquired from the riverbank from within 100 m of the site. Nearly all of the FBR (~90%) of the assemblage features crenellation and water fracturing; the remaining ~2% is heat treated, indicating that much of the FBR was likely used to boil water in conjunction with the hearth feature (F7).

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-29 FBR Size Categories by Material Type, Block B (CU2), site EaOq-82

Fracture Type	Size Category (cm)				Total
	0-5	5-10	10-15	15-20	
UCGM	10				10
Granite	14	4	1		19
Hard Cobble		2	6	2	10
Quartzite	110	27	1		138
Total	134	33	8	2	177

5.3.2.4 Block C

A total of 19 sq. m were excavated at Block C to investigate cultural remains associated with CU2 (Figure 5-24; Plate 5-42). The block was centred over feature F5 (first identified in MH_BH1) and expanded according to artifact densities and distributions up to 10 sq. m. The remainder of the “flex” metres (9 m total) were used to further expand Block C, which was eventually connected to Block A. A 2 m buffer was established around the two features within Block C to determine that the majority of artifacts in association with the features had been recovered. In situ artifacts were recorded in depths b.d. – all datums were set at 3.39 m b.s.

Features

Feature F5 was initially observed during backhoe trenching south of the CU1 processing area during construction monitoring at the bottom of backhoe trench MH_BH1. Feature F5 is largely comprised of FBR (n=45) and faunal elements (n=29) arranged in an irregular shape that is ~90 cm north-south by ~70 cm east-west; two pieces of lithic debitage and several large samples of charcoal were also collected from with feature (Figure 5-25; Plate 5-43). Faunal elements within the discard pile include a large proximal bison tibia and distal femur fragment, fractured antelope long bone fragments (femur and metapodials) and a tooth fragment, and unidentifiable scrap bone fragments. The FBR is largely intact but several large examples feature heat-reddening, blackening, or both with several tabular slabs of sandstone present around the edges of the feature. The interpretation of the feature as a discard pile rather than a hearth or a roasting platform is based on the distinct lack of depth. Upon cross-section, it was revealed that the observed material was sitting on the cultural floor (CU2) and did not extend below it. Additionally, no oxidization of soil or lenses of charcoal or ash were present in or immediately surrounding the feature. The presence of large chunks of charcoal, rather than an in-situ lens, is also suggestive of hearth discard, likely from nearby feature F6.

Feature F6 is a hearth feature present in units 644N 341E, 644N 342E, 645N 341E, and 645N 342E with the bulk of the feature present in 645N 341E (Figures 5-26 and 5-27; Plates 5-43 to 5-45). The hearth is roughly circular in shape and approximately 120 cm in diameter. The cross-section shows a bowl-like shape with layers of ash, charcoal, and reddened oxidized soil that is approximately 20 cm thick at its deepest point.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

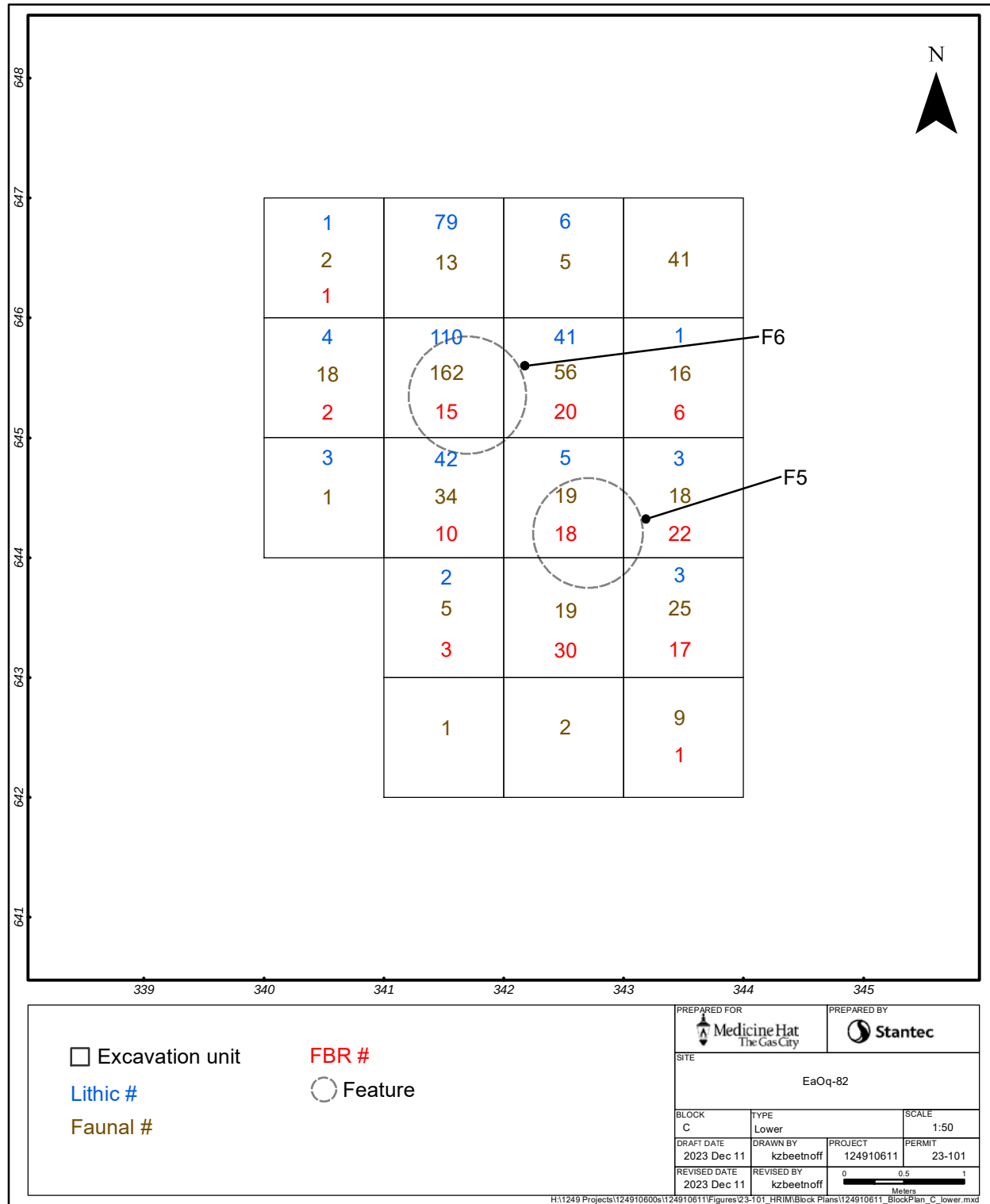


Figure 5-24 Block plan and distribution of recovered artifacts, Block C, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

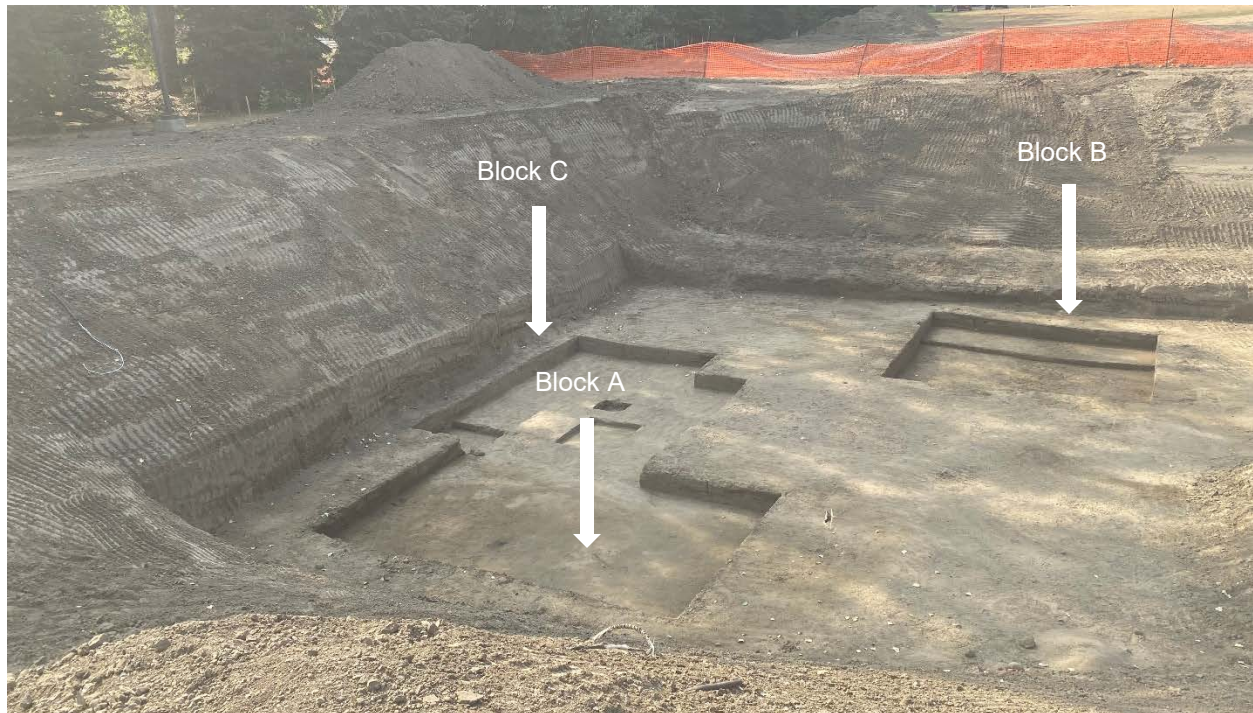


Plate 5-42 **View southeast of completed CU2 excavation blocks, site EaOq-82**

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

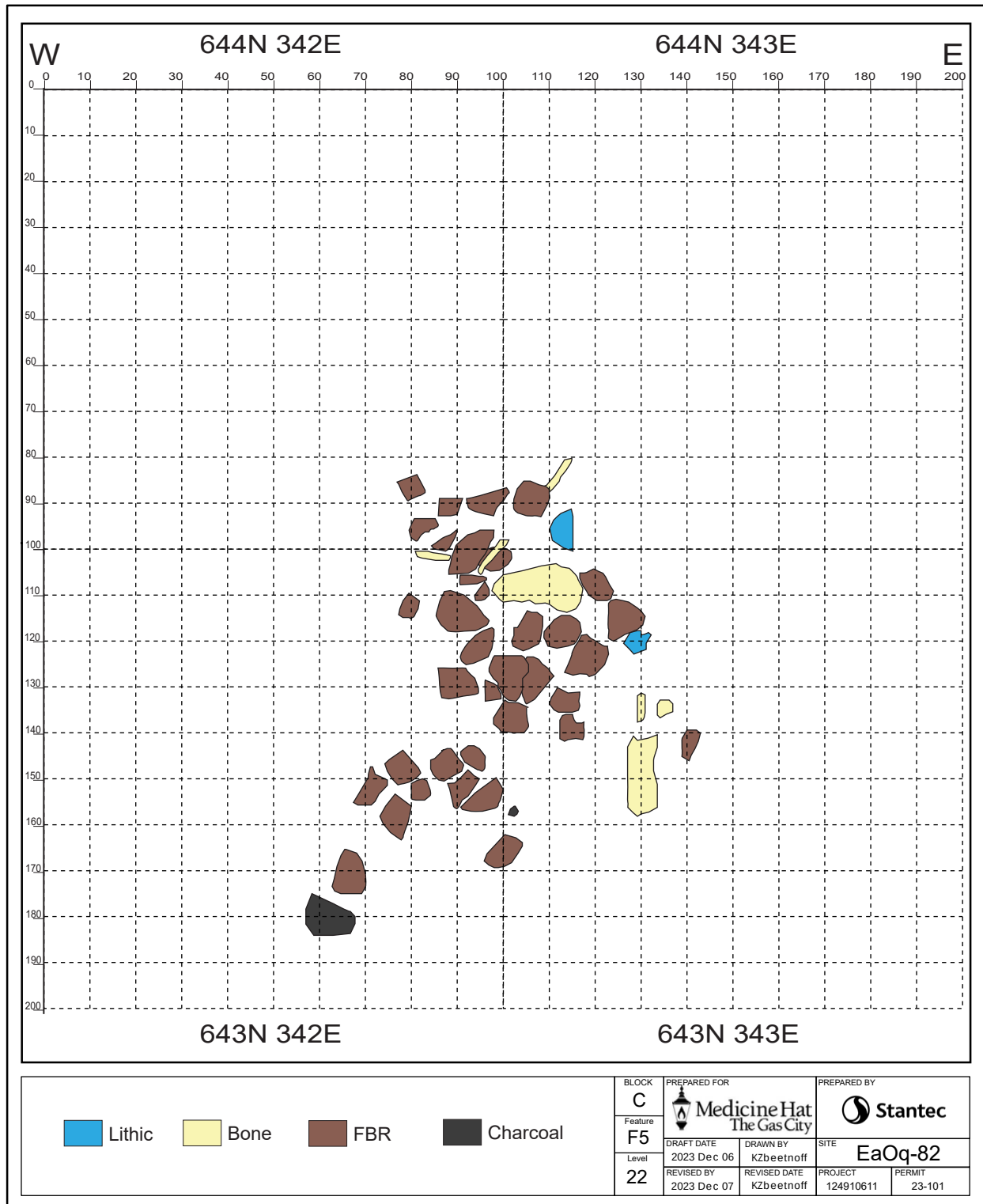


Figure 5-25 Planview of feature F5, units 644N 342E, 644N 343E, 643N 342E and 643N 343E, Block C, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-43 Planview of features F5 (blue) and F6 (red), Block C, site EaOq-82; scale in 10 cm increments.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

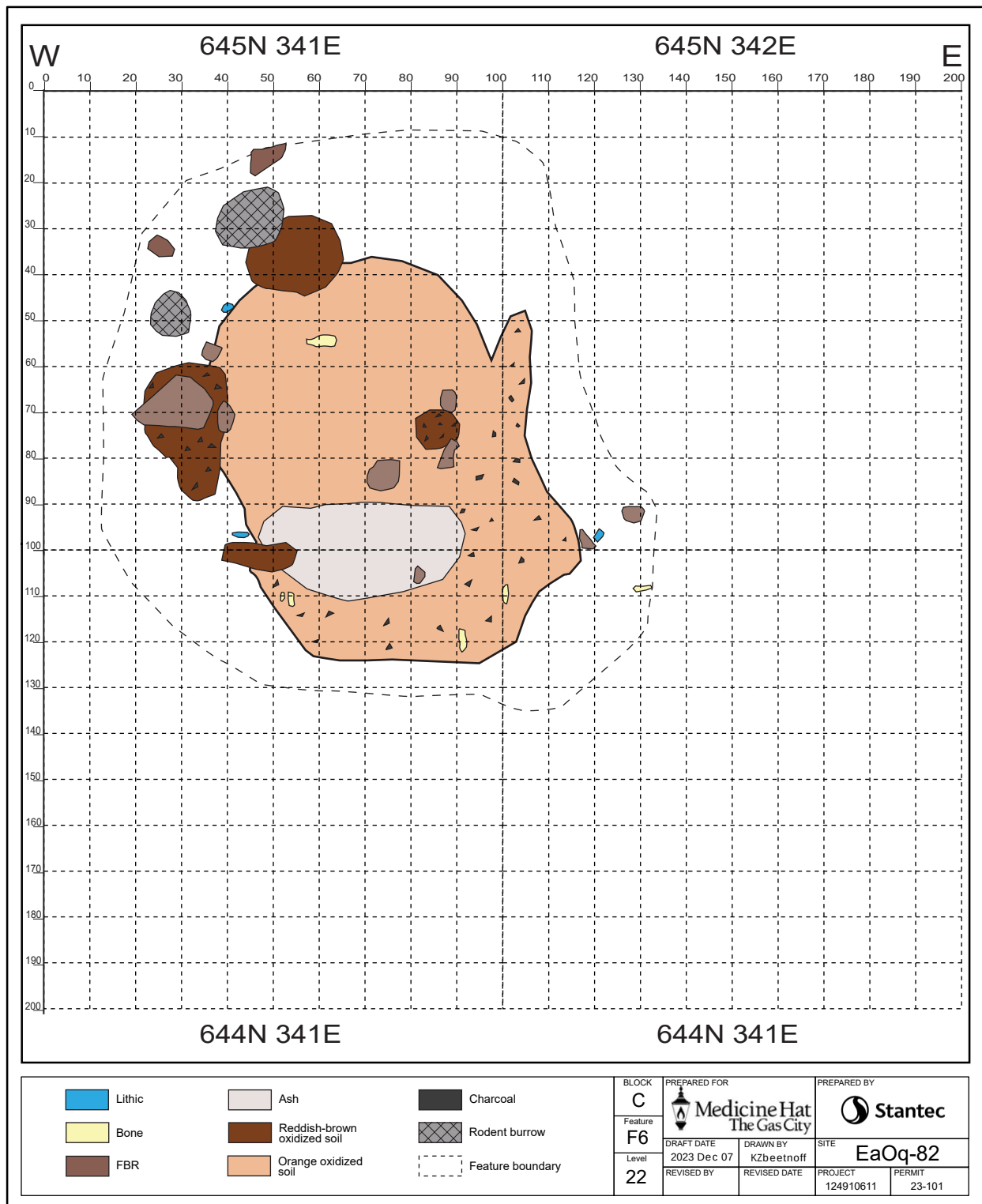


Figure 5-26 Planview of feature F6, units 645N 341E, 645N 342E, 644N 341E and 644N 342E, Block C, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

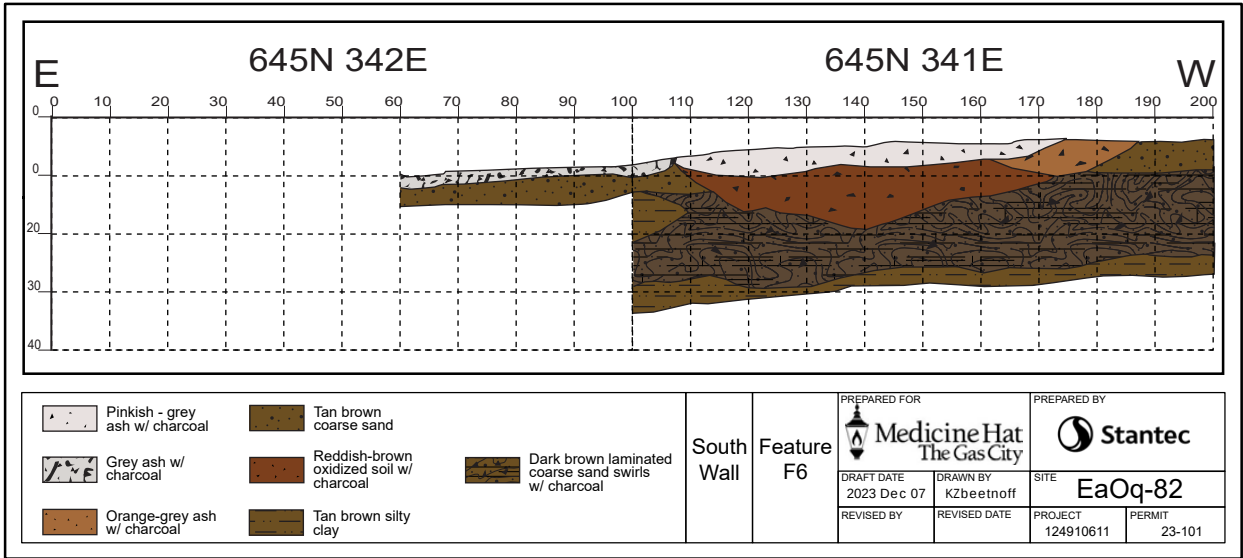


Figure 5-27 Stratigraphic profile of north wall of feature F6, unit 645N 332E and 645N 341E, Block C, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024



Plate 5-44 Planview of feature F6, Block C, site EaOq-82

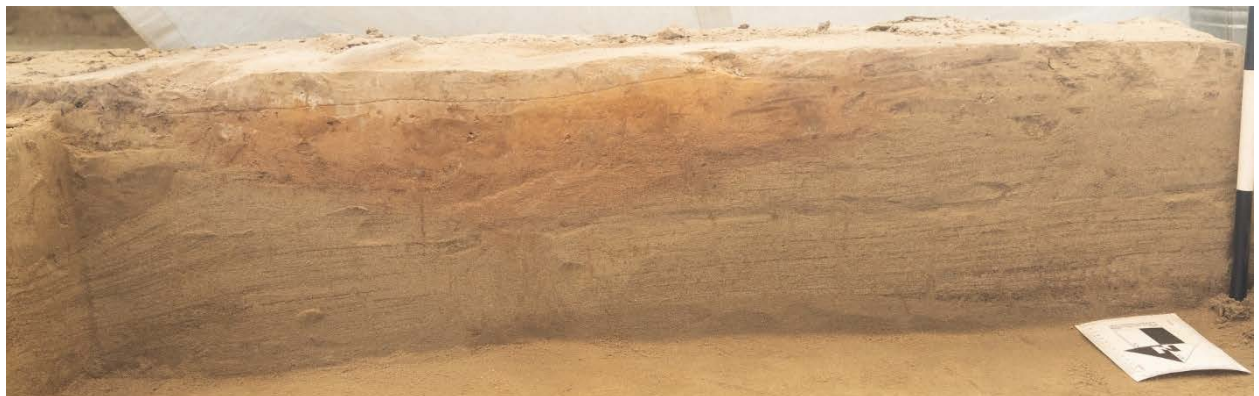


Plate 5-45 View of north profile of feature F6, Block C, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Ash was present at the top of the feature in a ~5 cm thick layer, which overlaid a thicker layer of charcoal mixed in with oxidized soil (~10 cm deep). Bone fragments, including burnt (n=41) and calcined (n=118) bone, lithic debitage (n=155), and FBR (n=32) were recovered from the hearth fill; several soil samples were taken for future analysis (Figure 5-28; Table 5-30). Where possible, artifacts were mapped in situ and fine mesh screening was utilized to collect small fragments of burned or calcined bone and microdebitage. While feature F6 is deeper than F7, the edges of the feature are similarly ephemeral with oxidized soil from the heat of the hearth gradually transitioning to sterile sediment with no evidence for multiple layers or charcoal or ash. This suggests a single use of feature F6 coinciding with the use of the second hearth observed in Block B. The feature assemblage indicates multiple uses for the hearth, including cooking (and likely discard of faunal waste), a gathering place to work on lithic tools, and as a heat source for large cobbles to be used for heating water, as indicated by the near-ubiquitous crenellation across FBR within the hearth. The high quantity of small debitage (only one flake was over 2.5 cm) points towards tool maintenance rather than tool creation, which would leave larger debitage from the earlier stages of reduction and the high percentage of burned and/or calcined bone (~73% of faunal material in hearth fill), as well as a variety of animal species, provides evidence for cooking activities being equally important in the use of the hearth.

Cultural Material

A total of 891 artifacts were recovered from Block C during the Stage 1 mitigative excavations, including faunal remains (n=446), lithic artifacts (n=300), and FBR (n=145) (Table 5-31).

Lithics

A total of 300 lithic artifacts were recovered from Block C, including one projectile point, retouched flakes (n=4 or ~1%), and debitage (n=295 or ~98%) (Table 5-32). Lithic artifacts were present in 13 of the 19 excavated units and within the two excavation levels associated with the undulating paleosol that represents CU2. Distribution of lithic artifacts (Table 5-33) across Block C is consistent with previously discussed blocks, that is, block features such as hearths provide a strong correlation to an increase in lithic artifact density with total artifacts quantities decreasing as distance from features increases.

Projectile Points

One projectile point was recovered from Block C in unit 645N 343E approximately 1.5 m west of feature F6. EaOq-82: 7225 is a broken projectile point made of brown chalcedony (now patinated) that consists of the bottom half of the point, including portions of the edges, the notches, and the base (Plate 5-46). The little edge that remains appears to be straight to excurvate and the body features irregular flaking across both ventral and dorsal surface. The cross-section of the point is biconvex and the corner notches are deep and rounded. The base is slightly concave and features basal thinning. Based on the small size and shape of the base, it is possible that this point is a Samantha point, either arrow or small dart. The maximum width of the point is 14.0 mm, the neck width is 8.2 mm, the maximum thickness is 3.0 mm, and the weight is 0.5 g. The lithic material from which the point base is made is consistent with the high frequencies of microdebitage and other late stage debitage of the same material found within feature F6 and it is possible that the point had been worked on in closer proximity to the hearth before its eventual discard.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

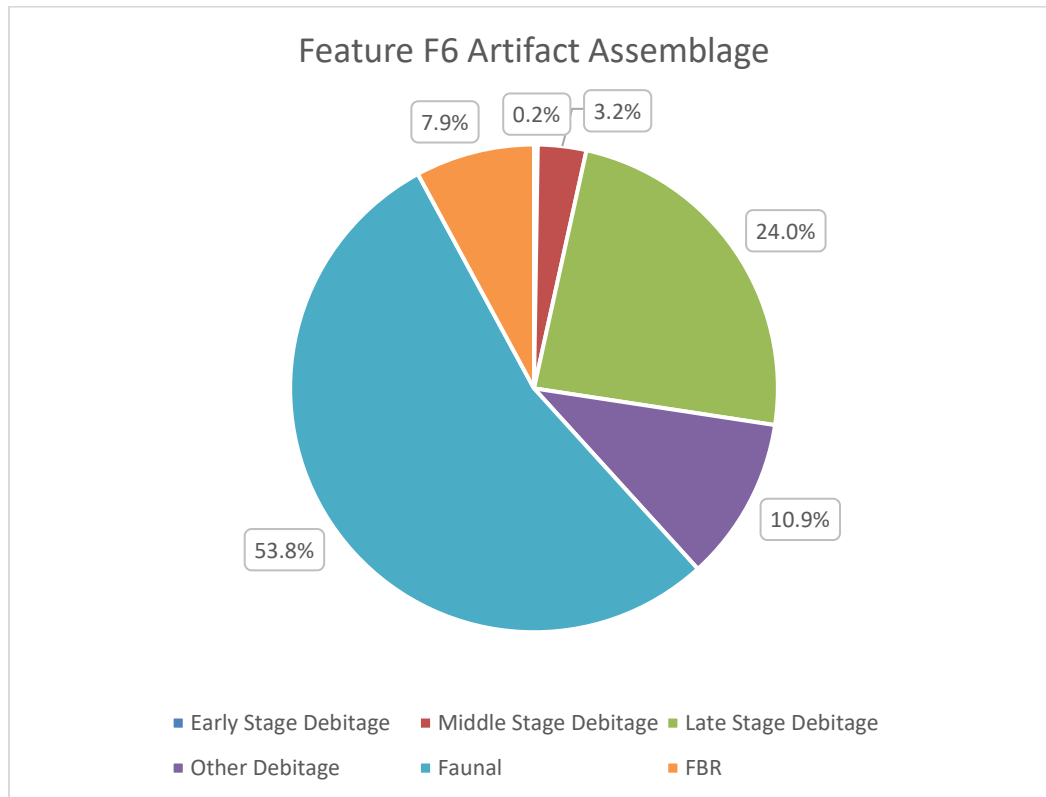


Figure 5-28 Feature F6 Artifact Assemblage, Block B (CU2), site EaOq-82

Table 5-30 Feature F6 Artifact Distributions, Block C, site EaOq-82

Artifact Type		Total
Lithic Debitage	Secondary Decortication Flake	1
	Platform Bearing Flake	13
	Bifacial Reduction Flake	9
	Retouch/ Resharpener Flake	64
	Microdebitage	24
	Flake Fragment	44
Faunal	Large Ungulate	17
	Medium Mammal	199
	Small Ungulate	1
	Mussel Shell	1
FBR		32
Total		405

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-31 Block C Artifact Totals, site EaOq-82

Artifact Type		Total
Lithics	Projectile Point	1
	Retouched Flake	4
	Primary Decortication Flake	3
	Secondary Decortication Flake	1
	Platform Bearing Flake	25
	Bifacial Reduction Flake	17
	Retouch/ Resharpening Flake	109
	Microdebitage	68
	Flake Fragment	70
	Block Shatter	2
Lithic Subtotal		300
Faunal	Antelope	32
	Bison	9
	Large Ungulate	66
	Medium Mammal	296
	Mussel Shell	1
	Small Mammal	2
	Small Ungulate	40
Faunal Subtotal		446
FBR		145
Total		891

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-32 Lithic Artifacts by Material Type, Block C (CU2), site EaOq-82

Artifact Type	Lithic Material						Total
	Chalcedony	Chert	Granite	Quartzite	Siltstone	Swan River Chert	
Projectile Point	1						1
Retouched Flake	3	1					4
Primary Decortication Flake				3			3
Secondary Decortication Flake				1			1
Platform Bearing Flake	10	5	1	3	4	2	25
Bifacial Reduction Flake	17						17
Retouch/ Resharpening Flake	86	10		1	5	7	109
Microdebitage	55	1		7	1	4	68
Flake Fragment	39	3	1	22		5	70
Block Shatter						2	2
Total	211	20	2	37	10	20	300

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-33 Lithic Artifact Distribution, Block C, site EaOq-82

		Unit Easting			
		340	341	342	343
Unit Northing	646	1	79	6	0
	645	4	110	41	1
	644	3	42	5	3
	643	0	2	0	3
	642		0	0	0



Plate 5-46 Projectile point (possibly a Samantha arrow point) from Block C, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Expedient Tools

Four retouched flakes were also recovered from Block C (Plate 5-47), largely in association with feature F6.

EaOq-82: 6915 is a retouched flake made from brown chert recovered from unit 643N 341E. The complete flake features irregular, discontinuous unifacial retouch along the left lateral edge on the dorsal surface. The maximum length is 37.4 mm, the maximum width is 17.6 mm, the maximum thickness is 8.1 mm and the weight is 4.2 g.

EaOq-82: 7143 is a fragmented retouched flake made from mottled brown chalcedony recovered from unit 646N 341E in close proximity to feature F6. The tool features minimal marginal unifacial retouch along the lateral edge on the dorsal surface. Metrics were not able to be obtained other than weight (0.6 g).

EaOq-82: 7208 is a fragmented retouched flake made from tan chalcedony recovered from unit 646N 342E in close proximity to feature F6. The tool and features minimal marginal unifacial retouch along the lateral edge near the platform on the dorsal surface. Metrics were not able to be obtained other than weight (0.4 g).

EaOq-82: 7209 is a retouched flake made from brown chalcedony recovered from unit 646N 342E in close proximity to feature F6. The broken flake features regular, fine unifacial retouch on the dorsal surface along both lateral edges; usewear is also present along the left lateral edge. The maximum width is 21.7 mm, the maximum thickness is 3.1 mm and the weight is 1.5 g; maximum length was not able to be determined due to the fractured nature of the flake.

Distribution of these expedient tools within 1.5 m or less of feature F6 points to a strong correlation between the hearth and tool use, likely in association with cooking or crafting activities. The high quality of materials used for these tools is represented in the microdebitage and late stage reduction flakes found within F6 and it bolsters the interpretation that higher quality lithic materials were chosen for tool use rather than lower quality, local materials. This is also seen in Block B and further enforces the assumption that activities between the two blocks are likely temporally aligned.

Debitage

A total of 295 pieces of lithicdebitage were recovered from Block C comprising ~98% of the Block C lithic assemblage or ~33% of the total block assemblage. Similar to Block B,debitage in Block C skews heavily towards late stage reduction flakes (n=194 or ~66%) with “other”debitage (n=72 or ~24%) and middle stage reduction flakes (n=25 or ~8%) present in much lower quantities; only four early stage reduction flakes were present in thedebitage assemblage. Debitage is constrained to within ~1.5 m of feature F6; units beyond that distance (along the 642N row of units), no lithic artifacts were present.

Lithicdebitage within Block C is represented by six different lithic materials with brown chalcedony representing the majority of the assemblage (n=207 or ~70%). Chert, quartzite, and Swan River Chert are present in relatively even percentages; granite and siltstone were not present in statistically significant quantities (Figure 5-29).

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

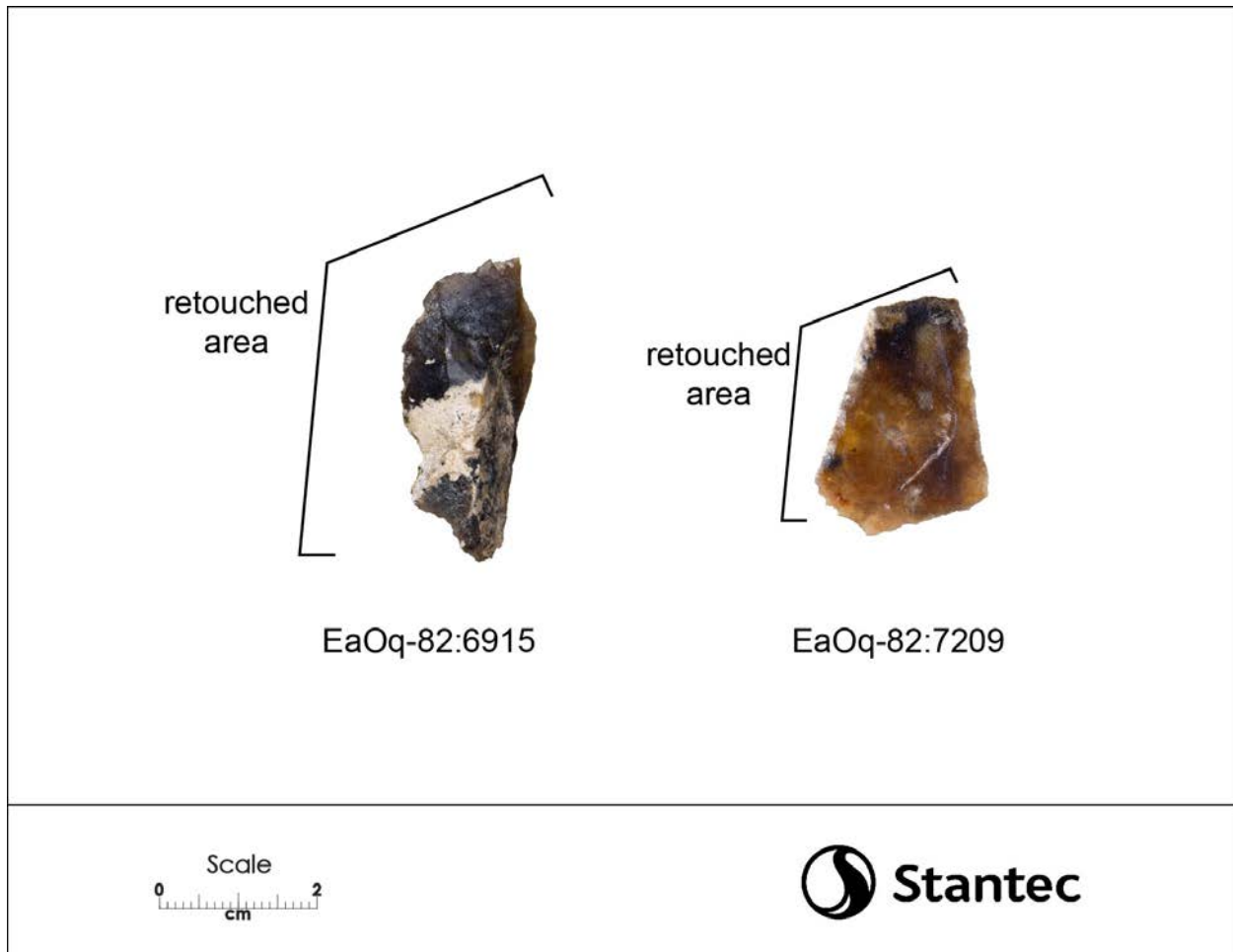


Plate 5-47 **Sample of retouched flakes from Block C, site EaOq-82**

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

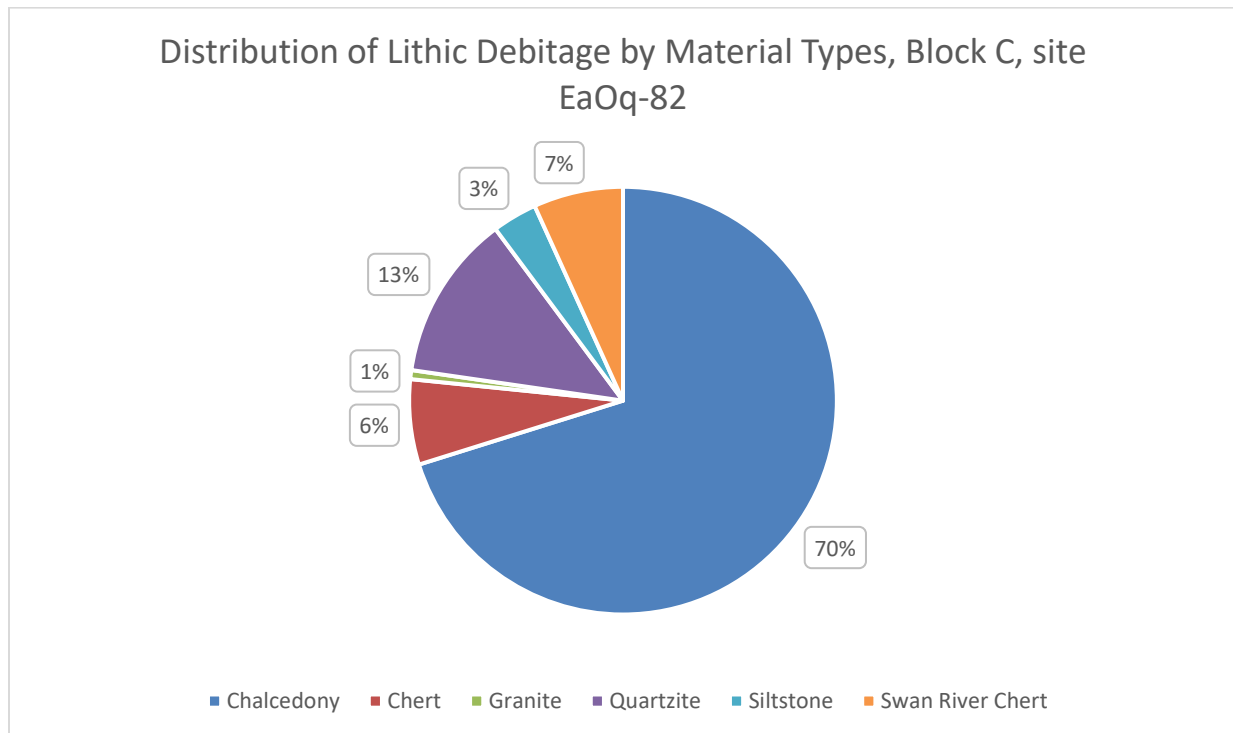


Figure 5-29 Distribution of Lithic Debitage by Material Type, Block C, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

The source of chalcedony within the assemblage is unknown, making it difficult to determine how much local versus exotic materials were utilized. What is known is the distribution of flake types across materials; all of the high-quality lithic materials (chalcedony and cherts, including Swan River Chert) feature greater numbers of late stage reduction flakes than poorer quality (generally assumed to be local) materials such as quartzite, which comprises all of the early stage reduction flakes. As seen in Block B, the distribution of flake types point towards an emphasis on reworking and resharpening high-quality stone tools in association with hearth feature F6.

Faunal

Faunal material represents ~50% of the Block C assemblage (n=447) and is distributed across the block with concentrations around hearth feature F6 (Tables 5-34 and 5-35). Seven taxonomic categories represent the faunal assemblage with three taxa identified to the genus or species level: bison, antelope, and freshwater mussel. Antelope elements (combined with small ungulate elements, as bone appearance and fracture patterns were consistent across taxa) in Block C mirror those recovered in Block B with several other outlying, isolated elements such as teeth and mandible fragments as well as axial elements and phalanges (Table 5-36). Most notably, spirally fractured long bone fragments present the largest percentage of identified elements and, like Block B, articular ends and tarsals/carpals are absent from the assemblage. The MNI for antelope and small ungulate is two; combining results from Block B and Block C still results in an MNI of two, suggesting that these two areas are temporally consistent and can be assumed to be representative of a single living floor. Additional analysis of antelope elements revealed at least one example, a fractured tibia, showing red staining, possibly indicating an association and/or use with ochre (Plate 5-48). The bright red of the stained area was highlighted through the use of DStretch, a plugin originally developed by Jon Harman (n.d.) to be used with ImageJ software for the identification of faded rock art but now used for a variety of additional analyses.

Bison (and large ungulate) are represented by a total of 84 elements or fragments and comprise 83.2% of the assemblage weight (Table 5-37). This is largely influenced by the intact nature of several elements that compose articulated bone unit (ABU) 3, identified in unit 646N 343E in the east wall of the unit (Table 5-38). The cervical vertebra 7 and thoracic vertebra 1 together make up ABU3; they are from a large and rugged individual, as was a bison axis vertebra recovered from the east wall on the last day of monitoring (possibly from the same context). A weathered distal right femur and proximal right tibia were also found in the same unit and may be related to ABU3. Most of the identified bison/large ungulate elements could only be identified as undifferentiated long bone or scrap bone fragments, many of which are associated with the periphery of hearth feature F6. Bison and large ungulate remains provide an MNI of one.

A single mussel shell body fragment was found in Feature 6. While a single fragment does not provide much in the way of interpretive potential, the presence of aquatic fauna in the assemblage suggests a more varied diet was consumed at this site, or possibly that the shell was gathered for craft production. The remainder of the assemblage (medium and small mammal and small rodent) are largely represented by small, highly fragmented examples that are almost exclusively associated with feature F6.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-34 Distribution of Faunal Material, Block C, site EaOq-82

		Unit Easting			
		340	341	342	343
Unit Northing	646	2	13	5	41
	645	18	162	56	16
	644	1	34	19	18
	643	0	5	19	25
	642		1	2	9

Table 5-35 Taxa by Count and Weight, Block C, site EaOq-82

Taxon	Count	% of total count	Weight (g)	% of total weight
Mussel Shell	1	0.2%	0	0.0%
Bison	10	2.2%	2116.7	83.2%
Large Ungulate	66	14.8%	46.3	1.8%
Antelope	32	7.2%	191.7	7.5%
Small Ungulate	40	8.9%	107.7	4.2%
Medium Mammal	296	66.2%	80.8	3.2%
Small Mammal	2	0.4%	0.2	0.0%
Grand Total	447	100.0%	2543.4	100.0%

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-36 Counts of antelope and small ungulate by element and side, Block C, site EaOq-82

Element	Block C Count (and Side) Total
Mandible	1R
Lower Tooth	1
Tooth Fragment	5
Rib	1R
Humerus	1L
Radius	3
Ulna	1
Metacarpal	1
Femur	5
Tibia	10 (3L, 2R)
Metatarsal	5 (1L)
Metapodial	4
P-1	
P-2	1
Undifferentiated Long Bone	28
Undifferentiated Scrap	5
Grand Total	72

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

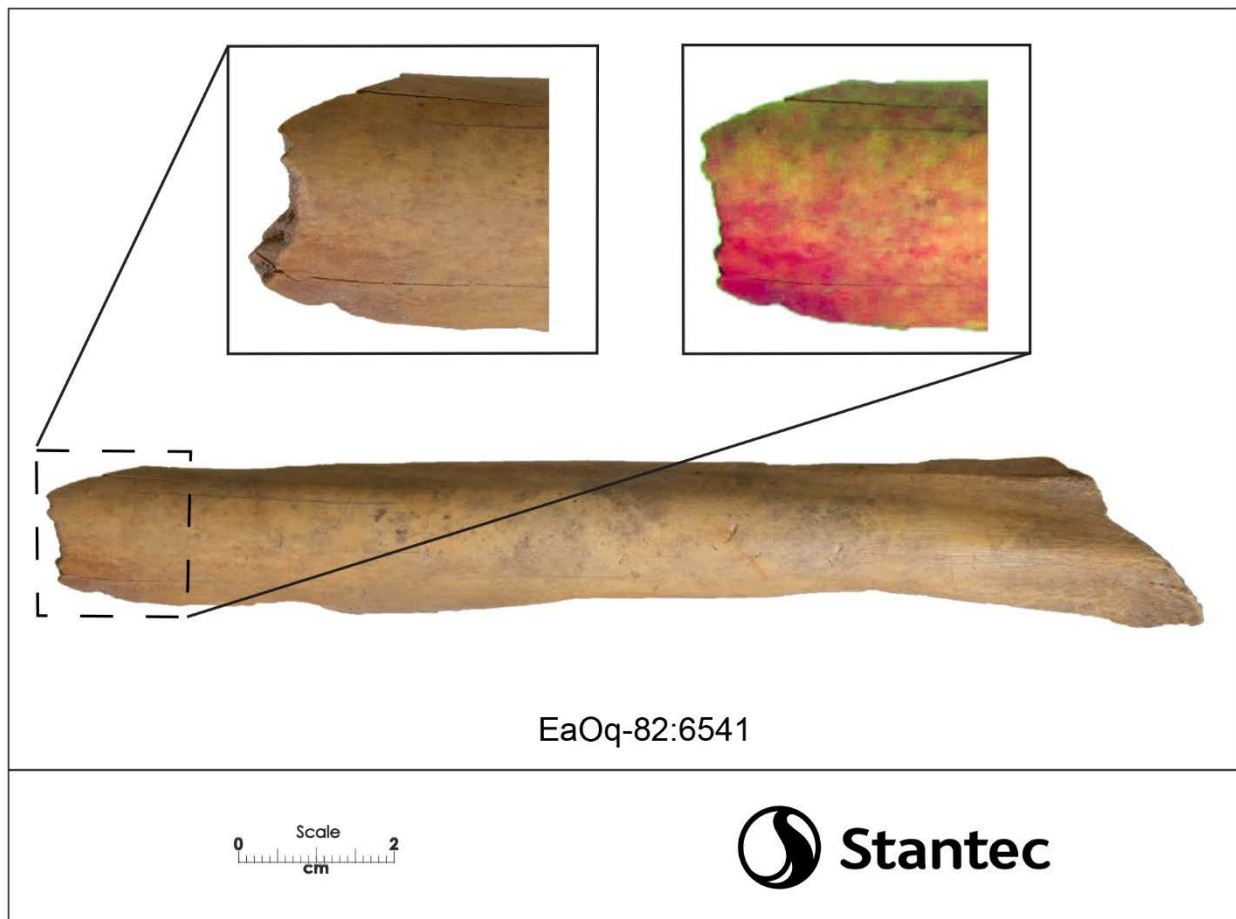


Plate 5-48 Ochre-stained antelope tibia, Block C, site EaOq-82; top right shows close-up of distal end run through DStretch (red pigments highlighted)

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-37 Counts of bison and large ungulate by element and side, Block C, site EaOq-82

Element	Block C		Total
	Bison	Large Ungulate	
Mandible	1L		1
Upper Tooth	1R		1
Axis	1		1
Cervical Vertebra VII	1		1
Thoracic Vertebra I	1		1
Rib	1L		1
Scapula	1L		1
Femur	1		1
Tibia	1R		1
P-1	1L		1
Undifferentiated Scrap		66	66
Grand Total	10	66	76

Table 5-38 Distribution of Faunal Material by Weight, Block C, site EaOq-82

		Unit Easting			
		340	341	342	343
Unit Northing	646	3.6	29.5	2.2	1145
	645	19.1	33.9	60.9	166.2
	644	1.9	12.1	17.1	39.3
	643		9.6	64.9	549.6
	642		0.2	9.4	3.2

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

FBR

FBR comprises ~16% of the overall Block C assemblage but features a different distribution pattern than seen with lithic artifacts and faunal material. By quantity, FBR is concentrated most densely within feature F5 in unit 643N 342E (Table 5-39). When observed by weight, two foci are present within the block (~27% of total block weight each); F5 and the eastern part of F6 in unit 645N 342E (Table 5-40). In general, FBR is strewn along a diagonal northwest-southeast line through the centre and mirrors the middle of Block C with smaller pieces (and subsequently lower total weights) dispersing with distance from the two features. This may represent a natural discard pattern while transporting the cobbles and fragments of FBR from the hearth to the discard area nearby.

Raw materials within the FBR assemblage consist of quartzite (n=103), granite (n=24), hard cobbles where the interior of the stone was not able to be observed (n=11), sandstone (n=6) and undifferentiated coarse grain material (n=1) (Table 5-41). All materials would have been locally available from the riverbank which, based on the surrounding sediments and evidence for CU2 being associated with a sandbar, may have been even closer to the site than it currently is. Block C features a somewhat lower percentage of crenellated, water fractured FBR than seen in the other excavation block (~82%). Heated, unbroken cobbles and sandstone slabs comprise a larger portion of the FBR assemblage, suggesting that while activities such as water boiling were occurring, the heating of large, intact cobbles may have also occurred, possibly related to cooking within feature F6.

5.3.2.5 Radiocarbon Dating Results – CU2

Radiocarbon analysis (AMS bone collagen dating) was performed by BETA Analytic Testing Laboratory on two samples from CU2: a spirally fractured small ungulate (likely antelope) long bone from unit 640N 335E, level 24 in Block B and a spirally fracture antelope metatarsal from feature F5 collected during initial construction monitoring. The analysis produced dates 1,520 +/- 30 years BP and 1,560 +/- 30 years BP (Appendix E). At the 95% confidence level the calibrated dates overlap and suggest a calendar date in the range of 425 to 575 AD. These date ranges fall towards the end of the Besant Phase (2,100-1,500 BP) (Peck 2011). These results match with the various diagnostic points collected from CU2, which are represented by a Besant dart point and possible Samantha arrow points, which also date to this time period. These dates also strengthen the interpretation that the Block B and Block C assemblage are temporally aligned and likely represent a single living floor with several features spread over a wider area than seen in CU1. Besant sites are somewhat more frequent within the vicinity of site EaOq-82 but none have undergone significant investigations through controlled excavations, making EaOq-82 the most robust (and one of the deepest) assemblages representing the late Middle Precontact Period in the immediate area (AACSW 2023).

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Results – EaOq-82
February 2024

Table 5-39 Distribution of FBR by Quantity, Block C, site EaOq-82

		Unit Easting			
		340	341	342	343
Unit Northing	646	1	0	0	0
	645	2	15	20	6
	644	0	10	18	22
	643	0	3	30	17
	642		0	0	1

Table 5-40 Distribution of FBR by Weight, Block C, site EaOq-82

		Unit Easting			
		340	341	342	343
Unit Northing	646	605.1	0	0	0
	645	56.6	2119	8447	758.3
	644	0	23	624.4	5330
	643	0	353.9	8758	4795
	642		0	0	55.1

Table 5-41 FBR Materials by Fracture Type, Block C, site EaOq-82

Fracture Type	Material					Total
	Granite	Hard Cobble	Quartzite	Sandstone	UCGM	
Heated Cobble	2	10				12
Indeterminate	6		1	1		8
Slab				5		5
Water	16	1	102		1	120
Total	24	11	103	6	1	145

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

EaOq-82 Discussion
February 2024

6.0 EaOq-82 DISCUSSION

The archaeological investigations at site EaOq-82 have resulted in the recovery of a robust artifact assemblage and the identification of two distinct cultural occupations (CU1 and CU2). Not only has this work provided data for future research but it highlights the need for a reassessment of standards regarding pre-impact archaeological investigations in the Medicine Hat area, particularly along the South Saskatchewan River terraces. It is clear, based on the extreme deposition observed in the various stratigraphic profiles across the Project area, that rapid accumulation of sediment has and continues to occur along the point bars of the South Saskatchewan River – nearly 2 m of sediment were present between the upper (CU1) and lower (CU2) cultural occupations of the site with only ~300 radiocarbon years between the two. An additional 2 m to 2.5 m of sediment has since been deposited overtop of CU1 in the last ~800 years. It is this rapid deposition, however, that has maintained a state of preservation across the site that allows for easy identification of living floors (represented by paleosols of various developments) cultural features, and even natural formation processes. These defining characteristics of the site, as well as artifact-specific interpretations, will be outlined below and discussed at a micro, site level as well as in the broader archaeological context.

Based on the clear vertical separation of CU1 and CU2 and the radiocarbon dates obtained from four total samples, site EaOq-82 contains an upper component representative of the Avonlea period and a lower component dating to the end of the Besant phase; only ~300 years separate these components. CU1 is defined by a large processing area (and likely an associated secondary activity area not investigated during the Stage 1 mitigative excavations) with several well-defined features including a pit feature (F1), a large hearth (F2), and two postholes (F3 and F4) located close to the hearth. The bulk of the assemblage is comprised of faunal material (mostly bison/large ungulate) that is spread in a linear fashion east from the hearth and neatly captured within Block A. The activities represented by the Block A assemblage are ones normally associated with a domestic area, that is, cooking, butchering and processing meat and hides, and storing food. Due to the high degree of breakage, the faunal material is much more likely to represent a processing and discard area than an animal kill site, which would contain a much higher degree of intact and articulated elements and greater number of broken or discarded lithic tools. It is unknown where the animal kill site may have been located but it is possible that the nearby coulees may have been utilized to corral or ambush animals coming to the river for water, as seen at the Aldon Site (Brumley 1995) ~800m southwest of EaOq-82 .

The distribution of the features, with three in very close proximity (F2, F3, and F4) to one another, points towards a concentration of effort or activity in that area of the site. The size of the hearth and depth of ash and charcoal suggest a long term use of the feature which, if the postholes are the product of a wooden superstructure such as a drying or smoking rack, would have provided a steady source of heat and smoke for the cooking and/or drying of meat. Feature F1 provides more of a unique interpretive problem. The rectangular shape does not preclude it from being used as a boiling pit and, if it had been hide-lined and then later cleaned out, there would be little evidence remaining within the feature. There is a high number of small FBR fragments in the two units to the north of the feature, perhaps indicative of discard. Yet a lack of artifacts within the feature make it difficult to definitively assign a feature type to the pit. When observing Block A as a complete floor plan, there is a poorly defined “void” of artifacts to the west

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

EaOq-82 Discussion
February 2024

and north of F1 (Figure 6-1). This negative space may represent where an individual had been working or may represent a cleaned area, discarding remnant artifacts towards the centre of the block. Conversely, artifacts are densely grouped around feature F2, as would be assumed from a heavily utilized hearth.

Soil sample and phytolith analysis were not conducted to identify seasonal plant markers to determine when the site may have been occupied. However, faunal markers present in the assemblage allowed for basic sexing to be undertaken, resulting in the identification of at least one male bison, two females, and a female or immature male present. These results suggest a fall occupation; foetal and juvenile bison are notably absent from the block assemblage, which would have been more prominent in a winter or spring campsite. It should be noted that foetal bison remains were identified during the construction monitoring (MH_CF8) south of Block A; if these remains are in fact contemporaneous with the Block A assemblage, then the site may represent a late fall or winter campsite, occupied after the fall rut and after mating season had completed. Additionally, the FBR assemblage is largely comprised of the smallest class size (0 cm to 5 cm) fragments, suggesting a high degree of reuse, which may indicate a late-season campsite, during which access to new cobbles may have been hampered by snow and ice.

The makeup of the Block A (CU1) assemblage appears to show a heavy reliance on bison as the staple protein in the diet of the site inhabitants. However, the presence of antelope, rabbit, canid, and other small or medium mammals among the faunal remains suggest a slightly more varied diet. As suggested by previous researchers (Forbis 1970, Frison 1991, Wedel 1961), other game species were valued and utilized aside from bison. For instance, there are several notable studies underscoring the importance that pronghorn antelope had in the precontact Plains diet (Davis and Fischer 1988, Frison 1987, Frison 1991, Youell 2004) which indicate that not only were pronghorn a utilized secondary resource, but they were also often regularly procured in small-scale subsistence hunts, sometimes in conjunction with bison – this site may represent such an event. The other animals within the assemblage are commonly found in campsites; canids were used for a variety of purposes, including food, and rabbits are numerous enough that it is not surprising that one or more may have been opportunistically captured to add variety to the bison-heavy diet.

While lacking in traceable exotic lithic materials such as obsidian, the lithic assemblage associated with CU1 does suggest that long-distance trade may have occurred based on the abundance of Swan River Chert and the presence of other distinct cherts, such as Montana chert. Avonlea sites have been identified as far east in as Manitoba, where most sites are present in the southwest corner of the province, generally southwest of Lake Manitoba. This clustering of sites is relatively close to the largest outcropping of Swan River Chert (Grasby et al 2002) and may have provided a valuable resource to be traded west. Montana chert is available from a number of sources across Montana but, although considered “exotic”, would have been much easier to acquire than Swan River Chert if the latter was indeed being transported from Manitoba.

Overall, the Avonlea component of site EaOq-82 (CU1) provides evidence for a late-season campsite where the inhabitants were focused on processing and cooking several bison and likely an antelope, as well as other small game, utilizing both local and exotic lithic materials to carry out their tasks.

EaOq-82 Discussion
February 2024

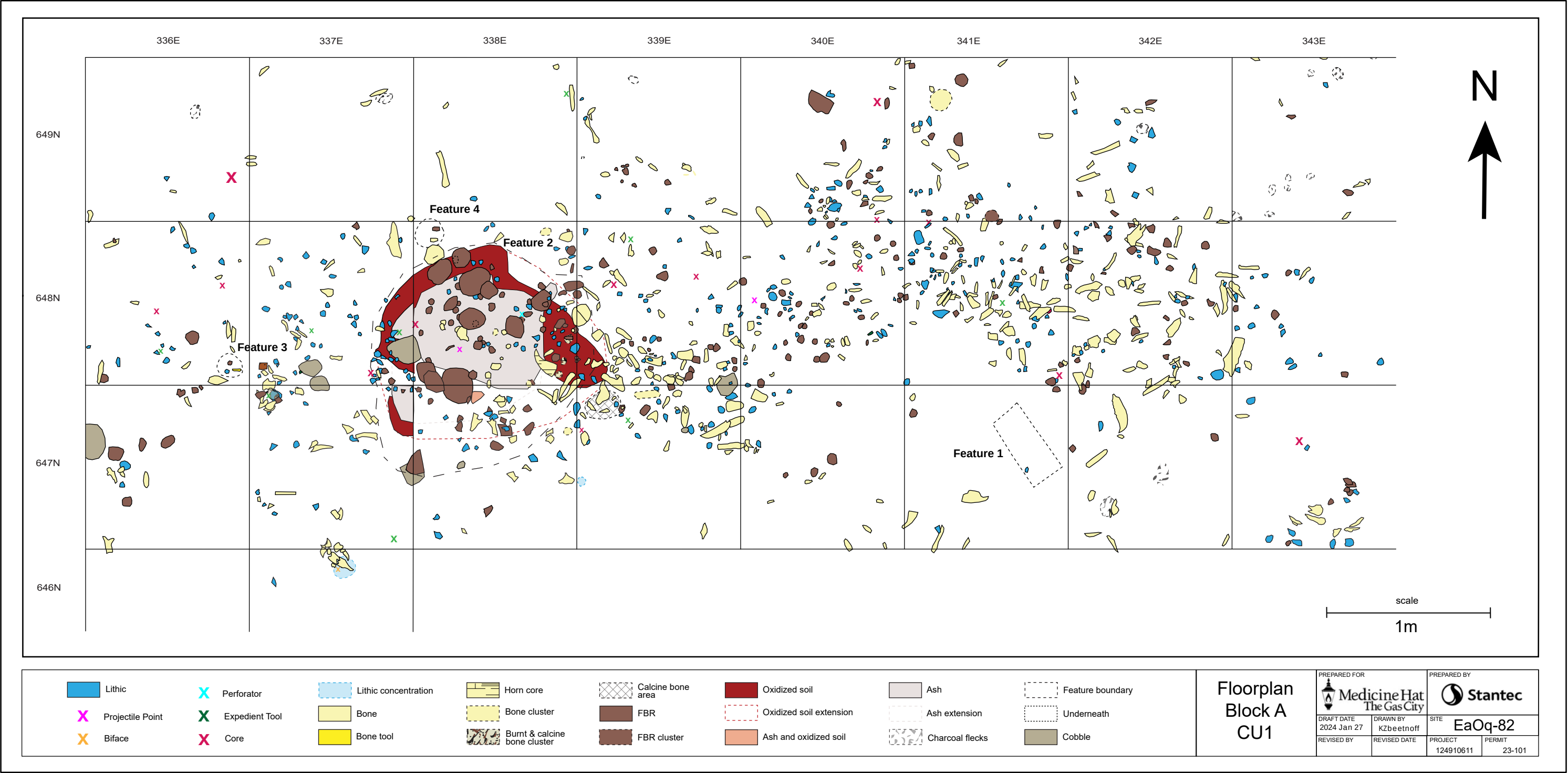


Figure 6-1 Planview of floor of Block A (CU1), units 649N 336E to 343E, 648N 336E to 343E, 647N 336E to 343E, & 646N 337E, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

EaOq-82 Discussion
February 2024

Activities were concentrated around the large hearth, which would have provided a source of heat and light while the animals were broken down, meat was possibly hung to dry and smoke, and at least one individual worked on hides utilizing a bone awl. Food or other goods may have been stored or processed in the nearby pit (feature F1) during the occupation of the site and then removed once the occupants had moved on.

The lower Besant occupation (CU2) at EaOq-82 presents a much different view into the utilization of the landscape along the South Saskatchewan River. The poorly defined living floor (paleosol) is representative of an unstable, sparsely vegetated (if at all) sand bar that was routinely flooded based on the observed water current patterns in within the deposited sediments above and below the paleosol. The mutable landscape is reflected in the assemblages observed in the lower Block B and Block C – shallow hearth features, sparse concentrations of artifacts, and a diffuse living floor, all pointing to a much shorter occupation of the area than observed in CU1.

CU2 features include two hearths (features F6 and F7) as well as an FBR discard area (F5). Artifacts of all types are most closely associated with these features, though densities are much lower than seen in F2, again likely due to the shorter occupation of the site. When interpreted together as a single cultural floor, CU2 is defined by two activities: projectile point creation/reworking and cooking. These two main activities were likely supplemented by other secondary activities but the assemblage is most representative of these two things. Specifically, projectile point creation and reworking took place in direct association with feature F7 in Block B – all but one of the CU2 projectile points were found either within or in close proximity to this shallow hearth, indicating that one person or person group was highly focused on tool working in this area of the site. Conversely, the hearth feature in Block C (F6) showcases a higher degree of faunal material (Figure 6-2), suggesting that this may have been the area used for processing and cooking the food – the nearby FBR discard area (F5) provides additional evidence for cooking activities having taken place in close proximity to the F6 hearth.

Antelope appears to have provided a much more significant portion of the diet during the Besant occupation of site EaOq-82. As discussed above, antelope were often an important secondary animal resource obtained in small-scale subsistence hunts. Site EaOq-82 falls within an area of dense antelope population (Figure 6-3) and other sites within this zone, such as the Lost Terrace site in northern Montana (Davis and Fisher 1988), feature a pronghorn dominated-faunal assemblage in similar aged sites. The highly fragmented nature of the antelope bones within this site's assemblage resulted in a low MNI of two animals within the assemblage, but more may have been butchered and processed. This represents a significant hunting event, given that antelope bone is much more delicate and thus prone to lower visibility within the archaeological record (Youell 2004). The procurement of smaller game, the short-term occupation of the site, and the high percentage of projectile points compared to other tools within the lithic assemblage suggests that a small group of highly mobile hunters occupied this site for a short period of time following a successful hunt that consisted largely of pronghorn. The presence of both dart points and arrow points, as well as the radiocarbon dates of 1560 +/- 30 years B.P and 1520 +/- 30 years B.P. place this occupation towards the end of the Besant Phase at a transitional time period where new technologies would have allowed new and divergent hunting strategies to be utilized locally within a rapidly changing river valley environment and more broadly across the plains. This site assemblage will allow future research to further investigate shifts in technology and lifeways at a turning point in precontact history.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

EaOq-82 Discussion
February 2024

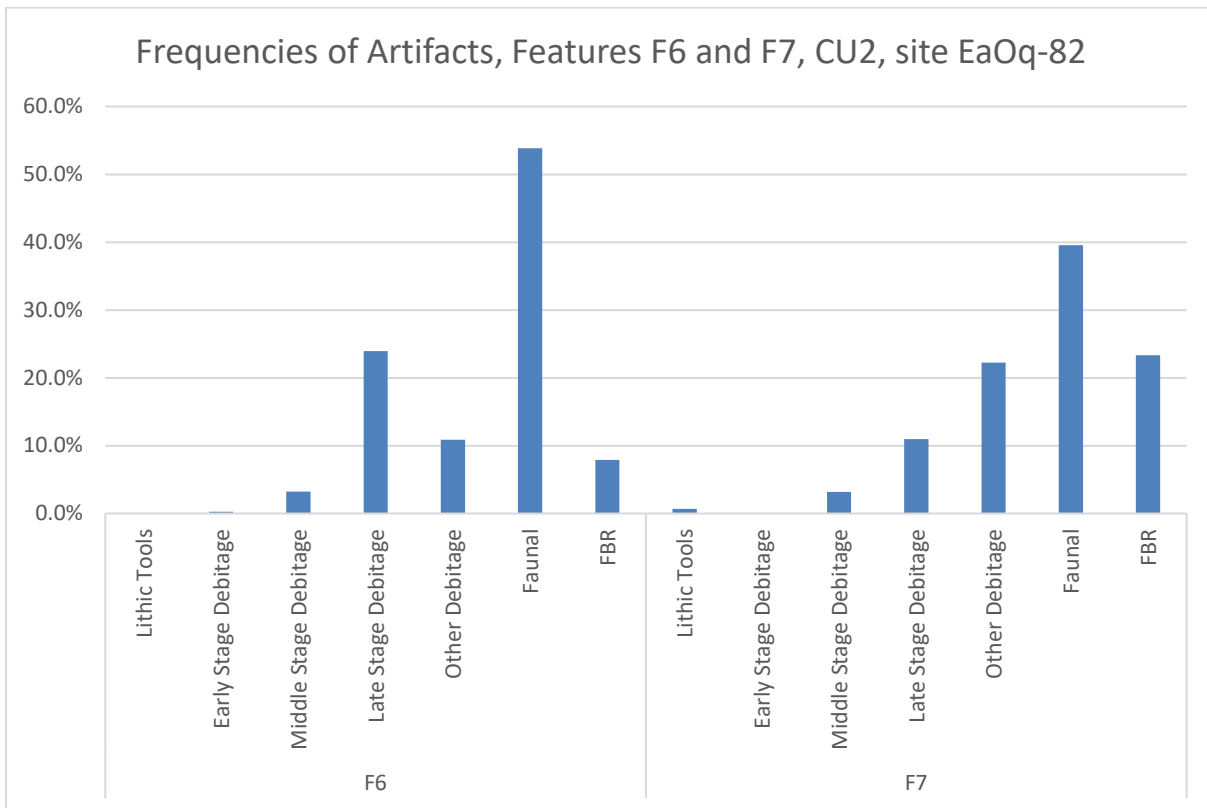


Figure 6-2 Relative frequencies of artifacts between features F6 and F7, CU2, site EaOq-82

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

EaOq-82 Discussion
February 2024

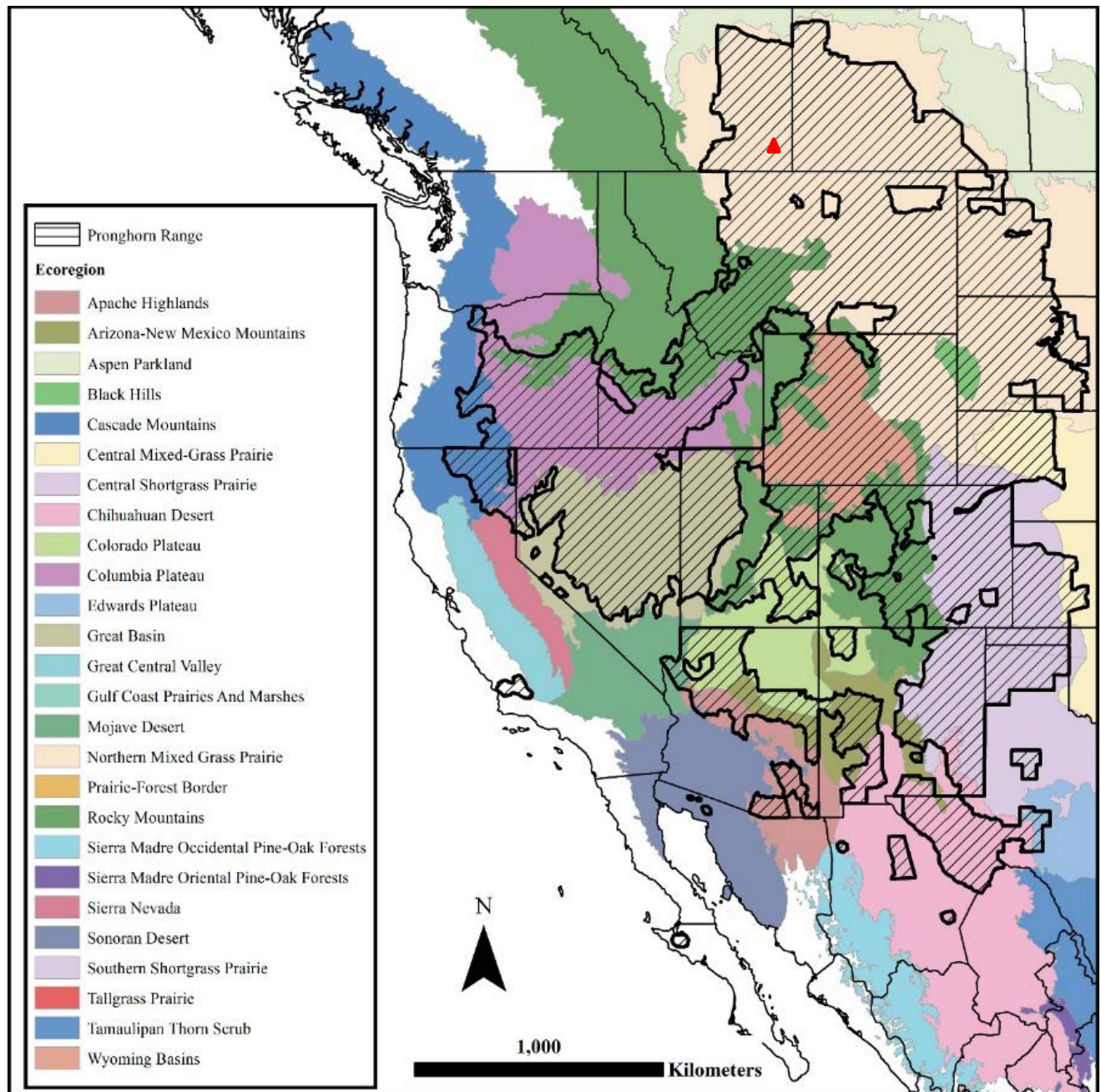


Figure 6-3 Distribution of pronghorn across North America (from Jones et al. 2023); EaOq-82 represented by triangle

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Recommendations
February 2024

7.0 RECOMMENDATIONS

On behalf of the City of Medicine Hat, Stantec conducted archaeological monitoring and mitigative archaeological excavations at site EaOq-82 relative to the Project per AACSW requirements HRA 4710-22-0033-003. During monitoring of excavations for the Project, cultural material including lithic materials, fragments of FBR and fragments of faunal material were observed in the floor of the excavation approximately 2.5 m b.s. Subsequently, the chance find was reported to AACSW as per Section 31 requirements under the Alberta *Historical Resources Act* and was recorded as a new archaeological site EaOq-82. Subsequent finds during construction monitoring at both at 2.5 m b.s. and at ~4.0 m b.s., necessitated halting of construction activities to conduct a Stage 1 mitigative excavation program of up to 65 sq. m (HRA Letter 4710-22-0033-002) prior to the completion of construction activities.

Site EaOq-82 is classified as a multi-component campsite defined by an upper (CU1) and lower (CU2) component, the former dating to the Avonlea Period (radiocarbon dates of 1240 +/- 30 years B.P) and the latter dating to the Besant Phase (1560 +/- 30 years B.P.). Four features were found in association with the dense artifact assemblage consisting of faunal material, lithic tools, cores, and debitage, and FBR in CU1, including a pit feature, a hearth, and two postholes. One Avonlea projectile point and another likely Avonlea point base were also recovered from this occupation.

Three features were associated with the lower occupation, including two hearths and an FBR discard area. A Besant point, several Samantha arrow points and a possible Avonlea point were collected from around the hearth features. A large percentage of the faunal material in CU2 was identified as antelope, providing additional interpretive value to the site.

The Stage 1 excavations and archaeological monitoring at site EaOq-82 were very productive overall and provided an adequate dataset containing 8,612 artifacts and information regarding various activities and cultural occupations to put forth interpretations regarding landform use, seasonality, and culture history. Interim reports were submitted after each stage in the project (monitoring and completion of Stage 1 excavations), the latter containing recommendations for HRA Approval for the project, which was subsequently granted. Given that cultural material was observed along the east side of the Project footprint, it is recommended that the site maintain its HRV 4 rating. It is also recommended that future developments at the Medicine Hat Water Treatment Plant are reviewed relative to historical resources potential and if warranted, be preceded by a deep testing program to investigate the possibility of additional, deeply buried cultural material. Any changes or additions to the Project must be reviewed in terms of historical resource concerns and the potential need for further assessment. This final report is being submitted to satisfy the permit requirements outlined in HRA Number 4710-22-0033-003.

Any changes or additions to the Project must be reviewed in terms of historical resource concerns and the potential need for further assessment.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

References Cited
February 2024

8.0 REFERENCES CITED

- Alberta Culture and Tourism. 2017. Archaeological Site Inventory Data Form Guide. Update – January 2017. Unpublished Manuscript on file, Historic Resources Management Branch. Edmonton, AB.
- Alberta Arts, Culture & Status of Women. 2023. *Listing of Historic Resources* (Updated April 2023). Historic Resources Management Branch. Edmonton, AB.
- Ambrose, B. 2016. *Final Report, Historical Resources Impact Assessment for the City of Medicine Hat Burnside Mountain Bike Trail System (Permit 2016-102)*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Andrefsky, W. Jr. 2005. *Lithics: Macroscopic Approaches to Analysis*. Second Edition, Cambridge University Press, Cambridge, U.K.
- Archaeological Survey. 2020. Archaeological Survey Information Bulletin: Archaeological Report Guidelines. Historic Resources Management Branch. Edmonton, AB.
- Balcom, R. 1983. *Historical Resources Impact Assessment, Paradise Valley Par 3 Golf Course, Final Report, Permit 83-033*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Balcom, R. 1987. *Historical Resources Impact Assessment, Paradise Valley Par 3 Golf Course Extension, Final Report, Permit 87-017*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Borden, C. 1954. A Uniform Site Designation Scheme for Canada. *Anthropology in British Columbia* 3:44-48.
- Brumley, J. 1990a. Bone Unit Analysis of Ungulate Faunal Remains. In *Procedures Manual for the Oldman River Dam Project*. Ethos Consultants Ltd. Consultant's report on file with Historic Resources Management Branch. Edmonton, AB.
- Brumley, J. 1990b. Cataloguing Guidelines – Appendix 3, Section IV (FCR). In *Procedures Manual for the Oldman River Dam Project*. Ethos Consultants Ltd. Consultant's report on file with Historic Resources Management Branch. Edmonton, AB.
- Brumley, J. 1995. *Final Report: 880037, Volume 2: Prehistoric Settlement and Subsistence in the Plains of Southern Alberta and Northern Montana: The Seasonality Evidence*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Bubel, S. n.d. *Classification of Lithic Material Types in Artifact Collections from Archaeological sites in Alberta*. University of Lethbridge. Document on file with Stantec Consulting, Calgary office.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

References Cited
February 2024

- City of Medicine Hat. 2021. History of the Water Treatment Plant. *City of Medicine Hat*.
<https://www.medicinehat.ca/en/home-property-and-utilities/water.aspx#History-of-the-water-treatment-plant>, accessed on Jan 29, 2024.
- Clayton, L., W.B. Bickley Jr., and W.J. Stone. 1970. Knife River Flint. *Plains Anthropologist* 15: 282-290.
- Dau, B. 1985. *An Historical Resources Impact Assessment of a Proposed Regional Trail System in the City of Medicine Hat, Part 2: Saamis Trail*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Dau, B. 1991. *An Historical Resources Impact Assessment of the Proposed Cottonwood Gold Course South of Medicine Hat, Alberta, Permit 91-102*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Davis, L. and J. Fisher. 1988. Avonlea Predation on Wintering Plains Pronghorns. In *Avonlea Yesterday and Today: Archaeology and Prehistory*, edited by L.B. Davis, pp. 101-118. Saskatchewan Archaeological Society. Saskatoon, SK.
- Dyck, I. 1983. The prehistory of southern Saskatchewan. In *Tracking Ancient Hunters: Prehistoric Archaeology in Saskatchewan*. Edited by H. Epp and I. Dyck. Saskatchewan Archaeological Society. Regina, SK.
- Forbis, R. 1970. A Review of Alberta Archaeology to 1964. *National Museum of Man, Publications in Archaeology No. 1*. Ottawa, ON.
- Frison, G. and C. Reher. 1970. Appendix I: Age Determination of Buffalo by Teeth Eruption and Wear. *Plains Anthropologist* 15 (50) Part 2: Memoir 7: The Glenrock Buffalo Jump: 46-50.
- Frison, G. 1987. Prehistoric, Plains-Mountain, Large-Mammal, Communal Hunting Strategies. In *The Evolution of Human Hunting*, edited by M.H. Nitecki and D.V. Nitecki, pp. 177-211. Plenum Press, New York.
- Frison, G. 1991. *Prehistoric Hunters of the High Plains 2nd ed*. Academic Press, Inc. New York.
- Goh, K.M. 1991. Carbon dating. In *Carbon Isotope Techniques*. Edited by David C. Coleman and Brian Fry, pp. 125-144. Academic Press. San Diego, CA.
- Grasby, S., E. Gryba, and R. Bezys. 2002. A Bedrock Source of Swan River Chert. *Plains Anthropologist* 47 (182): 275-281.
- Gryba, E. 1979. *Highway Archaeological Survey (South), 1979, Final Report*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Hill, D. 2020. *Final Report, Historical Resources Impact Assessment (Permit 2019-192), Gas City to Echo Dale Regional Park Mountain Bike Trail*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

References Cited
February 2024

- Hunt, J. 1981. *Historical Resources Impact Assessment, Burnside Farm Subdivision, Final Report, Permit 81-191*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Jones, P., A. Reinking, A. Jakes, M. Miller, T. Creekmore, and R. Guenzel. 2023. Pronghorn. In *Rangeland Wildlife Ecology and Conservation*, edited by L. McNew, D. Dahlgren, and J. Beck, pp. 669-701. Springer Cham.
- Kooyman, B. 2000. *Understanding Stone Tools and Archaeological Sites*. University of Calgary Press, Calgary, AB, University of New Mexico Press, Albuquerque, New Mexico.
- Light, J. 1985. *Historical Resources Impact Assessment of the Lecuyer Subdivision and Mitigation of EaOq-22 and EaOq-23, Final Report, Permit 85-19*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Light, J. 2011. *Historical Resources Impact Assessment, Hillside Cemetery Future Expansion, City of Medicine Hat, Final Report, Permit 11-141*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Low, B. 1996. Swan River Chert. *Plains Anthropologist* 41:165-74.
- Magne, M. 1985. *Lithics and Livelihood: Stone Tool Technologies of Central and Southern Interior British Columbia*. Mercury Series, National Museum of Man; Archaeological Survey of Canada Paper No. 133, Ottawa, ON.
- Malasiuk, J. and L. Hills. 2007. *Redcliff East Side Subdivision, Historical Resources Impact Assessment (Permit 06-420), Final Report*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Milne Brumley, L. 1978. *The Saamis Site: A Late Prehistoric-Protohistoric Campsite in Medicine Hat, Alberta*. National Museum of Man Mercury Series, Archaeological Survey of Canada Paper No. 79. Ottawa, ON.
- Natural Regions Committee. 2006. *Natural Regions and Subregions of Alberta*. Compiled by D.J. Downing and W.W. Pettapiece. Government of Alberta. Pub No. T/852.
- Quigg, J. 1984. *Trans-Canada Highway Upgrading from Kin Coulee to East City Limits in Medicine Hat: An Historical Resources Assessment*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Reeves, B. 1970. *Working Papers in the Metric and Nonmetric Description and Classification of Chipped Stone Tools – 3rd Edition*. Unpublished manuscript available from the University of Calgary Department of Archaeology. Calgary, AB.
- Reeves, B. 1983. *Culture Change in the Northern Plains: 1000 B.C. – A.D. 1000*. Archaeological Survey of Alberta, Occasional Paper No. 20. Edmonton, AB.

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

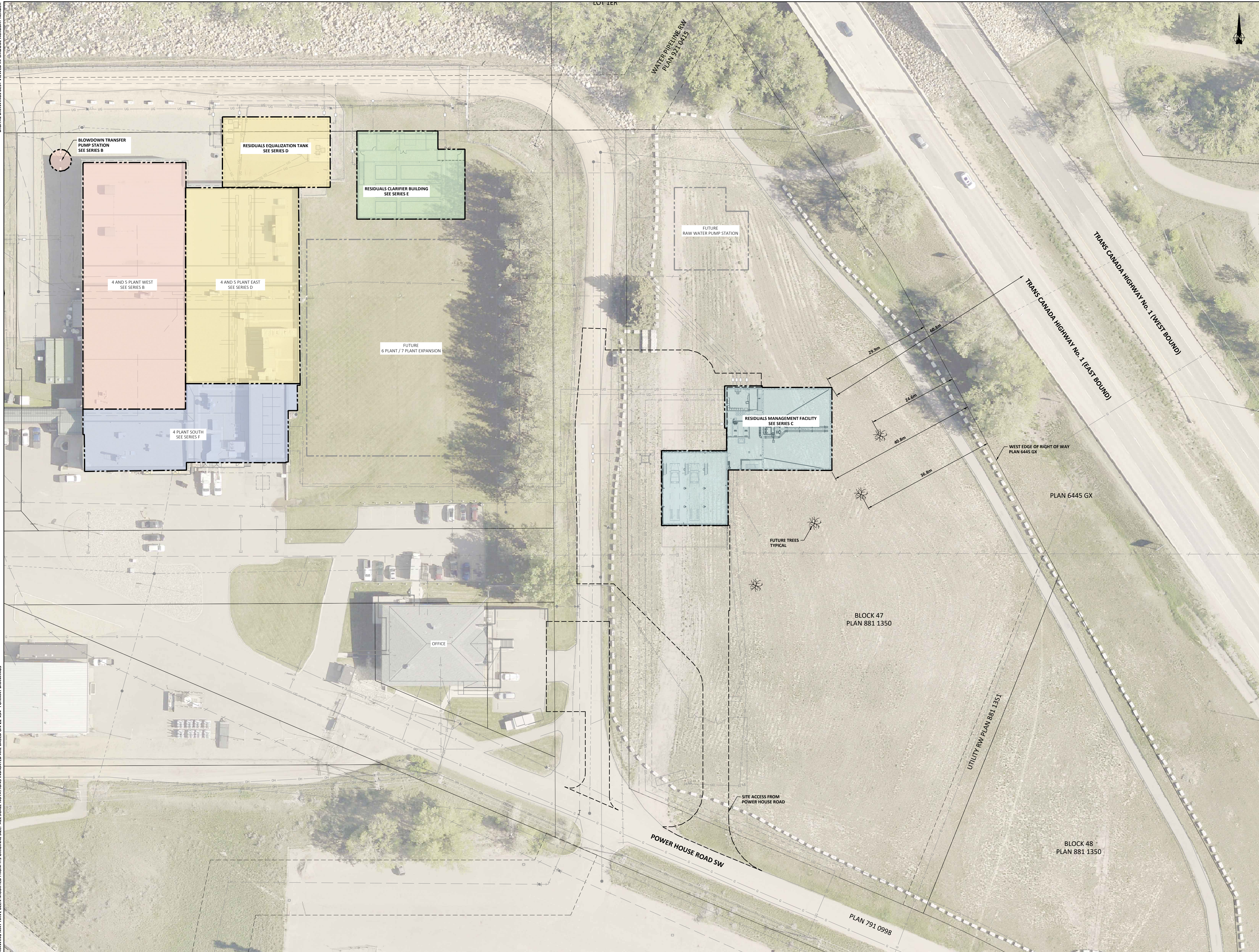
References Cited
February 2024

- Saylor, S. 1981. *Historical Resources Impact Assessment of the Southridge Housing Subdivision*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Speth, J. 1983. *Bison Kills and Bone Counts: Decision Making by Ancient Hunters*. University of Chicago Press. Chicago, IL.
- Unfreed, W. 1998 Historical resources impact assessment, Northstar Energy Corporation, Coleman Project, twp 8, rge 5, west of fifth meridian, final report permit 97-100. C
- Vickers, R. and C. Rushworth. 1988. *1983 Archaeological Investigations at the Saamis Site EaOq-7, Permit 83-8*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Vickers, J.R. 1986. Alberta Plains Prehistory: A Review. In *Archaeological Survey of Alberta Occasional Paper No. 27*. Edmonton, AB.
- Walde, D. 1991. *Distinguishing Sex of Bison Using Measurements of Postcranial Elements*. Prairie Heritage Consultants. Cochrane, AB.
- Wedel, W. 1961. *Prehistoric Man on the Great Plains*. University of Oklahoma Press, Norman, OK.
- Winchell, J. 1963. *Age Criteria for American Bison*. Unpublished M.A. Thesis, Montana State University. Bozeman, MT.
- Wondrasek, R. and A. Bailey. 1990. *Historical Resources Impact Assessment, Burnside Subdivision Project, City of Medicine Hat, Permit 90-020*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Wondrasek, R. and A. Bailey. 1999. *Historical Resources Impact Assessment, City of Medicine Hat South Ridge Subdivision Project, Permit 98-053*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Wright, B. 1984. *Historical Resources Impact Assessment, Medicine Hat Moose Lodge Recreation Commons, Final Report, Permit 84-038*. Consultant's report on file, Historic Resources Management Branch. Edmonton, AB.
- Youell, A. 2004. *Pronghorn Procurement on the Northern Plains: A Case for Small-Scale Hunting*. Unpublished M.A. Thesis, University of Saskatchewan. Saskatoon, SK.

Appendix A FORMAL DEVELOPMENT PLANS

DIGITAL DRAWINGS BEST VIEWED IN GOOGLE AERIAL READER

THIS DRAWING MAY HAVE BEEN MODIFIED FROM ITS ORIGINAL SIZE. ALL SCALE NOTATIONS INDICATED ARE BASED ON 22"x34" FORMAT DRAWINGS



COLOUR SCHEME LEGEND:

- N/A SERIES A - GENERAL AND OVERVIEWS SHEETS
- SERIES B - WEST 4 AND 5 PLANT BLOWDOWN TRANSFER PUMP STATION SCU-2 AND SCU-3
- SERIES C - RESIDUALS MANAGEMENT FACILITY
- SERIES D - EAST 4 PLANT EQUALIZATION TANK PLANT 1,2,3 DECHLORINATION TANK (INTAKE WELL)
- SERIES E - RESIDUALS CLARIFIER BUILDING
- SERIES F - SOUTH 4 PLANT
- N/A SERIES G - TYPICAL DETAILS

1	22-12-28	FOR APPROVAL
ISSUE	YY-MM-DD	REVISION

PERMIT TO PRACTICE
MPE ENGINEERING LTD.

Signature _____
APEGA ID 89080
Date DEC 08, 2022
PERMIT NUMBER: P-3580
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

PROFESSIONAL ENGINEER ALBERTA
GREG CHRISTENSEN
ID 120199
DEC 08, 2022

MPE Engineering Ltd.

CITY OF MEDICINE HAT

WATER TREATMENT PLANT RESIDUALS MANAGEMENT FACILITY
GENERAL
SITE KEY PLAN

DESIGNED K.W.L. A.W.K.	JOB 3405-140-00
DRAWN N.O.W.	SCALE 1:500
DATE NOVEMBER 2022	DRAWING GA.1.3

PRINT THIS DRAWING IN COLOUR

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Appendix B Regulatory Correspondence
February 2024

Appendix B REGULATORY CORRESPONDENCE

Historical Resources Act Approval with Conditions

Proponent: City of Medicine Hat
1502 Power House Road SW, Medicine Hat, AB T1A 7Z6

Contact: Chris Link

Agent: Stantec Consulting Ltd.

Contact: Meaghan Porter

Project Name: Water Treatment Plant Residuals Management Facility (Chance Find at Residuals Clarifier Building)

Project Components: Waste Management Facility
Water Treatment Facility
Other - WTP Residuals Management Facility

Application Purpose: Requesting HRA Approval / Requirements

Historical Resources Act approval is granted for the activities described in this application and its attached plan(s)/sketch(es) subject to the following conditions.



David Link
Assistant Deputy Minister
Heritage Division
Alberta Culture

SCHEDULE OF CONDITIONS

ARCHAEOLOGICAL RESOURCES

Pursuant to Section 37(2) of the *Historical Resources Act*, additional studies are to be conducted on behalf of the proponent by an archaeologist qualified to hold an archaeological research permit within the Province of Alberta. The additional requirements consist of a monitoring program. A permit must be issued by Alberta Arts, Culture and Status of Women prior to the initiation of any archaeological field investigations. Please allow ten working days for the permit application to be processed.

1. As the result of an archaeological find reported in accordance with Section 31 of the *Historical Resources Act*, a new archaeological site designated as EaOq-82 has been identified at a location in the area currently being constructed for the Residuals Clarifier Building as part of the Medicine Hat Water Treatment Plant Residuals Management Facility. Based on the potential interpretive significance of the find, an archaeological construction monitoring program is required at site EaOq-82 for all activities that extend below the depth of 1 m below ground surface. The purpose of the monitoring program will be to gain a better understanding of the site definition and its archaeological significance.

SCHEDULE OF CONDITIONS (continued)

2. Should significant archaeological resources be encountered during the monitoring program, the Archaeological Survey, Historic Resources Management Branch must be contacted. It may then be necessary for Alberta Arts, Culture and Status of Women to issue further instructions regarding these resources.
3. During the archaeological monitoring program, the proponent's consulting archaeologist must evaluate the relationship between the development impacts and site EaOq-82.
4. No excavation activities within site EaOq-82 or in high potential areas around the site may take place on the project until a professional consulting archaeologist is on-site to monitor construction activities.
5. The archaeological monitoring program must be conducted on behalf of the proponent by an archaeologist qualified to hold an archaeological research permit within the Province of Alberta. A permit must be issued by Alberta Arts, Culture and Status of Women prior to the initiation of any archaeological field investigations. Please allow ten working days for the permit application to be processed. To obtain contact information for consultants qualified to undertake this work, please consult the list of [Alberta Historic Resource Consultants](#).

6. Collection of all cultural materials exposed during the construction monitoring must be undertaken. If substantial quantities of non-diagnostic materials are identified, consultation with the Alberta Arts, Culture and Status of Women staff archaeologist should be undertaken to determine the appropriate collection procedures.

Regardless of the collection of non-diagnostic cultural materials, all diagnostic cultural materials identified during the construction monitoring must be collected.

7. Identification of archaeologically significant finds during the construction monitoring program may result in the need for work stoppage and the submission of a Historic Resources Application. The Historic Resources Application will describe the nature of the finds and their relationship to the development impacts.

Determination of the need for a Historic Resources Application to report an archaeological find will be made in consultation with the Alberta Arts, Culture and Status of Women staff archaeologist. Where the nature of the finds necessitates submission of a Historic Resources Application, resumption of construction activities in the affected development area cannot proceed until Alberta Arts, Culture and Status of Women has issued *Historical Resources Act* Approval to continue construction.

8. Given the high archaeological site potential of the development area, all development footprint alterations must be reviewed by Alberta Arts, Culture and Status of Women. Review is facilitated through the submissions of a Historic Resources Application. All Historic Resources Applications must be accompanied by GIS shapefiles.
9. Site-specific conditions are as follows:

SITE	HRV	SITE DESCRIPTION	CONDITIONS/APPROVAL
EaOq-82		campsite	The proponent's consulting archaeologist must evaluate the relationship between the deposits of archaeological site EaOq-82 and the development impacts.

SCHEDULE OF CONDITIONS (continued)**PALAEONTOLOGICAL RESOURCES**

There are no *Historical Resources Act* requirements associated with palaeontological resources; however, the proponent must comply with [Standard Requirements under the *Historical Resources Act: Reporting the Discovery of Historic Resources*](#), which are applicable to all land surface disturbance activities in the Province.

ABORIGINAL TRADITIONAL USE SITES

There are no *Historical Resources Act* requirements associated with Aboriginal traditional use sites of a historic resource nature; however, the proponent must comply with [Standard Requirements under the *Historical Resources Act: Reporting the Discovery of Historic Resources*](#), which are applicable to all land surface disturbance activities in the Province.

HISTORIC STRUCTURES

There are no *Historical Resources Act* requirements associated with historic structures; however, the proponent must comply with [Standard Requirements under the *Historical Resources Act: Reporting the Discovery of Historic Resources*](#), which are applicable to all land surface disturbance activities in the Province.

PROVINCIALY DESIGNATED HISTORIC RESOURCES

There are no *Historical Resources Act* requirements associated with Provincially Designated Historic Resources; however, the proponent must comply with [Standard Requirements under the *Historical Resources Act: Reporting the Discovery of Historic Resources*](#), which are applicable to all land surface disturbance activities in the Province.

ADDITIONAL COMMENTS

1. In addition to any specific conditions detailed above, the proponent must abide by all [Standard Conditions under the *Historical Resources Act*](#).

Proposed Development Location:

MER	RGE	TWP	SEC	LSD List
4	6	12	35	10

Documents Attached:

Document Name	Document Type
Project drawings	Illustrative Material

Historical Resources Act Approval with Conditions

Proponent: City of Medicine Hat
1502 Power House Road SW, Medicine Hat, AB T1A 7Z6

Contact: Carla Froyman Parker

Agent: Stantec Consulting Limited

Contact: Joshua Read

Project Name: Water Treatment Plant Residuals Management Facility

Project Components: Waste Management Facility
Water Treatment Facility

Application Purpose: Requesting HRA Approval / Requirements

Historical Resources Act approval is granted for the activities described in this application and its attached plan(s)/sketch(es) subject to the following conditions.



David Link
Assistant Deputy Minister
Heritage Division
Alberta Culture

SCHEDULE OF CONDITIONS

ARCHAEOLOGICAL RESOURCES

Historical Resources Act approval is granted in relation to archaeological resources, subject to the conditions outlined below.

1. The following *Historical Resources Act* conditions are based on the results of Historic Resources Impact Assessment studies carried out by Stantec Consulting Ltd. under Archaeological Research Permit No. 23-101 and reported to Alberta Arts, Culture and Status of Women in an Interim Report dated July 10, 2023.

SCHEDULE OF CONDITIONS (continued)

2. Additional investigation, in the form of Stage 1 excavation, is required for archaeological site EaOq-82, which lies within the development footprint and cannot be avoided. This will include excavation in three areas of the site, identified as a precontact bone bed/processing campsite area, an area of monitoring locations MH_CF8 and MH_CF11 and near an identified precontact period hearth feature (see Figure 1).

While *Historical Resources Act* approval relative to archaeological resources cannot yet be granted to these three locations (plus a 4 m protective buffer), the areas of the development footprint outside this buffer may proceed with development as planned (see Figure 2).

3. The Stage 1 excavation must be carried out under snow-free, unfrozen ground conditions prior to the initiation of any land surface disturbance activities within the buffered investigation area. Should the project require field studies under winter conditions, directions in [Archaeological Survey Information Bulletin: Winter Conditions](#) must be followed.
4. The Stage 1 excavation must be conducted on behalf of the proponent by an archaeologist qualified to hold an archaeological research permit within the Province of Alberta. A permit must be issued by Alberta Arts, Culture and Status of Women prior to the initiation of any archaeological field investigations. Please allow ten working days for the permit application to be processed. To obtain contact information for consultants qualified to undertake this work, please consult the list of [Alberta Historic Resource Consultants](#).
5. Results of the Stage 1 investigation must be reported to Alberta Arts, Culture and Status of Women and subsequent *Historical Resources Act* approval must be granted before development proceeds within the buffered investigation area.
6. Site-specific conditions are as follows:

SITE	HRV	SITE DESCRIPTION	CONDITIONS/APPROVAL
EaOq-82	4	campsite	This archaeological site requires avoidance or additional studies. If avoidance is not feasible, then the Stage 1 investigation requirements are as follows: (a) excavation of a Stage 1 sample of 65 square metres is required in three locations, with each location investigated using a single excavation block of the following sizes: (i) 30 square metres of excavation in the area of the bone bed (positive monitoring locations MH_CF1, MH_CF2, MH_CF3, MH_CF4, MH_CF5, MH_CF6), to gather information about the nature, extent, age and seasonality of the activities represented by the feature; (ii) 15 square metres of excavation in the area of monitoring locations MH_CF8/MH_CF11, to gather information about the seasonality, butchering practices and possible extent of activities supplemental to those represented in the bone bed; (iii) 10 square metres of excavation in the area of the hearth feature, to gather information about the nature of the feature and the older cultural component with which it is associated; (iv) an 10 square is allocated for placement at

SCHEDULE OF CONDITIONS (continued)

the discretion of the consulting archaeologist, to augment any of the three excavation blocks opened at the bone bed, the hearth or monitoring locations MH_CF8/MH_CF11.

(b) controlled archaeological excavation in the blocks placed on the bone bed and the area of monitoring locations MH_CF8/MH_CF11 must start at the currently exposed surface (approximately 2.5 m below ground surface) and proceed to the base of the upper cultural component. Once the base of the upper component has been identified and all cultural materials associated with it have been removed through controlled archaeological techniques, non-archaeological sediment removal techniques may be used to remove and discard sediments down to the depth just above the sediments of the lower cultural component (at approximately 4 m below ground surface). Controlled archaeological excavation techniques must then be used to remove deposits associated with the lower cultural component, and must proceed to the base of the deposits containing evidence of the lower component.

(c) controlled archaeological excavation in the block placed over the hearth must proceed from the currently exposed surface (approximately 4.2 m below ground surface) to the depth of sediments that are identified as representing the base of the cultural component.

(d) if suitable samples in intact buried contexts are identified, collection and processing of at least 4 radiocarbon dating samples (with at least one from each cultural component) must be undertaken. The results of the dating must be reported in the Stage 1 investigation Final Report.

(e) should the excavation in any Stage 1 block provide results that are significantly less than what was anticipated, consultation must be undertaken with the Alberta Arts, Culture and Status of Women staff archaeologist to determine whether there is sufficient reason to continue excavation in that block.

Depending on the results of the Stage 1 investigation, Stage 2 investigation may be required.

PALAEONTOLOGICAL RESOURCES

There are no *Historical Resources Act* requirements associated with palaeontological resources; however, the proponent must comply with [Standard Requirements under the *Historical Resources Act*: Reporting the Discovery of Historic Resources](#), which are applicable to all land surface disturbance activities in the Province.

SCHEDULE OF CONDITIONS (continued)

1. *Historical Resources Act* approval is granted relative to palaeontological resources based on the results of Historic Resources Impact Assessment studies carried out by Stantec Consulting Ltd under Palaeontological Research Permit No. 23-009.

ABORIGINAL TRADITIONAL USE SITES

There are no *Historical Resources Act* requirements associated with Aboriginal traditional use sites of a historic resource nature; however, the proponent must comply with [Standard Requirements under the Historical Resources Act: Reporting the Discovery of Historic Resources](#), which are applicable to all land surface disturbance activities in the Province.

HISTORIC STRUCTURES

There are no *Historical Resources Act* requirements associated with historic structures; however, the proponent must comply with [Standard Requirements under the Historical Resources Act: Reporting the Discovery of Historic Resources](#), which are applicable to all land surface disturbance activities in the Province.

PROVINCIALY DESIGNATED HISTORIC RESOURCES

There are no *Historical Resources Act* requirements associated with Provincially Designated Historic Resources; however, the proponent must comply with [Standard Requirements under the Historical Resources Act: Reporting the Discovery of Historic Resources](#), which are applicable to all land surface disturbance activities in the Province.

ADDITIONAL COMMENTS

1. In addition to any specific conditions detailed above, the proponent must abide by all [Standard Conditions under the Historical Resources Act](#).

Proposed Development Location:

MER	RGE	TWP	SEC	LSD List
4	6	12	35	10

Documents Attached:

Document Name	Document Type
Development plans for Med Hat WTP Expansion	Illustrative Material
MAP_Figure1_Required Stage 1 Review excavation areas	
MAP_Figure2_Development	Review
Historical Resources Act status	

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Appendix C Archaeological Site Inventory Form
February 2024

Appendix C ARCHAEOLOGICAL SITE INVENTORY FORM



ARCHAEOLOGICAL SITE
INVENTORY FORM

Borden No. EaOq-82
Permit No. 23-101
Revisit Date: 20230803

Site Name: _____

Field No: _____

Related Heritage
Survey Key No.(s):

Location

1. Elevation (m): 661 2. NTS 1:50,000 Map No.: 72L02

3. Legal Description: LSD 10 Section 35 Township 12 Range 6 W of 4 M

4. Point Coordinates: 10-TM (Forest) (EPSG: 3400) Easting 806345 Northing 5549867

5. Landowner: ☐ Government of Canada ☐ Government of Alberta ☒ Municipal Government ☐ Freehold

Landowner
Name/Address: City of Medicine Hat

6. Dimensions: Length (m) 30 Width (m) 35 Long Axis Orientation E-W Depth Below Surface (m) 4.3

7. Access (tips for access, nearest named place, highway/road numbers, cardinal directions, landmarks, distances)

From the intersection of Hwy 3 and Hwy 1, head northwest along Hwy 1 for 1.37 km, then turn left onto Power House Road. Drive along the road for 250 m. The site is within the Medicine Hat Wastewater Treatment Plant Facility approximately 200 m northwest beside the existing Residuals Equalization Tank building.

8. Site Environment/Setting (describe water source, landform, aspect, slope, sediment, stratigraphy, vegetation)

Water Source: ☒ Permanent ☐ Seasonal

Water Source Type: ☐ Lake ☒ River ☐ Stream ☐ Pond ☐ Wetland ☐ Spring other, specify: _____

Distance to Water (m): 110 Direction to Water: N Name: South Saskatchewan River

Landform: Terrace Slope (degrees): 0 Aspect: N

Sediment: ☐ Boulders ☐ Cobbles ☒ Gravel ☒ Sand ☒ Silt ☐ Clay ☐ Loam ☐ Bedrock

Stratigraphy, vegetation, other comments

Soils encountered within the site area were consistent with those observed during construction monitoring. Due to the sloped nature of the sides of the Project area (in accordance with Alberta OH&S regulations), a complete vertical profile was unable to be obtained during the Stage 1 excavations. However, the various profiles collected during construction monitoring in conjunction with the block profiles recorded provide a complete profile from ground surface to base of excavation (~4.1 m below site datum set at ground surface on the east side of the Project area). Modern fill (asphalt, gravel, debris, etc.) is present in the top ~1 m. Below the fill, alternating bands of coarse to fine sands and silts are present, which range from 2 cm to 15 cm thick. The darker bands generally contain higher frequencies of silt, which may represent relict ground surfaces that experienced very little vegetation growth and almost no soil development. One thin (~1 cm) paleosol is visible above CU 1 at approximately 1.6 m b.s. but no artifacts have been observed at this depth. At ~2.1 m b.s., a well-developed paleosol (CU 1) is present. Below this is a 5 cm layer of coarse sand, followed by a ~6-8 cm thick layer of clayey silt (this is more developed in Block B; Plate 5). Below this soil, alternating bands of sands and silts continue to 4.1 m b.s. and beyond, with a very thin (<1cm) undulating paleosol (CU 2) at an average of 3.9 m b.s., though this depth fluctuates up to 15 cm shallower or deeper. Below CU 2 lies a deposit of coarse water-deposited sands that contain patterns of depositional water currents to a maximum observed depth of 4.1 m b.s.

Site Typology

9. Site Class ☒ prehistoric
☐ Indigenous historic
☐ historic
☐ contemporary
10. Site Context ☐ surface
☒ subsurface
☐ stratified
☐ underwater
☐ undetermined
11. Component ☐ single
☒ multi
☐ undetermined
 2 # components
12. Site Type ☐ isolated find ☐ workshop ☐ farm ☐ trail ☐ transportation
☐ scatter ≤10 ☐ quarry ☐ ranch ☐ mission ☐ historic feature
☐ scatter >10 ☐ rock art ☐ dwelling ☐ school ☐ forestry
☒ campsite ☐ burial ☐ trading post ☐ urban ☐ military
☐ stone feature ☐ settlement ☐ police post ☐ ceremonial/religious ☐ collection
☐ killsite ☐ homestead ☐ mine ☐ industrial
13. Culture ☐ Prehistoric, undetermined ☒ Middle Prehistoric ☐ Fur Trade/Contact/Protohistoric
☐ Early Prehistoric ☒ Late Prehistoric ☐ Historic

Cultural Affiliation (complexes, phases, traditions, projectile point types, ethnographic & ethnic groups)

Avonlea; Besant

Culture Remarks (describe the basis for your inferences concerning the age and/or cultural affiliation of the site)

Cultural affiliation based on diagnostic projectile points collected during Stage 1 excavations

Current Observations

14. Site Description (spatial extent, patterning, features, density and variety of remains, diagnostics and exotic material, interpretation of the site including origins, functions, and context, summary of pertinent historic ownership for historic sites)

Stage 1 excavations were focused on three areas of the site; the processing area (MH_CF1 to MH_CF6), the area around MH_CF8 and MH_CF11 where intact, articulated bison remains as well as foetal bison remains were collected during the construction monitoring, and the feature at the bottom of backhoe trench MH_BH1. Three excavation blocks (A, B, and C) were established on a site grid. Blocks A and B were used to first investigate the upper cultural component (processing area), designated as Cultural Unit (CU) 1. Block A investigations resulted in the identification of a pit feature as well as a hearth and two associated postholes, along with an intact Avonlea point, two broken projectile points, a bone awl, and a large quantity of lithic debitage, faunal material, and FBR east of the hearth in the processing area. Block B was not productive relative to CU 1, having been stripped to below the cultural horizon during construction monitoring. Blocks A, B, and C were used to investigate the lower component (CU 2). An additional hearth, along with the feature originally identified in MH_BH1, determined to be a dump feature, were identified in Block C. One broken projectile point base, possibly Samantha, was also recovered from Block C. Block B (CU 2) also contained a hearth feature, with nine broken and complete points, including a Besant point and two Samantha arrow points collected from in and around the hearth.

15. Features (frequencies)
- | | | | | |
|---------------------------------------|---|-------------------------------------|-------------------------------------|--------------------------------------|
| ☐ stone circle | ☐ medicine wheel | 1 ☐ pit | ☐ structure | ☐ trail |
| ☐ cairn | ☐ effigy | ☐ mound | ☐ foundation | ☐ well |
| ☐ stone arc | ☐ pictograph | ☐ depression | ☐ cellar | ☐ privy |
| ☐ stone line | ☐ petroglyph | ☐ cabin | 1 ☐ dump | ☐ outhouse |
| ☐ drive lane | 3 ☐ hearth | ☐ house | ☐ fence | ☐ burial |
| | | | | other, specify |
| | | | | 2 ☐ postholes |

Current Observations, continued

16. Materials Observed: ☒ yes ☐ no Materials Collected: ☒ yes ☐ no

Materials observed/collected (frequencies)

observed	collected	observed	collected	observed	collected
<u>11</u>	<u>11</u>	<u>31</u>	<u>31</u>	<u>1</u>	<u>1</u>
<u>32</u>	<u>32</u>	<u>4516</u>	<u>4516</u>		
<u>25</u>	<u>25</u>				
<u>2830</u>	<u>2830</u>				
<u>3</u>	<u>3</u>				
<u>1195</u>	<u>1195</u>	<u>16</u>	<u>16</u>	<u>7</u>	<u>7</u>

Total # materials observed: 8651

Total # materials collected: 8667

ochre

17. Collection Remarks (formed tools, raw materials, identifiable faunal, etc. collected)

CU 1 is defined by a large collection of butchered, burned, and calcined bison elements, representing the entire skeleton and 5 or more animals. Lithic materials in CU 1 are comprised of local quartzites and quartz crystal, as well as Swan River Chert (heat-treated and non-treated) and high-quality chalcedony. CU 2, conversely, features a low frequency of bison elements, most of which are highly fragmented with a few larger identifiable elements (tibia, lower limb bones) and pronghorn elements, most of which are fragmented long bone elements. Lithic material in CU 2 features quartzites but, noticeably, a diminished quantity of Swan River Chert. Rather, chalcedony is most prevalent. Other tools other than points (see above) include a bone awl, a rib peg, a possible bone annealer, retouched flakes and bifaces from CU 1 and several point blanks and retouched flakes from CU 2.

18. Collection Repository: ☒ Royal Alberta Museum ☐ private collection19. Photo/Images: ☒ yes ☐ no Repository: ☒ Royal Alberta Museum other, specify

20. Calendar Date (A.D.): n/a

21. Radiocarbon Dates (conventional C14 date(s) and standard deviation (+/-), lab number and material dated)

1250+/-30 yrs BP - BETA 682223, lg. ungulate long bone from Block A (CU1); 1240+/-30 yrs BP - BETA 682222, bison ulna fragment from feature F2, Block A (CU1); 1560+/-30 yrs BP - BETA 682221, sm. ungulate (antelope) long bone from Block B (CU2); 1520+/-30 yrs BP - BETA 682220, antelope metatarsal from feature F5, Block C (CU2)

22. Estimated Portion Intact: ☐ 80-100% ☒ 50-80% ☐ <50% ☐ 0% ☐ undetermined

23. Disturbance Factors:

Type of Existing Disturbance

☐ agriculture ☐ road/highway ☐ coal mine ☐ transmission line ☒ industrial area ☐ cutline other, specify
☐ pipeline ☐ gravel/sand pit ☐ oil sands ☐ reservoir ☐ vandalism ☐ OHV trail
☐ wellsite ☐ residential area ☐ forestry ☐ recreation area ☐ erosion ☐ flooding

Will proposed development impact site? ☒ yes ☐ no ☐ unknown ☐ N/A

Type of Anticipated / Potential Disturbance

☐ agriculture ☐ road/highway ☐ coal mine ☐ transmission line ☒ industrial area ☐ cutline other, specify
☐ pipeline ☐ gravel/sand pit ☐ oil sands ☐ reservoir ☐ vandalism ☐ OHV trail
☐ wellsite ☐ residential area ☐ forestry ☐ recreation area ☐ erosion ☐ flooding

Disturbance Factor Details (both existing and anticipated)

Site was observed during foundation excavations for the new Residuals Clarifier Building for the Medicine Hat Waste Water Treatment Plant Expansion. The construction will impact the site.

Investigation

24. Investigation Methods	Location						# of positives		
	# on landform (includes area within site)			# within site boundary					
	screened	not screened	total	screened	not screened	total	screened	not screened	total
☐ exposure inspection									
☒ shovel tests	3	0	3	3	0	3	2	0	2
☐ backhoe tests									
☐ deep evaluative test									
☐ auger tests									
☐ test unit									2
☒ monitoring		25	25		25	25		23	23
☐ surface inspection									
☒ excavation unit	# excavated square metres: 59.5					screen mesh size (mm): 1/4" & 1/8"			
☐ detailed mapping	map description:								
other, specify:									

25. Permit Holder/Researcher: J. Read26. Researcher Affiliation: Stantec Consulting Ltd.27. Observed by: J. Read, K. Zbeetnoff, R. Bird, S. Simpson, T. Strachan, M. Murphy, M. George, A. Ranieri, R. teLinde, L. Finn, T. Paron Date (YYYYMMDD): 2023080328. Collected by: J. Read, K. Zbeetnoff, R. Bird, S. Simpson, T. Strachan, M. Murphy, M. George, A. Ranieri, R. teLinde, L. Finn, T. Paron Date (YYYYMMDD): 20230803

29. Tested by: _____ Date (YYYYMMDD): _____

30. Excavated by: J. Read, K. Zbeetnoff, R. Bird, S. Simpson, T. Strachan, M. Murphy, M. George, A. Ranieri, R. teLinde, L. Finn, T. Paron Date (YYYYMMDD): 2023080331. Form completed by: J. Read Date (YYYYMMDD): 2023082432. Report Title/Project Name Historical Resources Impact Assessment and Mitigation, City of Medicine Hat, Medicine Hat Waste Water Treatment Plant Residuals Management Facility, Archaeological Investigations at Site EaOq-82: Final Report**Site Significance and Recommendations****33. Site Significance/Recommendations Remarks**

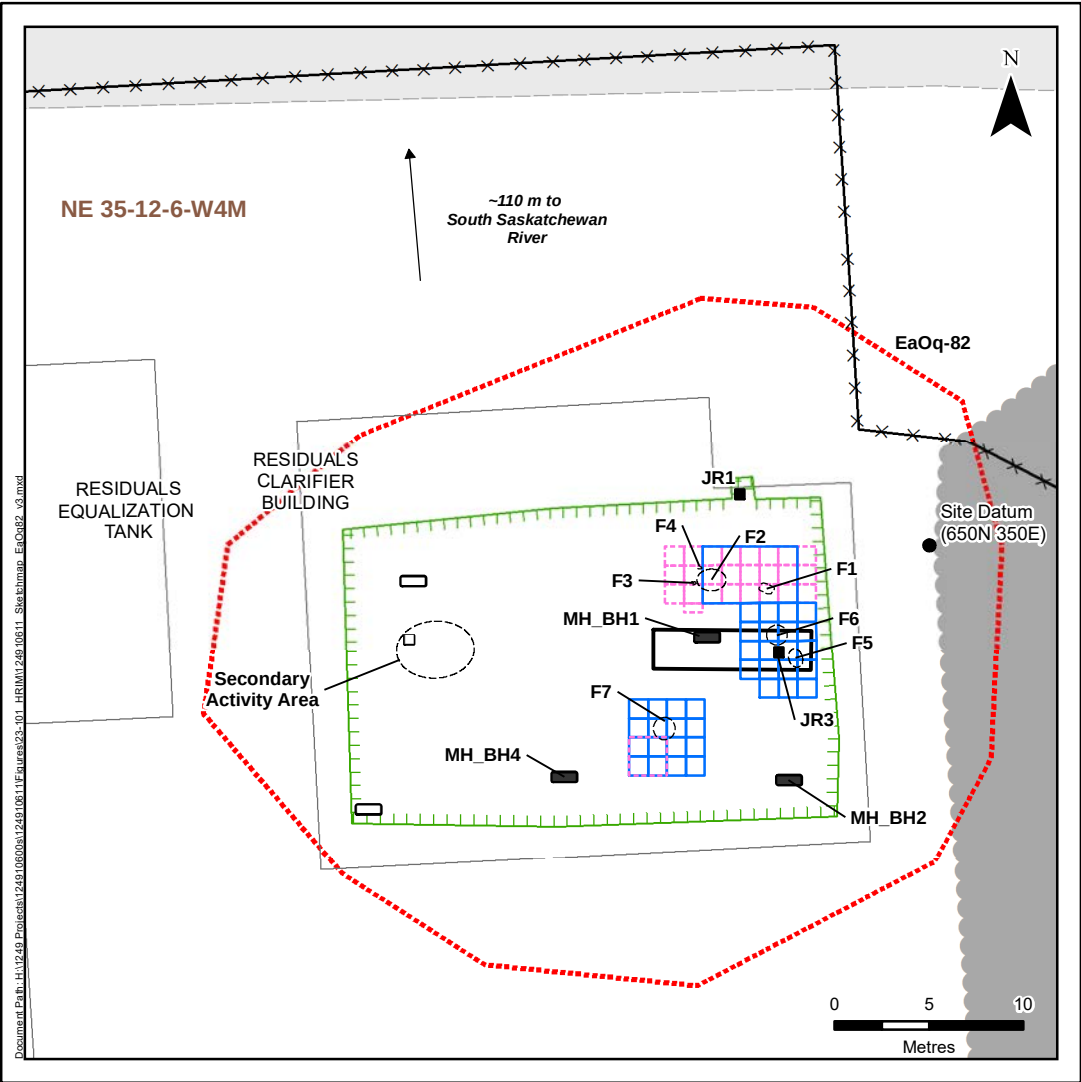
Site EaOq-82 represents a deeply buried, multi-component campsite and processing site along the South Saskatchewan River. There is significant sedimentation overtop a relatively recent occupation dating to the Avonlea period and to sometime during the Besant/Avonlea transitional period. The Stage 1 excavations at site EaOq-82 were very productive overall and provided an adequate dataset of various activities and cultural occupations to put forth interpretations regarding landform use, seasonality, and culture history.

34. Additional Remarks

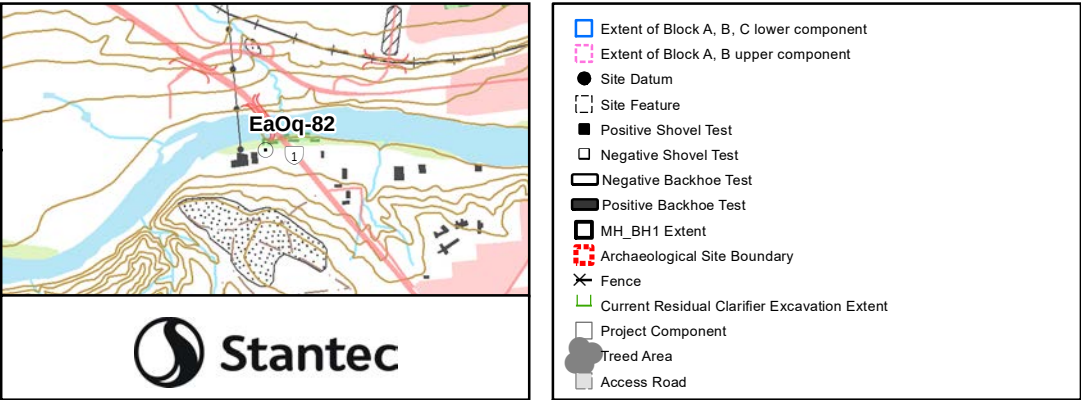
Therefore, no further work is recommended for site EaOq-82 and *Historical Resources Act* Approval is recommended for the Project. Given that cultural material was observed along the east side of the Project footprint, it is recommended that the site maintain its HRV 4 rating. It is also recommended that future developments in the area are preceded by deep testing to depths of at least 4 m b.s. to investigate the possibility of additional, deeply buried cultural material.

35. Site Map

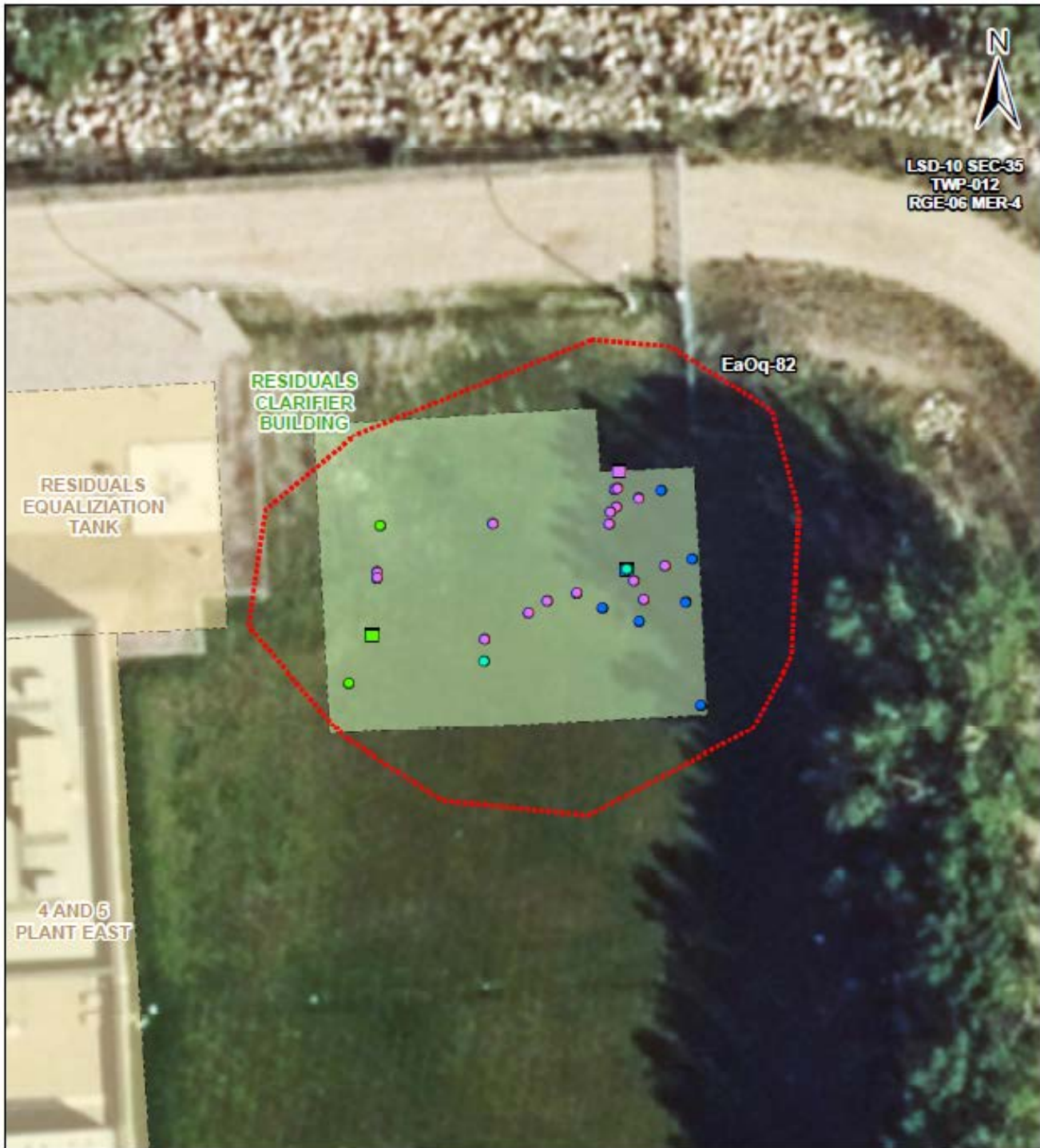
Borden Number: EaOq-82
Permit Number : 23-101



N.T.D.B. 1:50,000 DATA INSET MAP NO.: 72L02



(Customize Layout in Filemaker depending on your needs by inserting a text or container



- CU1 Shovel Test
- CU1 Monitoring Location
- CU2 Shovel Test
- CU2 Monitoring Location
- CU1 & CU2 Monitoring Location
- Negative Shovel Test
- Negative Monitoring Location
- Archaeological Site Boundary



PREPARED FOR  Medicine Hat The Gas City		PREPARED BY  Stantec	
DATA SOURCE Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community			
METRICIAN West of 4th	SPIRITUAL REF. NAD 1983 10TM AEP Forest	SCALE 1:500	
DRAFT DATE 2024 Jan 10	DRAWN BY bsorensen	PROJECT 124910611	PERMIT 23-101
REVISED DATE 2024 Jan 11	REVISED BY bsorensen		

Historical resources impact assessment and mitigation, City of Medicine Hat, Medicine Hat Water Treatment Plant Residuals Management Facility, archaeological investigations at site EaOq-82: final report

Appendix D Artifact Catalogue Sheets
February 2024

Appendix D ARTIFACT CATALOGUE SHEETS

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1		CF1		1							250	BS	94.7	3-9	Bison		Astragalus	Right	Fused		1	
2		CF1		1							250	BS	9.6	3-9	Bison		Lateral Malleolus	Right	Fused		1	
3		CF1		1							250	BS	90.7	9-15	Bison		Calcaneum	Right	Fused		2	old break to proximal posterior of body; recent break removed sustentaculum
4		CF1		1							250	BS	196.1	>15	Bison		Mandible	Right	Indt		18	M3 and M2, no ventral border. M2 style to a circle, M3 in full wear but style not yet. Several frags fit. BU, but recent breaks to horizontal ramus on anterior edge of BU worn.
5		CF1		1							250	BS	48.2	3-9	Bison		Upper Tooth	Right	Indt		99	molar erupted but not in wear yet
6		CF1		1							250	BS	7.9	3-9	Large Ungulate	spiral fracture	Metatarsal	Indt	Indt		10	anterior shaft and groove but no foramen
7	9	CF1		3							250	BS	28.0	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
10		CF1		1							250	BS	2.6	0-3	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
11		CF1		1							250	BS	1.3	0-3	Large Ungulate		Costal Cartilage	Indt	Unfused		99	
12		CF1		1							250	BS	2.8	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
13	27	CF1		15							250	BS	10.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
28		CF1		1							250	BS	0.2	0-3	Small Mammal		Undifferentiated Scrap	Indt	Indt		99	
29	30	CF1		2							250	BS	1.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
31	41	CF1		11							250	BS	3.0	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
42		CF2		1							250	BS	42.3	3-9	Bison		P-1	Right	Fused		1	
43		CF2		1							250	BS	20.9	3-9	Bison		P-3	Left	Fused		3	Recent damage to tip
44		CF2		1							250	BS	18.5	3-9	Bison		Upper Tooth	Right	Indt		99	premolar, permanent; in full but moderate wear
45		CF2		1							250	BS	52.4	>15	Bison	spiral fracture	Tibia	Left	Indt		5	large portion posterior, lateral edge of shaft
46		CF2		1							250	BS	66.8	9-15	Bison	spiral fracture	Tibia	Left	Indt		6	posterior shaft, distal half
47		CF2		1							250	BS	23.4	3-9	Large Ungulate		Rib	Left	Indt		7	shaft, above old curvy break. Proximal end recent break

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
48		CF2		1							250	BS	20.6	9-15	Large Ungulate	Tool?	Rib	Indt	Indt		7	recent breaks, frags fit; possibly rounded distal end?
49	52	CF2		4							250	BS	15.2	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
53	57	CF2		5							250	BS	6.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
58		CF2		1							250	BS	13.6	3-9	Large Ungulate		Skull	Axial	Indt		37	left and right side of suture, anterior edge of frontal, where it joins posterior point of nasal.
59	60	CF2		2							250	BS	14.0	3-9	Large Ungulate		Skull	Axial	Indt		99	possible frontal? Recent break.
61	62	CF2		2							250	BS	1.3	0-3	Large Ungulate		Skull	Axial	Indt		99	
63		CF2		1							250	BS	14.2	3-9	Large Ungulate	Tool?; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	light polish on exterior surface
64	65	CF3		2							250	BS	28.0	3-9	Bison		Mandible	Indt	Indt		15	2 pieces fit; old break
66		CF3		1							250	BS	109.8	>15	Bison		Mandible	Left	Indt		4	
67		CF4		1							250	BS	147.3	9-15	Bison		Skull	Right	Indt		7	max teeth P4 to M2, plus 2 small bits alveoli

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
68		CF4		1							250	BS	10.8	3-9	Large Ungulate		Scapula	Indt	Indt		19	all in full wear, but cusps still well defined
69		CF4		1							250	BS	54.3	>15	Large Ungulate		Rib	Left	Indt		7	recent break, 2 frags fit
70		CF4		1							250	BS	9.5	3-9	Large Ungulate		Rib	Indt	Indt		4	one of more posterior ribs
71		CF5		1							250	BS	55.9	3-9	Bison	spiral fracture	Metatarsal	Right	Fused		2	right ankle group all fits. Big break spiral; recent break. Measures as Female or Immature Male.
72		CF5		1							250	BS	52.4	3-9	Bison		Navicular Cuboid	Right	Fused		1	
73		CF5		1							250	BS	86.1	3-9	Bison		Astragalus	Right	Fused		1	
74		CF5		1							250	BS	111.2	9-15	Bison		Calcaneum	Right	Fused		1	
75		CF5		1							250	BS	90.2	9-15	Bison	spiral fracture	Tibia	Right	Fused		4	Measures as Female. Recent shaft break as well. Cat No. 71-75 all not weathered, in good shape.
76		CF5		1							250	BS	2.7	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
77	84	CF5		8							250	BS	10.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
85		CF5		1							250	BS	12.9	3-9	Bison		Upper Tooth	Right	Indt		99	P2 - in wear
86		CF8		1							250	BS	86.5	9-15	Bison		Pelvis	Left	Fused		34	
87		CF8		1							250	BS	131.8	9-15	Bison		Cervical Vertebra	Axial	Fused		16	recent damage, frags fit
88		CF8		1							250	BS	71.6	9-15	Bison	spiral fracture	Humerus	Right	Indt		8	distal/medial shaft
89		CF8		1							250	BS	45.2	3-9	Large Ungulate		Cervical Vertebra	Axial	Unfused		24	left processes; recent damage. Left half centrum, both articulate
90		CF8		1							250	BS	3.4	0-3	Large Ungulate		Cervical Vertebra	Axial	Unfused		3	recent damage
91	93	CF8		3							250	BS	15.1	3-9	Large Ungulate		Undifferentiated Vertebra	Axial	Indt		99	recent damage
94	97	CF8		4							250	BS	5.1	0-3	Large Ungulate		Undifferentiated Vertebra	Axial	Indt		99	recent damage
98		CF8		1							250	BS	0.8	0-3	Large Ungulate		Rib	Indt	Unfused		19	recent damage
99		CF8		1							250	BS	5.6	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	recent damage
100		CF8		1							250	BS	9.1	3-9	Large Ungulate		Pelvis	Right	Unfused		34	neonatal/foetal
101		CF8		1							250	BS	16.8	3-9	Large Ungulate	spiral fracture	Humerus	Left	Unfused		16	neonatal/foetal - no epiphysis
102		CF8		1							250	BS	2.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	possibly juvenile as well
103		CF10		1							250-300	BS	195.0	>15	Bison		Scapula	Right	Indt		30	recent severe breakage
104		CF11		1							300	BS	65.2	9-15	Bison		Humerus	Left	Fused		4	recent break

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
105		CF11		1							300	BS	25.0	9-15	Bison		Ulna	Right	Indt		3	recent proximal break. Fits Cat No. 106
106		CF11		1							300	BS	462.7	>15	Bison		Radius	Right	Fused		1	105
107		CF11		1							300	BS	24.2	3-9	Bison		Intermediate Carpal	Right	Fused		1	
108		CF11		1							300	BS	23.8	3-9	Bison		Magnum	Right	Fused		1	
109		CF11		1							300	BS	14.2	3-9	Bison		Unciform	Left	Fused		1	
110		CF11		1							300	BS	17.0	3-9	Bison		Ulnar Carpal	Left	Fused		1	
111		CF11		1							300	BS	8.7	0-3	Bison		Accessory Carpal	Left	Fused		1	
112		CF11		1							300	BS	2.8	0-3	Bison		Distal Sesamoid	Left	Fused		1	
113		CF11		1							300	BS	2.0	0-3	Bison		Distal Sesamoid	Right	Fused		2	
114		CF11		1							300	BS	39.1	3-9	Bison		P-1	Left	Fused		1	
115		CF11		1							300	BS	38.2	3-9	Bison		P-1	Left	Fused		1	recent damage to posterior
116		CF11		1							300	BS	22.5	3-9	Bison		P-2	Left	Fused		1	
117		CF11		1							300	BS	21.7	3-9	Bison		P-2	Right	Fused		1	
118		CF11		1							300	BS	31.0	3-9	Bison		P-3	Left	Fused		1	pairs with Cat No. 119
119		CF11		1							300	BS	29.2	3-9	Bison		P-3	Right	Fused		1	pairs with Cat No. 118
120		CF11		1							300	BS	29.3	3-9	Bison		P-3	Left	Fused		1	pairs with Cat No. 121

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
121		CF11		1							300	BS	28.4	3-9	Bison		P-3	Right	Fused		1	pairs with Cat No. 120 - I'd almost say a different individual from above pair - more robust with bony growths
122	126	CF11		5							300	BS	7.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	recent breaks
127		CF13		1							300	BS	84.9	>15	Bison		Ulna	Left	Indt		10	fits Cat No. 128. recent breaks
128		CF13		1							300	BS	101.4	>15	Bison	spiral fracture	Radius	Left	Fused		10	Measures as Female. fits Cat No. 127. recent breaks
129		CF13		1							300	BS	210.0	>15	Bison	spiral fracture	Humerus	Left	Fused		16	not measurable. Recent breaks, extensive
130		CF13		1							300	BS	28.9	3-9	Large Ungulate		Cervical Vertebra	Axial	Indt		24	left half, anterior and posterior processes recent breaks
131		CF13		1							300	BS	128.3	3-9	Bison		Cervical Vertebra	Axial	Fused		16	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
132		CF13		1							300	BS	22.3	3-9	Bison		Axis	Axial	Indt		8	right posterior process and spine recent breaks
133	137	CF13		5							300	BS	34.5	3-9	Large Ungulate		Undifferentiated Vertebra	Axial	Indt		99	recent breaks
138	140	CF13		3							300	BS	6.8	0-3	Large Ungulate		Undifferentiated Vertebra	Axial	Indt		99	recent breaks
141	150	CF13		10							300	BS	7.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
151		CF14		1							250-300	BS	19.1	3-9	Bison	abraded	Skull	Indt	Indt		6	weathered, horn tip
152		CF14		1							250-300	BS	34.2	3-9	Large Ungulate		Skull	Indt	Indt		37	frontal portion
153		CF15		1							250	BS	62.1	3-9	Bison		Navicular Cuboid	Left	Fused		1	
154		CF15		1							250	BS	94.1	9-15	Bison	abraded	Radius	Left	Fused		2	weathered, recent breaks
155	161	JR-1		7							250	BS	2.3	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
162		JR-1		1							250	BS	0.1	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
163	164	JR-3		2							420	BS	2.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
165		BH-1		1							270	BS	77.1	9-15	Bison		Calcaneum	Left	Unfused		7	no epiphysis; recent breaks has removed distal portion

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
166		BH-1		1							270	BS	74.4	9-15	Bison	spiral fracture	Radius	Right	Indt		10	possibly unfused; distal shaft break is a spiral, but proximal end looks uneven as if it may have been unfused and gnawed; shaft tube. Not a good BU for this, it's a proximal half of shaft in a tube
167		BH-1		1							270	BS	43.8	>15	Bison		Rib	Left	Indt		16	
168		BH-1		1							270	BS	145.9	>15	Large Ungulate	spiral fracture	Humerus	Right	Indt		12	shaft tube, distal half of shaft; proximal break spiral; possibly unfused distal end, but none of condyles present, uneven old break; small.
169	170	BH-1		2							270	BS	2.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	possibly part of humerus
171		BH-1		1							420-430	BS	11.6	3-9	Antelope		Mandible	Left	Indt		18	M3 and portion of horizontal ramus

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
172		BH-1		1							420-430	BS	13.2	9-15	Antelope	Tool?; spiral fracture	Metatarsal	Indt	Indt		12	Proximal 2/3 shaft
173		BH-1		1							420-430	BS	4.6	3-9	Antelope	spiral fracture	Metatarsal	Indt	Indt		12	anterior shaft frag
174	78	BH-1		8							420-430	BS	15.2	3-9	Small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
179		BH-1		1							420-430	BS	5.1	3-9	Antelope	spiral fracture	Metatarsal	Left	Indt		12	proximal anterior shaft
180		BH-1		1							420-430	BS	8.2	3-9	Antelope	spiral fracture	Femur	Indt	Indt		18	mid shaft
181		BH-1		1							420-430	BS	9.5	3-9	Antelope	spiral fracture	Humerus	Right	Indt		39	proximal lateral shaft
182		BH-1		1							420-430	BS	2.0	0-3	Small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
183		BH2		1							390	BS	410.9	>15	Bison	abraded	Tibia	Left	Fused		22	Measures as Female. weight may change. Still some dirt in shaft
184		BH4		1							250-350	BS	39.7	3-9	Bison		P-1	Left	Fused		1	
185		BH4		1							250-350	BS	20.3	3-9	Bison		P-2	Left	Fused		1	
186		BH4		1							250-350	BS	126.4	9-15	Bison		Metacarpal	Left	Fused		7	Measures as Female. distal end in one piece, shaft in multiple recent breaks

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
187		BH4		1							250-350	BS	85.5	9-15	Bison	abraded	Skull	Indt	Indt		37	many recent frags. Frontal in one recent cut mark
188		BH4		1							250-350	BS	15.4	3-9	Bison	abraded	Skull	Indt	Indt		6	horn core frags, and weathered
189		MH1		1							250-350	BS	96.5	9-15	Bison		Calcaneum	Left	Fused		1	recent break
190		MH1		1							250-350	BS	121.0	9-15	Large Ungulate	abraded	Cervical Vertebra	Axial	Unfused		16	recent backhoe breaks. No epiphyses. 5m NE of MH1
191		MH1		1							250-350	BS	19.2	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	recent break, but already weathered. 10m NE of MH1
192		MH1		1							250-350	BS	28.7	3-9	Bison		P-1	Right	Fused		1	recent break. 10m E of MH1
193		CF1		1							250	BS	0.1	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
194	196	CF1		3							250	BS	0.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
197-283		See lithic catalogue																				

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
284		A	CU1	1	646	337	0.91	0.57	NE	2	40	A7	92.9	9-15	Bison	spiral fracture	Tibia	Left	Fused		4	Measures as Female. CMI ABU2, butchering unit from lower mid tibia to upper metatarsal, and all ankle bones as a group - 1 solid "piece"
285		A	CU1	1	646	337	0.94	0.51	NE	2	40	A7	89.3	3-9	Bison		Astragalus	Left	Fused		1	CMI ABU2, butchering unit from lower mid tibia to upper metatarsal, and all ankle bones as a group - 1 solid "piece"
286		A	CU1	1	646	337	0.97	0.44	NW	2	40	A7	52.6	3-9	Bison		Calcaneum	Left	Indt		6	CMI ABU2, butchering unit from lower mid tibia to upper metatarsal, and all ankle bones as a group - 1 solid "piece". Fits #291, #331, #345, old break

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
287		A	CU1	1	646	337	0.99	0.47	NW	2	38	A7	10.2	3-9	Bison		C. Pes	Left	Fused		1	CMI ABU2, butchering unit from lower mid tibia to upper metatarsal, and all ankle bones as a group - 1 solid "piece"
288		A	CU1	1	647	337	0.03	0.47	SW	2	41	A7	46.5	3-9	Bison	spiral fracture	Metatarsal	Left	Fused		2	Measures as Female/Immature Male, but see #284. CMI ABU2, butchering unit from lower mid tibia to upper metatarsal, and all ankle bones as a group - 1 solid "piece"
289		A	CU1	1	646	337	1	0.53	NE	2	40	A7	53.7	3-9	Bison		Navicular Cuboid	Left	Fused		1	CMI ABU2, butchering unit from lower mid tibia to upper metatarsal, and all ankle bones as a group - 1 solid "piece"

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
290		A	CU1	1	646	337	0.97	0.56	NE	2	38	A7	1.8	0-3	Bison		Second Metatarsal	Left	Fused		1	CMI ABU2, butchering unit from lower mid tibia to upper metatarsal, and all ankle bones as a group - 1 solid "piece"
291		A	CU1	1	646	337	0.96	0.6	NE	2	38	A7	7.8	3-9	Bison		Calcaneum	Left	Indt		99	CMI ABU2, butchering unit from lower mid tibia to upper metatarsal, and all ankle bones as a group - 1 solid "piece". Post lat side of tuber c. Fits #286 and #331, old break.
292		A	CU1	1	646	337	0.9	0.51	NE	2	39	A7	8.5	3-9	Bison		Lateral Malleolus	Left	Fused		1	CMI ABU2, butchering unit from lower mid tibia to upper metatarsal, and all ankle bones as a group - 1 solid "piece"
293		A	CU1	1	646	337				2	37-47	A7	1.0	0-3	Bison		Distal Sesamoid	Indt	Indt		2	
294	296	A	CU1	3	646	337				2	37-47	A7	1.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
297		A	CU1	1	646	337				2	37-47	A7	0.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
298		A	CU1	1	647	336	0.04	0.12	SW	1	29	A8	42.1	3-9	Bison	abraded	Ulna	Right	Indt		14	Only 1 of articular facets
299		A	CU1	1	647	336	0.97	0.61	NE	1	39	A8	4.1	3-9	Large Ungulate		Pelvis	Indt	Indt		13	
300	306	A	CU1	7	647	336				1	28-38	A8	3.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
307		A	CU1	1	647	336	0.43	0.37	SW	2	41	A8	27.8	3-9	Bison	spiral fracture	Metatarsal	Indt	Indt		12	
308		A	CU1	1	647	336	0.71	0.59	NE	2	43	A8	6.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Scrap	Indt	Indt		99	
309		A	CU1	1	647	336	0.48	0.19	SW	2	41	A8	7.0	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
310		A	CU1	1	647	336	0.49	0.16	SW	2	47	A8	31.2	3-9	Bison		Ulna	Right	Indt		2	
311		A	CU1	1	647	336	0.49	0.16	SW	2	47	A8	14.4	3-9	Large Ungulate		Scapula	Indt	Indt		14	
312		A	CU1	1	647	336	0.63	0.13	NW	2	42	A8	2.1	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
313		A	CU1	1	647	336				2	38-48	A8	9.9	3-9	Large Ungulate	abraded; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	3 fragments fit, exfoliated recent break
314	328	A	CU1	15	647	336				2	38-48	A8	9.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
329		A	CU1	1	647	337	0.93	0.69	NE	1	32	A8	18.9	3-9	Bison	abraded	Intermediate Carpal	Right	Fused		1	
330		A	CU1	1	647	337	0.79	0.76	NE	2	38	A8	18.2	3-9	Bison		Scapula	Right	Indt		14	With nutrient foramen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
331		A	CU1	1	647	337	0.22	0.53	SE	2	37	A8	13.9	3-9	Bison		Calcaneum	Left	Indt		12	Fits #291, #286, and #345. Old breaks; Altogether is all of a calcaneum.
332		A	CU1	1	647	337	0.3	0.06	SW	2	38	A8	3.3	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
333		A	CU1	1	647	337	0.26	0.13	SW	2	40	A8	2.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
334		A	CU1	1	647	337	0.96	0.3	NW	2	38	A8	13.4	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
335	344	A	CU1	10	647	337				2	26-36	A8	4.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
345		A	CU1	1	647	337	0.22	0.55	SE	3	43	A8	37.2	3-9	Bison		Calcaneum	Left	Fused		2	Fits #286
346		A	CU1	1	647	337	0.62	0.45	NW	3	37	A8	31.3	9-15	Bison		Scapula	Left	Indt		14	With nutrient foramen, so there are at least 2 in this unit.
347		A	CU1	1	647	337	0.74	0.7	NE	3	41	A8	15.1	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
348		A	CU1	1	647	337	0.82	0.66	NE	3	440	A8	2.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
349		A	CU1	1	647	337	0.82	0.72	NE	3	38	A8	33.2	3-9	Bison		Scapula	Right	Fused		13	Less than 1/2 glenoid
350		A	CU1	1	647	337	0.7	0.72	NE	3	38	A8	20.6	9-15	Large Ungulate		Rib	Right	Indt		16	
351		A	CU1	1	647	337	0.87	0.13	NW	3	42	A8	26.2	3-9	Bison		P-3	Right	Fused		1	
352		A	CU1	1	647	337	0.89	0.09	NW	3	40	A8	21.3	3-9	Bison		Scapula	Right	Fused		4	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
353		A	CU1	1	647	337	0.95	0.06	NW	3	40	A8	3.1	3-9	Large Ungulate		Lower Tooth	Right	Indt		99	Incisor and root
354		A	CU1	1	647	337	0.85	0.68	NE	3	39	A8	2.7	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
355	357	A	CU1	3	647	337				3	36-46	A8	0.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2
358	382	A	CU1	25	647	337				3	36-46	A8	7.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
383		A	CU1	1	647	337				3	36-46	A8	0.5	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
384		A	CU1	1	647	337				3	36-46	A8	0.8	0-3	Lepus		Tibia	Right	Indt		99	Mid-shaft long bone tube
385		A	CU1	1	647	337	0.34	0.22	SW	4	51	A8	28.9	9-15	Bison		Metatarsal	Indt	Indt		12	Recent break
386	396	A	CU1	11	647	337				4	46-56	A8	4.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
397	399	A	CU1	3	647	337				4	42-46	A8	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
400		A	CU1	1	647	337				4	42-46	A8	0.01	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
401	408	A	CU1	8	647	337				4	42-46	A8	0.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
409		A	CU1	1	647	337			NE	4	46-53	A8	0.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Beneath Feature 2
410		A	CU1	1	647	338	0.49	0.69	SE	1	44	A7	1.3	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
411		A	CU1	1	647	338	0.95	0.9	NE	1	43	A7	200.1	>15	Bison	spiral fracture	Tibia	Left	Indt		2	Most likely backhoe deposit; Not in situ

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
412		A	CU1	1	647	338	0.95	0.9	NE	1	43	A7	33.0	9-15	Bison	spiral fracture	Tibia	Indt	Indt		6	Most likely backhoe deposit; Not in situ
413		A	CU1	1	647	338	0.95	0.9	NE	1	43	A7	108.0	>15	Bison		Scapula	Right	Indt		5	Most likely backhoe deposit; Not in situ
414		A	CU1	1	647	338	0.95	0.9	NE	1	43	A7	25.7	9-15	Bison		Scapula	Right	Indt		32	Most likely backhoe deposit; Not in situ. Recent Break
415	416	A	CU1	2	647	338	0.95	0.9	NE	1	43	A7	13.5	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	Most likely backhoe deposit; Not in situ
417	418	A	CU1	2	647	338	0.95	0.9	NE	1	43	A7	8.4	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Most likely backhoe deposit; Not in situ. Recent breaks
419		A	CU1	1	647	338	0.95	0.9	NE	1	43	A7	1.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Most likely backhoe deposit; Not in situ. Recent breaks.
420		A	CU1	1	647	338				2	35-45	A7	0.8	3-9	Lepus		Tibia	Right	Indt		99	Mid- shaft tube
421		A	CU1	1	647	338				2	35-45	A7	8.8	3-9	Bison	abraded	Skull	Indt	Indt		6	Horn core fragment; recent break

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
422	435	A	CU1	14	647	338				2	35-45	A7	8.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
436		A	CU1	1	647	338				2	35-45	A7	0.5	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
437		A	CU1	1	647	338				2	35-45	A7	5.6	0-3	Large Ungulate	calcined	P-1	Indt	Fused		7	Proximal lateral articular and small partial shaft.
438	443	A	CU1	6	647	338				2	35-45	A7	4.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
444	448	A	CU1	5	647	338				2	35-45	A7	6.0	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
449		A	CU1	1	647	338	0.75	0.94	NE	3	42	A7	1.9	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Recent breaks, exfoliating, but fit together.
450		A	CU1	1	647	338	0.68	0.83	NE	3	43	A7	3.5	3-9	Large Ungulate		Scapula	Indt	Indt		18	Scapula blade
451		A	CU1	1	647	338	0.71	0.83	NE	3	44	A7	2.9	3-9	Large Ungulate		Scapula	Indt	Indt		18	Scapula blade
452		A	CU1	1	647	338	0.67	0.61	NE	3	44	A7	50.0	3-9	Bison		Upper Tooth	Left	Indt	F2	99	Feature 2; Molar just beginning to wear
453		A	CU1	1	647	338	0.77	0.61	NE	3	43	A7	5.7	0-3	Large Ungulate	burned	P-1	Indt	Indt	F2	12	Feature 2
454		A	CU1	1	647	338	0.85	0.61	NE	3	43	A7	4.6	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2; Weathered
455		A	CU1	1	647	338	0.83	0.85	NE	3	41	A7	2.2	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
456		A	CU1	1	647	338	0.89	0.54	NE	3	44	A7	99.4	3-9	Bison		Scapula	Right	Fused	F2	17	Feature 2; Except tuber scapula also removed
457		A	CU1	1	647	338	0.75	0.49	NW	3	43	A7	33.0	9-15	Bison	abraded	Scapula	Right	Indt	F2	32	Feature 2; From neck towards distal
458		A	CU1	1	647	338	0.45	0.6	SE	3	45	A7	3.6	3-9	Large Ungulate		Scapula	Indt	Indt		18	
459		A	CU1	1	647	338	0.43	0.95	SE	3	46	A7	54.4	3-9	Bison		Scapula	Right	Indt		13	Posterior 2/3 of glenoid and posterior shaft
460		A	CU1	1	647	338	0.78	0.37	NW	3	45	A7	23.6	3-9	Bison	carnivore damage	Scapula	Indt	Indt	F2	14	
461	469	A	CU1	9	647	338				3	45-59	A7	3.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
470	475	A	CU1	6	647	338				3	45-59	A7	0.8	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
476		A	CU1	1	647	338				3	45-59	A7	6.4	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Outside the feature
477	486	A	CU1	10	647	338				3	45-59	A7	4.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Outside the feature
487	492	A	CU1	6	647	338				3	45-59	A7	5.5	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Outside the feature
493	494	A	CU1	2	647	338				3	45-59	A7	0.5	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	Outside the feature
495	496	A	CU1	2	647	338				3	45-59	A7	3.8	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	East 1/2 of unit, outside feature
497	502	A	CU1	6	647	338				3	45-59	A7	4.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	East 1/2 of unit, outside feature

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
503	505	A	CU1	3	647	338				3	45-59	A7	3.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	West 1/2 of unit, outside feature
506		A	CU1	1	647	338				3	45-59	A7	8.7	3-9	Large Ungulate		Scapula	Indt	Indt		18	West 1/2 of of unit, outside feature
507	513	A	CU1	7	647	338				3	45-59	A7	2.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Partial auditory meatus; below Feature 2 screen
514		A	CU1	1	647	338				3	45-59	A7	4.7	0-3	Bison		Skull	Indt	Indt		11	Below Feature 2 Screen
515	527	A	CU1	13	647	338				3	45-59	A7	2.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Cultural unit 1 and sand; Screen
528	529	A	CU1	2	647	338				3	45-59	A7	0.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Posterior mid shaft; Recent break; Fits #537
530		A	CU1	1	647	339	0.1	0.91	SE	1	39	A7	13.3	3-9	Bison	spiral fracture	Femur	Right	Indt		18	
531		A	CU1	1	647	339	0.35	0.95	SE	1	38	A7	17.1	3-9	Large Ungulate		Mandible	Indt	Indt		9	
532		A	CU1	1	647	339	0.44	0.92	SE	1	38	A7	8.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Recent break
533		A	CU1	1	647	339	0.94	0.14	NW	1	37	A7	8.8	3-9	Large Ungulate	abraded	Undifferentiated Long Bone	Indt	Indt		99	
534		A	CU1	1	647	339				1	46-46	A7	2.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
535	536	A	CU1	2	647	339				1	46-46	A7	0.5	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
537		A	CU1	1	647	339	0.11	0.78	SE	2	38	A7	14.2	3-9	Bison	spiral fracture	Femur	Right	Indt		18	Posterior mid shaft; With nutrient foramen; Fits #530
538	539	A	CU1	2	647	339	0.68	0.05	NW	2	40	A7	7.7	3-9	Large Ungulate		Scapula	Indt	Indt		18	
540		A	CU1	1	647	339	0.83	0.03	NW	2	41	A7	3.0	3-9	Large Ungulate		Lower Tooth	Indt	Indt		99	Incisor and root
541		A	CU1	1	647	339	0.88	0.09	NW	2	41	A7	16.9	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
542		A	CU1	1	647	339	0.95	0.02	NW	2	43	A7	77.2	9-15	Bison		Mandible	Right	Indt		47	
543		A	CU1	1	647	339	0.84	0.15	NW	2	44	A7	3.7	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
544		A	CU1	1	647	339	0.92	0.22	NW	2	41	A7	1.4	0-3	Large Ungulate		Skull	Indt	Indt		99	
545		A	CU1	1	647	339	0.85	0.28	NW	2	42	A7	1.0	0-3	Large Ungulate		Skull	Indt	Indt		99	
546		A	CU1	1	647	339	0.75	0.33	NW	2	39	A7	2.3	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
547	548	A	CU1	2	647	339	92-0.9	35-0.5	NW	2	43	A7	10.7	3-9	Bison	spiral fracture	Radius	Right	Indt		4	Fragments fit together, old break
549		A	CU1	1	647	339	92-0.9	35-0.5	NW	2	43	A7	1.7	0-3	Bison		Ulna	Indt	Indt		3	
550	553	A	CU1	4	647	339	92-0.9	35-0.5	NW	2	43	A7	2.9	0-3	Large Ungulate		Skull	Indt	Indt		99	
554	562	A	CU1	9	647	339	92-0.9	35-0.5	NW	2	43	A7	1.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
563		A	CU1	1	647	339	92-0.9	35-0.5	NW	2	43	A7	0.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
564		A	CU1	1	647	339	0.81	0.46	NW	2	42	A7	20.9	3-9	Bison		P-3	Left	Fused		2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
565	566	A	CU1	2	647	339	0.91	0.54	NE	2	43	A7	5.4	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	Fragments fit together, old break
567		A	CU1	1	647	339	0.62	0.55	NE	2	39	A7	9.6	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
568		A	CU1	1	647	339	0.96	0.59	NE	2	42	A7	7.7	3-9	Large Ungulate	abraded	Skull	Indt	Indt		99	
569		A	CU1	1	647	339	0.86	0.61	NE	2	43	A7	2.4	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
570		A	CU1	1	647	339	0.88	0.66	NE	2	44	A7	52.4	9-15	Bison	spiral fracture	Femur	Indt	Indt		18	Medial shaft
571		A	CU1	1	647	339	0.75	0.76	NE	2	40	A7	1.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Possibly cranial
572		A	CU1	1	647	339	0.73	0.78	NE	2	39	A7	1.6	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
573		A	CU1	1	647	339	0.59	0.92	NE	2	41	A7	5.6	3-9	Bison		Hyoid	Indt	Indt		4	
574		A	CU1	1	647	339	0.62	0.93	NE	2	42	A7	44.1	9-15	Bison	spiral fracture	Radius	Right	Indt		18	Anterior shaft
575		A	CU1	1	647	339	0.68	0.87	NE	2	40	A7	3.3	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
576		A	CU1	1	647	339	0.74	0.86	NE	2	37	A7	77.6	>15	Bison		Scapula	Right	Indt		5	Fits #577, old break
577		A	CU1	1	647	339	0.77	0.95	NE	2	40	A7	12.9	3-9	Bison		Scapula	Right	Indt		11	Fits #576, old break
578		A	CU1	1	647	339	0.87	0.95	NE	2	40	A7	29.2	3-9	Bison		Skull	Left	Indt		37	Fits #579, Anterior frontal and very posterior of nasal, articulated

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
579		A	CU1	1	647	339	0.87	0.95	NE	2	40	A7	3.9	3-9	Bison		Skull	Left	Indt		30	Fits # 578, Anterior frontal and very posterior of nasal, articulated
580		A	CU1	1	647	339	0.84	0.65	NE	2	43	A7	1.7	0-3	Large Ungulate		Lower Tooth	Left	Indt		99	Incisor and root
581	656	A	CU1	76	647	339				2	46-47	A7	23.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
657		A	CU1	1	647	339				2	46-47	A7	0.4	0-3	Large Ungulate		Undifferentiated Verte	Indt	Unfused		99	Vertebral epiphysis fragment
658	661	A	CU1	4	647	339				2	46-47	A7	2.6	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
662		A	CU1	1	647	339				2	46-47	A7	0.4	0-3	Small Mammal		Undifferentiated Long Bone	Indt	Indt		99	Shaft tube
663	666	A	CU1	4	647	339				2	46-47	A7	3.8	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
667	673	A	CU1	7	647	339				2	46-47	A7	3.1	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
674	678	A	CU1	5	647	339			NW	2	46-47	A7	4.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Concentration in NW quad
679	693	A	CU1	15	647	339			NW	2	46-47	A7	6.6	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	Concentration in NW quad
694		A	CU1	1	647	339				2	46-47	A7	6.6	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Pedestals screen
695	717	A	CU1	23	647	339				2	46-47	A7	7.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Pedestals screen
718		A	CU1	1	647	339	0.89-1.1	0.88-1.1	NE	2	36-46	A7	1.1	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
719	746	A	CU1	28	647	339	0.89-1.	0.88-1.	NE	2	36-46	A7	2.4	0-3	Mammal		Undifferentiated Scrap	Indt	Indt		99	Fine screen
747		A	CU1	1	647	339	0.89-1.	0.88-1.	NE	2	36-46	A7	0.01	0-3	Mammal	burned	Undifferentiated Scrap	Indt	Indt		99	Fine screen
748	750	A	below CU1	3	647	339				2	46	A7	0.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Sand layer below cultural unit 1
751	754	A	CU1	4	647	339				3	48-57	A7	1.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
755		A	CU1	1	647	339				3	48-57	A7	0.9	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
756		A	CU1	1	647	339				3	48-57	A7	0.8	0-3	dium Mammal		RIB	Indt	Indt		15	
757		A	CU1	1	647	340	0.11	0.27	SW	1	37	A7	1.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Recent break, 2 fragments fit; Fits #758
758		A	CU1	1	647	340	0.09	0.32	SW	1	37	A7	4.6	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Recent break, fits #757
759	763	A	CU1	5	647	340				1	38-38	A7	1.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
764		A	CU1	1	647	340	0.29	0.85	SE	2	37	A7	6.5	3-9	Large Ungulate		Tooth Fragment	Indt	Indt		99	Cheek tooth
765		A	CU1	1	647	340	0.28	0.19	SW	2	38	A7	15.5	3-9	Large Ungulate		Mandible	Indt	Indt		15	Small amount of root etching
766		A	CU1	1	647	340	0.44	0.5	SW	2	36	A7	6.5	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
767		A	CU1	1	647	340	0.12	0.77	SE	2	35	A7	32.1	3-9	Bison	spiral fracture	Humerus	Indt	Indt		39	
768		A	CU1	1	647	340	0.41	0.42	SW	2	39	A7	31.5	3-9	Large Ungulate	abraded; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Exfoliated into 15 fragments; Found as 1

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
769		A	CU1	1	647	340	0.01	0.66	SE	2	37	A7	69.2	3-9	Bison	Tool?; spiral fracture	Metatarsal	Right	Unfused		8	Distal half, none of the condyles; Distal surface and distal lateral. Surface gone but looks like was unfused - a billet tool? No sign of battering
770		A	CU1	1	647	340	0.01	0.8	SE	2	36	A7	6.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
771	772	A	CU1	2	647	340	0.6	0.1	NW	2	36	A7	8.5	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
773		A	CU1	1	647	340	0.64	0.8	NE	2	42	A7	18.8	3-9	Bison		Skull	Right	Indt		23	Premaxilla, anterior body
774		A	CU1	1	647	340	0.88	0.23	NW	2	35	A7	4.3	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
775		A	CU1	1	647	340	0.93	0.1	NW	2	43	A7	29.7	3-9	Bison		Thoracic Vertebra	Axial	Indt		18	
776		A	CU1	1	647	340	0.62	0.05	NW	2	44	A7	9.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
777	785	A	CU1	9	647	340				2	38-48	A7	4.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
786		A	CU1	1	647	340				2	38-48	A7	1.0	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
787	792	A	CU1	6	647	340				2	38-48	A7	7.9	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
793		A	CU1	1	647	340				2	38-48	A7	1.0	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
794		A	CU1	1	647	342				1	45-47	A6	0.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
795		A	CU1	1	647	342				1	45-47	A6	0.8	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	Recent break, 2 fragments fit
796		A	CU1	1	647	342	0.09	0.12	SW	2	49	A6	11.9	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
797		A	CU1	1	647	342	0.05	0.7	SE	2	49	A6	5.1	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
798		A	CU1	1	647	342	0.55	0.08	NW	2	46	A6	36.7	9-15	Large Ungulate	abraded	Rib	Right	Indt		16	
799		A	CU1	1	647	342	0.96	0.32	NW	2	47	A6	11.3	3-9	Bison		C. Pes	Right	Fused		1	
800		A	CU1	1	647	342	0.82	0.33	NW	2	45	A6	321.6	>15	Bison	abraded	Mandible	Left	Indt		14	All teeth, in full wear. M1 to a loop, M2 to a circle, M3 not yet in wear.
801		A	CU1	1	647	342	0.95	0.6	NE	2	49	A6	13.4	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Possibly ulna shaft or posterior of vertical mandibular ramus?
802		A	CU1	1	647	342	0.91	0.7	NE	2	51	A6	29.0	3-9	Bison		Mandible	Right	Indt		30	
803		A	CU1	1	647	342	0.24	0.18	SW	2	51	A6	22.0	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
804		A	CU1	1	647	342	0.22	0.36	SW	2	51	A6	1.6	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
805		A	CU1	1	647	342	0.32	0.14	SW	2	49	A6	23.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
806		A	CU1	1	647	342	0.04	0.27	SW	2	50	A6	10.1	9-15	Large Ungulate		Rib	Indt	Indt		16	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
807	809	A	CU1	3	647	342				2	47-57	A6	8.9	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
810	844	A	CU1	35	647	342				2	47-57	A6	18.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
845	846	A	CU1	2	647	342				2	47-57	A6	1.9	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
847	848	A	CU1	2	647	342				3	57-67	A6	0.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
849	851	A	CU1	3	647	343				1	43-43	A5	1.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
852	856	A	CU1	5	647	343				1	43-43	A5	2.5	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
857		A	CU1	1	647	343	0.81	0.06	NW	2	47	A5	10.8	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
858		A	CU1	1	647	343	0.23	0.51	SE	2	44	A5	101.0	3-9	Bison		Radius	Left	Fused		3	Measures as female. Recent break, but measurable. Fits #859
859		A	CU1	1	647	343	0.18	0.51	SE	2	45	A5	42.9	9-15	Bison		Ulna	Left	Indt		2	Recent break. Fits #858
860		A	CU1	1	647	343	0.16	0.77	SE	2	45	A5	6.5	3-9	Large Ungulate		Rib	Indt	Indt		15	
861	862	A	CU1	2	647	343	0.18	0.39	SW	2	51	A5	4.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
863		A	CU1	1	647	343	0.1	0.63	SE	2	48	A5	14.1	3-9	Bison	spiral fracture	Tibia	Indt	Indt		6	
864		A	CU1	1	647	343	0.12	0.71	SE	2	48	A5	4.8	3-9	Large Ungulate		Rib	Indt	Indt		15	
865	885	A	CU1	21	647	343				2	43-53	A5	11.3	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
886	890	A	CU1	5	647	343				2	43-53	A5	1.9	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
891	892	A	CU1	2	647	343				3	53-63	A5	0.5	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
893		A	CU1	1	648	336	0.08	0.09	SW	2	35	A1	44.2	9-15	Bison	spiral fracture	Radius	Left	Indt		4	No nutrient foramen, but much of scar. A large individual.
894		A	CU1	1	648	336	0.34	0.87	SE	2	40	A1	24.3	9-15	Bison		Ulna	Left	Indt		3	No nutrient foramen, proximal and medial end shaft. Fits #895
895		A	CU1	1	648	336	0.31	0.9	SE	2	41	A1	48.2	3-9	Bison	spiral fracture	Radius	Left	Indt		4	With nutrient foramen. Fits #894
896		A	CU1	1	648	336	0.66	0.82	NE	2	40	A1	5.8	0-3	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
897		A	CU1	1	648	336	0.94	0.6	NE	2	40	A1	10.7	9-15	Large Ungulate		Rib	Indt	Indt		16	
898		A	CU1	1	648	336	0.22	0.9	SE	2	40	A1	4.8	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
899		A	CU1	1	648	336	0.12	0.61	SE	2	40	A1	4.4	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
900		A	CU1	1	648	336	0.5	0.31	SW	2	41	A1	2.1	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
901		A	CU1	1	648	336	0.03	0.8	SE	2	41	A1	28.5	9-15	Bison	abraded	Scapula	Indt	Indt		14	
902		A	CU1	1	648	336				2	31-41	A1	1.2	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
903	906	A	CU1	4	648	336				2	31-41	A1	9.9	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
907	931	A	CU1	25	648	336				2	31-41	A1	15.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
932		A	CU1	1	648	336				2	31-41	A1	1.5	0-3	dium Mammal		Undifferentiated Long Bone	Indt	Indt		99	
933		A	CU1	1	648	336	0.86	0.15	NW	3	49	A1	32.7	3-9	Bison	spiral fracture	Tibia	Left	Indt		6	Mid posterior / medial shaft
934	940	A	CU1	7	648	336				3	41-51	A1	3.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
941		A	CU1	1	648	337				1	39	A2	0.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen 10x10cm
942		A	CU1	1	648	337	0.17	0.53	SE	2	42	A2	13.4	3-9	Bison	carnivore damage	Scapula	Right	Indt		14	With nutrient foramen.
943		A	CU1	1	648	337	0.25	0.3	SW	2	40	A2	13.5	3-9	Bison		Scapula	Indt	Indt		14	
944		A	CU1	1	648	337	0.37	0.22	SW	2	40	A2	1.8	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
945		A	CU1	1	648	337	0.7	0.14	NW	2	39	A2	5.9	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
946		A	CU1	1	648	337	0.88	0.09	NW	2	38	A2	17.0	3-9	Large Ungulate	abraded; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
947		A	CU1	1	648	337	0.7	0.69	NE	2	41	A2	4.7	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
948		A	CU1	1	648	337	0.87	0.89	NE	2	40	A2	125.9	>15	Bison		Scapula	Right	Indt		5	
949		A	CU1	1	648	337	0.35	0.8	SE	2	42	A2	10.6	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
950		A	CU1	1	648	337	0	0.12	SW	2	44	A2	80.8	3-9	Bison		Scapula	Left	Fused		2	
951		A	CU1	1	648	337	0.08	0.09	SW	2	41	A2	10.8	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
952		A	CU1	1	648	337	0.1	0.13	SW	2	41	A2	8.7	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
953		A	CU1	1	648	337	0.31	0.29	SW	2	41	A2	7.1	3-9	Large Ungulate	abraded	Skull	Indt	Indt		99	
954		A	CU1	1	648	337	0.32	0.32	SW	2	41	A2	6.6	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
955		A	CU1	1	648	337	0.05	0.19	SW	2	43	A2	23.0	3-9	Bison		Scapula	Right	Indt		32	Anterior border just above neck
956		A	CU1	1	648	337				2	34-44	A2	0.2	0-3	Small Canid		Upper Tooth	Right	Indt		99	M1, crown only
957	958	A	CU1	2	648	337				2	34-44	A2	7.0	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
959	984	A	CU1	2	648	337				2	34-44	A2	12.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
985		A	CU1	1	648	337				2	34-44	A2	0.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
986		A	CU1	1	648	337	0.88	0.66	NE	3	39	A2	5.3	3-9	Bison	abraded	Scapula	Indt	Indt		11	
987		A	CU1	1	648	337	0.57	0.49	NW	3	42	A2	11.2	3-9	Bison		Scapula	Indt	Indt		18	
988		A	CU1	1	648	337	0.74	0.49	NW	3	42	A2	6.0	3-9	Large Ungulate		Rib	Indt	Indt		15	
989		A	CU1	1	648	337	0.02	0.79	SE	3	46	A2	0.5	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 Hearth
990		A	CU1	1	648	337	0.07	0.79	SE	3	47	A2	2.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 Hearth
991		A	CU1	1	648	337				3	44-54	A2	2.4	0-3	Bison		Distal Sesamoid	Left	Fused		2	Damage to posterior
992	1020	A	CU1	29	648	337				3	44-54	A2	11.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1021	1023	A	CU1	3	648	337				3	44-54	A2	0.8	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
1024	1050	A	CU1	27	648	337				3	44-54	A2	2.5	0-3	Mammal		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
1051	1055	A	CU1	5	648	337				3	44-54	A2	2.4	0-3	Mammal	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1056	1062	A	CU1	7	648	337				3	44-54	A2	0.5	0-3	Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
1063		A	CU1	1	648	337				3	44-54	A2	0.4	0-3	Mammal		Tooth Fragment	Indt	Indt	F2	99	Feature 2 fine screen
1064		A	CU1	1	648	337	0.09	0.83	SE	4	59	A2	20.6	9-15	Bison	Tool; abraded	Rib	Indt	Indt	F3	16	Exfoliating, upright rib (peg?) in Feature 3
1065	1073	A	CU1	9	648	337				4	51-61	A2	6.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1074		A	CU1	1	648	337				4	51-61	A2	4.2	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen
1075	1088	A	CU1	14	648	337				4	51-61	A2	1.6	0-3	Mammal		Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen
1089		A	CU1	1	648	337				4	51-61	A2	0.5	0-3	Mammal	burned	Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen
1090		A	CU1	1	648	337				4	51-61	A2	0.01	0-3	Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen
1091		A	CU1	1	648	337				5	61-71	A2	0.01	0-3	Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F3	99	Screen
1092	1105	A	CU1	14	648	337				5	61-71	A2	6.2	0-3	Mammal		Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen
1106		A	CU1	1	648	337				5	61-71	A2	2.4	3-9	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen
1107	1115	A	CU1	9	648	337				5	61-71	A2	3.0	0-3	Mammal	burned	Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen
1116		A	CU1	1	648	337				6	71-81	A2	3.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen
1117	1119	A	CU1	3	648	337				6	71-81	A2	1.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1120		A	CU1	1	648	338	0.91	0.95	NE	2	43	A2	71.3	3-9	Bison		Metacarpal	Right	Fused		6	Anterior face of condyles missing, not measurable
1121		A	CU1	1	648	338	0.94	0.82	NE	2	43	A2	5.9	0-3	Large Ungulate	abraded	Skull	Indt	Indt		99	29 fragments, but very fragile and breaking still
1122		A	CU1	1	648	338	0.76	0.93	NE	2	43	A2	7.4	3-9	Large Ungulate		Skull	Indt	Indt		99	
1123		A	CU1	1	648	338	0.5	0.95	SE	2	39	A2	3.2	3-9	Large Ungulate		Skull	Indt	Indt		99	
1124		A	CU1	1	648	338	0.91	0.53	NE	2	42	A2	13.7	3-9	Large Ungulate	spiral fracture	Tibia	Indt	Indt		6	
1125	1136	A	CU1	12	648	338				2	32-43	A2	6.9	0-3	Large Ungulate		Skull	Indt	Indt		99	Screen outside of Feature 2
1137	1138	A	CU1	2	648	338				2	32-43	A2	2.7	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Screen outside of Feature 2
1139	1155	A	CU1	17	648	338				2	32-43	A2	6.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Screen outside of Feature 2
1156	1162	A	CU1	7	648	338				2	32-43	A2	4.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Screen outside of Feature 2
1163	1164	A	CU1	2	648	338				2	32-43	A2	2.3	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Fine screen outside of Feature 2
1165		A	CU1	1	648	338				2	32-43	A2	0.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen outside of Feature 2
1166	1176	A	CU1	11	648	338	0.28	0.95	SE	2	39	A2	7.5	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2
1177		A	CU1	1	648	338	0.2	0.84	SE	2	39	A2	7.1	3-9	Large Ungulate	abraded	Rib	Indt	Indt	F2	15	Feature 2

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1178	1183	A	CU1	6	648	338	0.17	0.92	SE	2	39	A2	10.9	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2; Some refit, but still not identifiable
1184		A	CU1	1	648	338	0.12	0.78	SE	2	42	A2	202.9	>15	Bison	abraded	Skull	Indt	Indt	F2	5	Feature 2; Fragmented; small part of frontal as well
1185	1192	A	CU1	8	648	338	0.12	0.78	SE	2	42	A2	7.1	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Right	Indt	F2	99	Feature 2
1193	1194	A	CU1	2	648	338	0.4	0.74	SE	2	43	A2	5.1	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2
1195	1200	A	CU1	6	648	338	0.6	0.88	NE	2	38	A2	2.8	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2
1201	1211	A	CU1	11	648	338	0.06	0.88	SE	2	38	A2	5.3	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	
1212	1213	A	CU1	2	648	338	0.02	0.71	SE	2	40	A2	2.6	0-3	Large Ungulate	abraded	Skull	Indt	Indt	F2	99	Probably more of horn core, but very eroded
1214		A	CU1	1	648	338	0.36	0.87	SE	2	42	A2	3.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	
1215		A	CU1	1	648	338	0.01	0.46	SW	2	40	A2	22.6	3-9	Bison		Ulna	Left	Indt	F2	3	Except a proximal posterior part of shaft, above notches; Large individual
1216		A	CU1	1	648	338	0.29	0.95	SE	2	41	A2	9.2	3-9	Large Ungulate	burned	Undifferentiated Long Bone	Indt	Indt	F2	99	
1217		A	CU1	1	648	338	0.34	0.97	SE	2	42	A2	2.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1218		A	CU1	1	648	338	0.46	0.89	SE	2	41	A2	1.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	
1219	1222	A	CU1	4	648	338	0.31	0.53	SE	2	43	A2	3.0	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	
1223		A	CU1	1	648	338	0.16	0.52	SE	2	43	A2	1.3	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	
1224		A	CU1	1	648	338	0.11	0.5	SW	2	43	A2	35.6	3-9	Bison	abraded	Metapodial	Indt	Indt	F2	2	Missing anterior edge; recent breaks
1225	1229	A	CU1	5	648	338	0.31	0.5	SW	2	42	A2	3.0	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	
1230		A	CU1	1	648	338	0.24	0.58	SE	2	45	A2	2.6	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	
1231		A	CU1	1	648	338	0.06	0.46	SW	2	43	A2	3.2	3-9	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	
1232	1259	A	CU1	28	648	338				2	32-43	A2	7.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	
1260	1262	A	CU1	3	648	338				2	32-43	A2	14.5	3-9	Large Ungulate	burned	Undifferentiated Long Bone	Indt	Indt	F2	99	
1263	1326	A	CU1	64	648	338				2	32-43	A2	27.1	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	
1327	1362	A	CU1	36	648	338				2	32-43	A2	14.9	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	
1363		A	CU1	1	648	338				1	30-32	A2	0.8	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
1364		A	CU1	1	648	338	0.46	0.42	SW	3	53	A2	23.1	3-9	Large Ungulate	burned	Undifferentiated Long Bone	Indt	Indt	F2	99	Recent break
1365		A	CU1	1	648	338	0.95	0.4	NW	3	41	A2	16.2	3-9	Bison		Mandible	Right	Indt		24	
1366		A	CU1	1	648	338	0.9	0.25	NW	3	40	A2	9.8	3-9	Large Ungulate	abraded	Skull	Indt	Indt		99	Recent break

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1367		A	CU1	1	648	338	0.79	0.14	NW	3	41	A2	85.0	9-15	Bison		Skull	Axial	Indt		37	Left and right frontal with suture
1368		A	CU1	1	648	338	0.33	0.3	SW	3	45	A2	131.0	9-15	Bison	spiral fracture	Radius	Left	Fused	F2	3	Measures as Female.
1369		A	CU1	1	648	338	0.33	0.3	SW	3	45	A2	2.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	
1370		A	CU1	1	648	338	0.36	0.18	SW	3	45	A2	83.1	3-9	Bison		Scapula	Right	Fused	F2	2	
1371		A	CU1	1	648	338	0.33	0.27	SW	3	44	A2	5.0	3-9	Bison		Scapula	Indt	Indt	F2	14	With nutrient foramen at neck
1372		A	CU1	1	648	338	0.37	0.18	SW	3	47	A2	44.7	3-9	Bison		Ulna	Left	Indt	F2	2	
1373		A	CU1	1	648	338	0.88	0.14	NW	3	43	A2	38.9	3-9	Bison		P-1	Left	Fused		1	Shovel damage to proximal anterior
1374	1383	A	CU1	10	648	338				3	43-53	A2	3.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1384	1385	A	CU1	2	648	338				3	43-53	A2	0.6	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Screen of Feature 2
1386	1405	A	CU1	20	648	338				3	43-53	A2	4.3	0-3	Mammal		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
1406	1554	A	CU1	149	648	338				3	43-53	A2	33.8	0-3	Mammal	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
1555	1628	A	CU1	74	648	338				3	43-53	A2	11.5	0-3	Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
1629	1630	A	CU1	2	648	338				4	53-61	A2	1.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
1631		A	CU1	1	648	338				4	53-61	A2	0.9	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
1632		A	CU1	1	648	338				4	53-61	A2	0.1	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F4	99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1633		A	CU1	1	648	338				5	64-73	A2	0.01	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F4	99	
1634	1643	A	CU1	10	648	338				5	64-73	A2	3.5	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F4	99	
1644	1646	A	CU1	3	647	339				2	46-47	A7	1.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen
1647		A	CU1	1	648	339	0.18	0.09	SW	1	37	A7	158.4	>15	Bison		Scapula	Right	Indt		5	
1648		A	CU1	1	648	339	0.12	0.03	SW	1	37	A7	75.4	9-15	Bison		Scapula	Right	Indt		9	
1649	1657	A	CU1	9	648	339				1	37-37	A7	4.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1658	1659	A	CU1	2	648	339				1	37-37	A7	0.8	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
1660	1661	A	CU1	2	647	338				3	47-57	A7	0.8	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Screen - Outside of Feature 2
1662		A	CU1	1	647	338				3	47-57	A7	0.1	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Screen - Outside of Feature 2, East 1/2 of unit
1663	1680	A	CU1	18	647	338				3	47-57	A7	1.5	0-3	Mammal		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
1681	1698	A	CU1	18	647	338				3	47-57	A7	8.5	0-3	Mammal	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
1699	1701	A	CU1	3	647	338				3	47-57	A7	0.4	0-3	Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
1702		A	CU1	1	647	338				3	47-57	A7	0.2	0-3	Mammal		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen of east 1/2
1703	1706	A	CU1	4	647	338				3	47-57	A7	3.5	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen of east 1/2

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1707		A	CU1	1	648	339	0.04	0.22	SW	2	44	A7	72.0	9-15	Bison		Scapula	Right	Indt		14	
1708		A	CU1	1	648	339	0.03	0.36	SW	2	41	A7	12.7	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
1709		A	CU1	1	648	339	0.14	0.06	SW	2	39	A7	6.1	3-9	Bison	burned	Mandible	Right	Indt		24	Fits 1710 and 1719
1710		A	CU1	1	648	339	0.13	0.11	SW	2	39	A7	12.2	3-9	Bison	burned	Mandible	Right	Indt		29	Fits 1709 and 1719
1711		A	CU1	1	648	339	0.13	0.16	SW	2	38	A7	6.0	3-9	Large Ungulate	burned	Undifferentiated Long Bone	Indt	Indt		99	
1712		A	CU1	1	648	339	0.1	0.21	SW	2	40	A7	3.2	3-9	Large Ungulate	burned	Undifferentiated Long Bone	Indt	Indt		99	
1713		A	CU1	1	648	339	0.09	0.23	SW	2	41	A7	4.6	3-9	Large Ungulate	burned	Undifferentiated Long Bone	Indt	Indt		99	
1714	1718	A	CU1	5	648	339	0.15	0.25	SW	2	40	A7	11.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
1719		A	CU1	1	648	339	0.17	0.23	SW	2	40	A7	3.8	0-3	Bison	burned	Mandible	Right	Indt		24	Fits 1709 and 1710
1720		A	CU1	1	648	339	0.14	0.32	SW	2	39	A7	40.0	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1721		A	CU1	1	648	339	0.15	0.35	SW	2	39	A7	22.9	3-9	Bison		Mandible	Indt	Indt		15	
1722		A	CU1	1	648	339	0.2	0.28	SW	2	38	A7	14.8	3-9	Bison		Skull	Left	Indt		19	Orbit margin; Frontal and small piece of lachrymal
1723		A	CU1	1	648	339	0.24	0.25	SW	2	38	A7	10.0	3-9	Large Ungulate		Rib	Indt	Indt		15	
1724		A	CU1	1	648	339	0.26	0.2	SW	2	40	A7	15.9	9-15	Bison		Ulna	Left	Indt		3	
1725		A	CU1	1	648	339	0.31	0.14	SW	2	42	A7	22.3	3-9	Bison		P-3	Left	Fused		3	
1726		A	CU1	1	648	339	0.32	0.29	SW	2	40	A7	20.5	9-15	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1727		A	CU1	1	648	339	0.23	0.4	SW	2	41	A7	11.6	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
1728		A	CU1	1	648	339	0.16	0.48	SW	2	41	A7	54.1	9-15	Bison		Radius	Left	Fused		21	Anterior medial and proximal; None of the posterior shaft
1729		A	CU1	1	648	339	0.09	0.46	SW	2	40	A7	18.9	3-9	Bison		Scapula	Left	Fused		27	Posterior/lateral
1730		A	CU1	1	648	339	0.04	0.55	SE	2	40	A7	11.8	3-9	Bison		Mandible	Right	Indt		37	
1731		A	CU1	1	648	339	0.05	0.62	SE	2	41	A7	2.9	3-9	Large Ungulate		Skull	Indt	Indt		99	
1732	1734	A	CU1	3	648	339	0.05	0.61	SE	2	42	A7	12.6	3-9	Large Ungulate		Skull	Indt	Indt		99	
1735		A	CU1	1	648	339	0.14	0.65	SE	2	40	A7	6.4	3-9	Antelope		Metatarsal	Indt	Indt		5	Proximal end and shaft; Can't tell lateral or medial; Half length shaft foramen
1736		A	CU1	1	648	339	0.18	0.66	SE	2	40	A7	45.0	3-9	Bison		Mandible	Left	Indt		28	Broken through mandible
1737		A	CU1	1	648	339	0.26	0.72	SE	2	40	A7	7.5	3-9	Large Ungulate	burned	Undifferentiated Long Bone	Indt	Indt		99	
1738		A	CU1	1	648	339	0.19	0.78	SE	2	38	A7	4.8	3-9	Large Ungulate	abraded	Mandible	Indt	Indt		18	Alveoli only; Recent break
1739		A	CU1	1	648	339	0.02	0.82	SE	2	42	A7	3.3	3-9	Large Ungulate		Skull	Indt	Indt		99	
1740	1741	A	CU1	2	648	339	0.02	0.82	SE	2	42	A7	0.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1742		A	CU1	1	648	339	0.03	0.85	SE	2	42	A7	16.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1743		A	CU1	1	648	339	0.12	0.88	SE	2	43	A7	43.9	3-9	Bison	abraded	P-1	Right	Fused		1	Weathered on anterior shaft
1744		A	CU1	1	648	339	0.26	0.98	SE	2	38	A7	54.2	9-15	Bison	spiral fracture	Tibia	Left	Indt		6	Lower half shaft
1745		A	CU1	1	648	339	0.34	0.91	SE	2	43	A7	20.1	3-9	Large Ungulate	spiral fracture	Femur	Indt	Indt		18	posterior shaft with nutrient foramen
1746		A	CU1	1	648	339	0.46	0.05	SW	2	40	A7	62.6	9-15	Bison		Skull	Axial	Indt		37	Left and right frontal pair; 10cm segment of suture
1747		A	CU1	1	648	339	0.38	0.07	SW	2	39	A7	1.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1748		A	CU1	1	648	339	0.44	0.52	SE	2	31	A7	5.0	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
1749		A	CU1	1	648	339	0.58	0.09	NW	2	38	A7	13.5	9-15	Large Ungulate		Rib	Indt	Indt		16	
1750		A	CU1	1	648	339	0.63	0.18	NW	2	38	A7	6.2	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1751		A	CU1	1	648	339	0.9	0.25	NW	2	36	A7	6.9	3-9	Bison	abraded	Metacarpal	Indt	Indt		9	Anterior shaft fragments fit together; Old break
1752		A	CU1	1	648	339	0.9	0.29	NW	2	36	A7	22.3	3-9	Bison	spiral fracture	Tibia	Left	Indt		5	Fits #1756
1753		A	CU1	1	648	339	0.83	0.33	NW	2	35	A7	17.9	3-9	Large Ungulate	abraded	Undifferentiated Long Bone	Indt	Indt		99	
1754		A	CU1	1	648	339	0.61	0.95	NE	2	36	A7	4.8	3-9	Large Ungulate		Undifferentiated Verte	Axial	Indt		99	Anterior edge, base of dorsal. Thoracic vertebra spine?
1755		A	CU1	1	648	339	0.8	0.87	NE	2	37	A7	29.6	3-9	Bison	abraded	Upper Tooth	Left	Indt		99	Molar, no roots

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1756		A	CU1	1	648	339	0.81	0.3	NW	2	36	A7	14.5	3-9	Bison	spiral fracture	Tibia	Left	Indt		6	Fits #1752; Lateral edge
1757		A	CU1	1	648	339	0.86	0.8	NE	2	38	A7	6.1	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1758		A	CU1	1	648	339	0.95	0.81	NE	2	34	A7	31.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Humerus or femur shaft
1759		A	CU1	1	648	339	0.2	0.49	SW	2	42	A7	5.0	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
1760		A	CU1	1	648	339	0.52	0.45	NW	2	43	A7	2.6	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1761		A	CU1	1	648	339	0.69	0.22	NW	2	43	A7	5.1	3-9	Large Ungulate	abraded	Skull	Indt	Indt		99	
1762		A	CU1	1	648	339	0.57	0.49	NW	2	43	A7	2.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1763		A	CU1	1	648	339	0.72	0.05	NW	2	41	A7	3.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1764		A	CU1	1	648	339	0.49	0.13	SW	2	40	A7	15.8	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
1765		A	CU1	1	648	339	0.16	0.45	SW	2	42	A7	6.6	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
1766		A	CU1	1	648	339	0.06	0.59	SE	2	39	A7	2.4	0-3	Large Ungulate	abraded	Skull	Indt	Indt		99	
1767		A	CU1	1	648	339	0.12	0.64	SE	2	42	A7	12.2	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
1768		A	CU1	1	648	339	0.65	0.27	NW	2	34	A7	49.3	9-15	Bison	abraded; spiral fracture	Femur	Left	Indt		18	Medial shaft; Root etched
1769		A	CU1	1	648	339	0.06	0.25	SW	2	41	A7	17.3	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
1770	1773	A	CU1	4	648	339				2	37-47	A7	12.9	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
1774	1775	A	CU1	2	648	339				2	37-47	A7	7.7	3-9	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
1776		A	CU1	1	648	339				2	37-47	A7	1.6	0-3	Large Ungulate		Lower Tooth	Indt	Indt		99	Root, incisor
1777	1941	A	CU1	165	648	339				2	37-47	A7	63.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1942	1982	A	CU1	41	648	339				2	37-47	A7	35.8	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
1983	1986	A	CU1	4	648	339				2	37-47	A7	1.0	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
1987	1992	A	CU1	6	648	339				3	47-57	A7	2.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
1993		A	CU1	1	647	339				2	46-47	A7	0.1	0-3	Mammal		Undifferentiated Scrap	Indt	Indt		99	
1994		A	CU1	1	647	339				2	46-47	A7	0.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
1995		A	CU1	1	647	339				2	46-47	A7	0.1	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
1996	1999	A	CU1	4	647	339	0.89-1.0	0.88-1.0	NE	2	46-47	A7	0.01	0-3	Mammal		Undifferentiated Scrap	Indt	Indt		99	Fine screen
2000	2003	A	CU1	4	647	343				2	43-53	A5	2.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
2004	2008	A	CU1	5	648	336				2	37-47	A1	1.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen
2009		A	CU1	1	648	340	0.27	0.81	SE	1	37	A7	23.3	3-9	Bison	spiral fracture	Tibia	Indt	Indt		6	
2010		A	CU1	1	648	340	0.85	0.24	NW	1	33	A7	11.0	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2011	2027	A	CU1	17	648	340				1	34-38	A7	10.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2028	2029	A	CU1	2	648	340				1	34-38	A7	0.9	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2030	2031	A	CU1	2	648	340				1	34-38	A7	0.3	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
2032	2036	A	CU1	5	648	340				1	34-38	A7	2.8	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
2037		A	CU1	1	648	340	0.07	0.19	SW	2	37	A7	12.0	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2038		A	CU1	1	648	340	0.17	0.61	SE	2	37	A7	21.9	3-9	Large Ungulate	spiral fracture	Tibia	Indt	Indt		6	Posterior medial shaft
2039		A	CU1	1	648	340	0.17	0.04	SW	2	36	A7	3.9	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2040		A	CU1	1	648	340	0.23	0.08	SW	2	38	A7	11.9	3-9	Bison		Mandible	Indt	Indt		15	
2041		A	CU1	1	648	340	0.4	0.35	SW	2	37	A7	2.1	0-3	Large Ungulate		Lower Tooth	Right	Indt		99	Incisor or canine
2042		A	CU1	1	648	340	0.41	0.44	SW	2	35	A7	45.4	3-9	Bison	spiral fracture	Femur	Indt	Indt		18	
2043	2044	A	CU1	2	648	340	0.48	0.42	SW	2	37	A7	7.8	3-9	Large Ungulate		Skull	Indt	Indt		99	
2045		A	CU1	1	648	340	0.27	0.54	SE	2	40	A7	7.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2046		A	CU1	1	648	340	0.27	0.57	SE	2	40	A7	2.2	3-9	Large Ungulate		Skull	Indt	Indt		99	
2047		A	CU1	1	648	340	0.17	0.61	SE	2	40	A7	19.1	9-15	Bison		Ulna	Left	Indt		3	Likely fits #2048, breaks align
2048		A	CU1	1	648	340	0.27	0.65	SE	2	42	A7	37.2	3-9	Bison		Radius	Left	Indt		4	Likely fits #2047, breaks align; Has nutrient foramen
2049		A	CU1	1	648	340	0.85	0.05	NW	2	37	A7	7.2	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2050		A	CU1	1	648	340	0.27	0.84	SE	2	41	A7	5.8	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2051		A	CU1	1	648	340	0.41	0.8	SE	2	33	A7	11.9	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2052		A	CU1	1	648	340	0.51	0.77	NE	2	43	A7	5.3	3-9	Large Ungulate		Rib	Indt	Indt		15	
2053		A	CU1	1	648	340	0.57	0.7	NE	2	33	A7	11.5	3-9	Bison		Lumbar Vertebra	Axial	Indt		6	Right transverse process
2054		A	CU1	1	648	340	0.67	0.87	NE	2	41	A7	5.6	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2055		A	CU1	1	648	340	0.82	0.88	NE	2	40	A7	9.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	With nutrient foramen. Humerus or femur.
2056		A	CU1	1	648	340	0.81	0.71	NE	2	40	A7	20.3	3-9	Bison	spiral fracture	Tibia	Indt	Indt		6	Distal medial shaft
2057		A	CU1	1	648	340	0.85	0.68	NE	2	38	A7	23.5	3-9	Bison	spiral fracture	Femur	Right	Indt		4	
2058		A	CU1	1	648	340	0.85	0.68	NE	2	36	A7	7.2	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2059		A	CU1	1	648	340	0.81	0.53	NE	2	37	A7	12.6	3-9	Large Ungulate	burned; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2060		A	CU1	1	648	340	0.73	0.5	NW	2	40	A7	7.1	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2061		A	CU1	1	648	340	0.84	0.51	NE	2	36	A7	5.6	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2062		A	CU1	1	648	340	0.26	0.56	SE	2	38	A7	6.9	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2063		A	CU1	1	648	340	0.67	0.7	NE	2	43	A7	8.5	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2064		A	CU1	1	648	340	0.71	0.71	NE	2	44	A7	17.9	3-9	Bison	burned; spiral fracture	Metapodial	Indt	Indt		10	
2065		A	CU1	1	648	340	0.85	0.7	NE	2	40	A7	5.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2066		A	CU1	1	648	340	0.35	0.08	SW	2	40	A7	47.7	3-9	Bison		Upper Tooth	Right	Indt		99	Style not in wear
2067		A	CU1	1	648	340	0.49	0.5	SW	2	41	A7	27.0	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2068		A	CU1	1	648	340	0.6	0.55	NE	2	47	A7	30.0	3-9	Bison	spiral fracture	Humerus	Indt	Indt		39	
2069		A	CU1	1	648	340	0.31	0.1	SW	2	44	A7	32.6	3-9	Bison	burned; spiral fracture	Metacarpal	Indt	Indt		9	
2070		A	CU1	1	648	340	0.63	0.29	NW	2	43	A7	7.9	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2071	2073	A	CU1	3	648	340				2	38-48	A7	14.6	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2074	2075	A	CU1	2	648	340				2	38-48	A7	2.3	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2076	2182	A	CU1	107	648	340				2	38-48	A7	42.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2183	2193	A	CU1	11	648	340				2	38-48	A7	6.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
2194	2202	A	CU1	9	648	340				2	38-48	A7	3.4	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
2203		A	CU1	1	648	340				2	38-48	A7	0.4	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
2204		A	CU1	1	648	340				2	38-48	A7	0.3	0-3	Small Canid		Upper Tooth	Indt	Indt		99	M1, no roots
2205		A	CU1	1	648	340				3	48-58	A7	4.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2206	2213	A	CU1	8	648	340				3	48-58	A7	4.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2214		A	CU1	1	648	340				3	48-58	A7	0.8	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
2215		A	CU1	1	647	341				1	36-42	A6	4.1	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2216	2227	A	CU1	12	647	341				1	36-42	A6	11.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2228		A	CU1	1	647	341				1	36-42	A6	0.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
2229		A	CU1	1	647	341	0.93	0.05	NW	2	46	A6	15.5	3-9	Bison	spiral fracture	Humerus	Indt	Indt		39	Posterior shaft with nutrient foramen
2230		A	CU1	1	647	341	0.32	0.42	SW	2	47	A6	110.0	9-15	Bison		Mandible	Right	Indt		14	P2 through M1; style worn to a loop
2231		A	CU1	1	647	341	0.18	0.04	SW	2	46	A6	35.7	9-15	Bison		Mandible	Right	Indt		40	
2232		A	CU1	1	647	341	0.06	0.21	SW	2	44	A6	43.5	>15	Bison		Rib	Right	Indt		16	
2233		A	CU1	1	647	341	0.03	0.38	SW	2	46	A6	5.6	3-9	Bison		Scapula	Left	Indt		14	With nutrient foramen
2234		A	CU1	1	647	341				2	42-52	A6	0.9	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2235	2262	A	CU1	28	647	341				2	42-52	A6	18.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2263	2264	A	CU1	2	647	341				2	42-52	A6	0.7	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
2265		A	CU1	1	647	341				2	42-52	A6	0.2	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
2266		A	CU1	1	647	341				2	42-52	A6	2.6	0-3	Bison		Second Metatarsal	Indt	Indt		1	
2267	2274	A	CU1	8	647	341				2	42-52	A6	3.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F1	99	Feature 1

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2275		A	CU1	1	647	341				2	42-52	A6	0.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F1	99	Feature 1
2276	2277	A	below CU1	2	647	341				2	42-52	A6	0.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Not in Cultural Unit 1
2278	2285	A	CU1	8	647	341				3	52-62	A6	1.8	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Weathered
2286		A	CU1	1	648	341				1	45-46	A6	6.4	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2287	2301	A	CU1	15	648	341				1	45-46	A6	8.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2302	2303	A	CU1	2	648	341				1	45-46	A6	0.4	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
2304		A	CU1	1	648	341	0.91	0.31	NW	2	40	A6	21.3	9-15	Bison		Rib	Indt	Indt		16	
2305		A	CU1	1	648	341	0.88	0.3	NW	2	44	A6	10.8	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2306		A	CU1	1	648	341	0.83	0.25	NW	2	45	A6	4.5	0-3	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2307		A	CU1	1	648	341	0.87	0.28	NW	2	44	A6	0.5	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
2308		A	CU1	1	648	341	0.76	0.36	NW	2	44	A6	8.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2309		A	CU1	1	648	341	0.65	0.25	NW	2	45	A6	10.7	3-9	Large Ungulate	burned; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2310		A	CU1	1	648	341	0.64	0.35	NW	2	44	A6	4.9	3-9	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
2311		A	CU1	1	648	341	0.62	0.08	NW	2	44	A6	4.0	3-9	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
2312		A	CU1	1	648	341	0.61	0.02	NW	2	43	A6	13.5	3-9	Large Ungulate	burned; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2313		A	CU1	1	648	341	0.49	0.07	SW	2	44	A6	2.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2314		A	CU1	1	648	341	0.48	0.35	SW	2	46	A6	5.1	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2315		A	CU1	1	648	341	0.5	0.42	SW	2	47	A6	53.2	3-9	Bison		P-1	Left	Fused		1	
2316		A	CU1	1	648	341	0.37	0.05	SW	2	43	A6	1.9	0-3	Large Ungulate		Skull	Indt	Indt		99	
2317		A	CU1	1	648	341	0.54	0.25	NW	2	44	A6	42.7	9-15	Bison	spiral fracture	Metacarpal	Indt	Indt		9	Posterior and one side, but can't tell if lateral or medial
2318		A	CU1	1	648	341	0.4	0.39	SW	2	46	A6	4.4	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2319		A	CU1	1	648	341	0.44	0.5	SW	2	45	A6	25.2	3-9	Bison	spiral fracture	Femur	Indt	Indt		18	Posterior/lateral shaft
2320		A	CU1	1	648	341	0.37	0.5	SW	2	46	A6	6.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2321		A	CU1	1	648	341	0.45	0.58	SE	2	45	A6	8.5	3-9	Large Ungulate	carnivore damage	Undifferentiated Scrap	Indt	Indt		99	
2322		A	CU1	1	648	341	0.45	0.63	SE	2	46	A6	20.5	3-9	Bison	spiral fracture	Humerus	Indt	Indt		39	
2323		A	CU1	1	648	341	0.5	0.74	SE	2	45	A6	26.0	9-15	Bison		Mandible	Indt	Indt		15	
2324		A	CU1	1	648	341	0.51	0.91	NE	2	45	A6	14.4	3-9	Bison		Ulna	Right	Indt		3	More proximal end shaft, but none of the articular facets
2325		A	CU1	1	648	341	0.47	0.96	SE	2	45	A6	53.6	9-15	Bison		Mandible	Left	Indt		3	
2326		A	CU1	1	648	341	0.44	0.84	SE	2	45	A6	60.1	9-15	Bison	abraded; spiral fracture	Tibia	Right	Indt		2	Fragments fit; Exfoliating

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2327		A	CU1	1	648	341	0.33	0.64	SE	2	43	A6	90.4	3-9	Bison		Metacarpal	Right	Fused		6	Measures as Male.
2328		A	CU1	1	648	341	0.4	0.54	SE	2	43	A6	30.7	3-9	Bison	spiral fracture	Tibia	Right	Indt		5	Posterior and some of the lateral shaft
2329		A	CU1	1	648	341	0.17	0.72	SE	2	44	A6	17.3	3-9	Bison		Tibia	Left	Indt		5	
2330		A	CU1	1	648	341	0.19	0.64	SE	2	44	A6	9.1	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2331		A	CU1	1	648	341	0.13	0.54	SE	2	43	A6	17.6	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2332		A	CU1	1	648	341	0.13	0.98	SE	2	46	A6	11.3	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2333		A	CU1	1	648	341	0.09	0.9	SE	2	45	A6	8.8	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2334		A	CU1	1	648	341	0.97	0.49	NW	2	42	A6	15.2	3-9	Bison		Skull	Right	Indt		14	Zygomatic part of orbit
2335		A	CU1	1	648	341	0.87	0.59	NE	2	43	A6	5.1	0-3	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2336		A	CU1	1	648	341	0.84	0.83	NE	2	43	A6	2.3	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2337		A	CU1	1	648	341	0.72	0.98	NE	2	46	A6	21.0	3-9	Bison	spiral fracture	Tibia	Indt	Indt		6	
2338		A	CU1	1	648	341	0.6	1	NE	2	44	A6	6.2	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2339		A	CU1	1	648	341	0.61	0.85	NE	2	47	A6	15.5	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2340		A	CU1	1	648	341	0.69	0.73	NE	2	44	A6	9.8	0-3	Bison	abraded	Upper Tooth	Left	Indt		99	Premolar 2 or 3
2341		A	CU1	1	648	341	0.61	0.58	NE	2	44	A6	3.3	3-9	Large Ungulate		Rib	Indt	Indt		15	
2342		A	CU1	1	648	341	0.57	0.66	NE	2	44	A6	3.5	3-9	Large Ungulate		Rib	Indt	Indt		15	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2343		A	CU1	1	648	341	0.69	0.11	NW	2	47	A6	4.8	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2344		A	CU1	1	648	341	0.73	0.31	NW	2	47	A6	6.7	3-9	Large Ungulate	abraded	Undifferentiated Long Bone	Indt	Indt		99	
2345		A	CU1	1	648	341	0.56	0.23	NW	2	44	A6	3.9	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2346		A	CU1	1	648	341	0.63	0.66	NE	2	44	A6	1.1	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
2347		A	CU1	1	648	341	0.54	0.3	NW	2	46	A6	8.9	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2348		A	CU1	1	648	341	0.36	0.62	SE	2	44	A6	20.8	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2349		A	CU1	1	648	341	0.62	0.53	NE	2	46	A6	14.5	3-9	Bison	spiral fracture	Tibia	Left	Indt		6	Posterior/medial shaft
2350		A	CU1	1	648	341	0.59	0.45	NW	2	47	A6	9.0	3-9	Large Ungulate	burned; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2351	2352	A	CU1	2	648	341	0.54	0.52	NE	2	47	A6	37.8	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2353		A	CU1	1	648	341	0.64	0.79	NE	2	49	A6	11.4	3-9	Bison		Skull	Axial	Indt		37	Frontal suture; Part of one side and very small part of other
2354		A	CU1	1	648	341	0.49	0.76	SE	2	47	A6	42.0	9-15	Bison	spiral fracture	Femur	Indt	Indt		18	
2355		A	CU1	1	648	341				2	45-55	A6	8.5	3-9	Bison		Tibia	Left	Indt		5	
2356	2364	A	CU1	9	648	341				2	45-55	A6	43.8	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2365	2375	A	CU1	11	648	341				2	45-55	A6	19.9	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2376	2621	A	CU1	246	648	341				2	45-55	A6	129.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2622	2635	A	CU1	14	648	341				2	45-55	A6	13.1	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
2636	2649	A	CU1	14	648	341				2	45-55	A6	5.2	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
2650	2655	A	CU1	6	648	341	0.95	0.95	NE	2	42-52	A6	1.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen
2656	2657	A	below CU1	2	648	341				2	45-55	A6	0.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Screen - <u>Not</u> in Cultural Unit 1
2658		A	CU1	1	648	341	0.66	0.36	NW	3	57	A6	48.7	9-15	Bison		Ulna	Right	Indt		2	Fits #5269
2659	2675	A	CU1	17	648	341				3	55-65	A6	9.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2676	2678	A	CU1	3	648	341				2	34-44	A2	0.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2679	2690	A	CU1	12	648	337				2	34-44	A2	1.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
2691	2717	A	CU1	27	648	337				2	34-44	A2	3.8	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
2718	2719	A	CU1	2	648	337				2	34-44	A2	0.5	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
2720	2721	A	CU1	2	648	337				5	61-71	A2	0.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F3	99	Feature 3 fine screen
2722	2723	A	CU1	2	648	338				2	32-43	A2	0.9	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Outside feature
2724		A	CU1	1	648	338				2	32-43	A2	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2
2725	2736	A	CU1	12	648	338				2	32-43	A2	3.6	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2
2737	2740	A	CU1	4	648	338				2	32-43	A6	0.4	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2
2741	2742	A	CU1	2	648	342				1	44-44	A6	5.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2743	2745	A	CU1	3	648	342				1	44-44	A6	1.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2746	2747	A	CU1	2	648	342				1	44-44	A6	0.6	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
2748		A	CU1	1	648	342	0.75	0.27	NW	2	45	A6	19.4	9-15	Bison		Rib	Left	Indt		16	
2749		A	CU1	1	648	342	0.99	0.41	NW	2	43	A6	23.6	3-9	Bison		P-3	Left	Fused		8	Except most of articular surface present
2750		A	CU1	1	648	342	0.91	0.41	NW	2	46	A6	119.1	9-15	Bison		Mandible	L+R	Indt		6	Pair found articulated; All teeth present but loose; Worn
2751		A	CU1	1	648	342	0.91	0.41	NW	2	46	A6	5.7	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2752		A	CU1	1	648	342	0.66	0.15	NW	2	46	A6	4.6	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2753		A	CU1	1	648	342	0.6	0.12	NW	2	44	A6	63.5	9-15	Bison	spiral fracture	Humerus	Right	Indt		20	Large portion of posterior shaft with nutrient foramen
2754		A	CU1	1	648	342	0.55	0.15	NW	2	48	A6	40.6	3-9	Bison		Ulna	Left	Fused		7	
2755		A	CU1	1	648	342	0.57	0.25	NW	2	49	A6	31.3	3-9	Bison	spiral fracture	Metatarsal	Indt	Indt		12	Posterior Shaft
2756		A	CU1	1	648	342	0.57	0.25	NW	2	49	A6	1.6	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2757		A	CU1	1	648	342	0.62	0.33	NW	2	46	A6	7.0	3-9	Large Ungulate		Skull	Indt	Indt		99	Frontal fragment?
2758		A	CU1	1	648	342	0.62	0.33	NW	2	46	A6	1.4	0-3	Large Ungulate		Skull	Indt	Indt		99	
2759		A	CU1	1	648	342	0.62	0.37	NW	2	46	A6	9.5	3-9	Bison	abraded	Skull	Right	Indt		30	Posterior third of nasal with suture edge

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2760		A	CU1	1	648	342	0.6	0.45	NW	2	48	A6	9.2	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2761		A	CU1	1	648	342	0.57	0.43	NW	2	49	A6	1.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2762		A	CU1	1	648	342	0.5	0.5	SW	2	50	A6	56.8	9-15	Bison	spiral fracture	Metatarsal	Left	Indt		10	Posterior shaft, proximal 3/4
2763		A	CU1	1	648	342	0.9	0.67	NE	2	47	A6	11.1	9-15	Bison		Rib	Indt	Indt		16	
2764		A	CU1	1	648	342	0.79	0.63	NE	2	47	A6	5.7	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2765		A	CU1	1	648	342	0.66	0.77	NE	2	48	A6	24.0	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2766		A	CU1	1	648	342	0.55	0.96	NE	2	47	A6	128.9	>15	Bison	hack mark; spiral fracture	Tibia	Right	Indt		2	Large partial anterior shaft
2767		A	CU1	1	648	342	0.46	0.91	SE	2	50	A6	31.3	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2768		A	CU1	1	648	342	0.44	0.7	SE	2	47	A6	10.1	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2769		A	CU1	1	648	342	0.35	0.65	SE	2	47	A6	79.3	9-15	Bison	spiral fracture	Humerus	Right	Indt		13	Large segment, anterior/medial shaft
2770		A	CU1	1	648	342	0.17	1	SE	2	49	A6	166.5	>15	Bison		Scapula	Left	Fused		30	Recent breaks
2771		A	CU1	1	648	342	0.01	0.65	SE	2	50	A6	23.7	3-9	Bison	spiral fracture	Humerus	Right	Indt		8	Anterior/medial shaft
2772		A	CU1	1	648	342	0	0.55	SE	2	50	A6	37.2	9-15	Bison	abraded	Rib	Left	Indt		16	
2773		A	CU1	1	648	342	0.01	0.5	SW	2	49	A6	13.7	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
2774		A	CU1	1	648	342	0.12	0.45	SW	2	51	A6	28.5	3-9	Bison	spiral fracture	Tibia	Indt	Indt		6	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2775		A	CU1	1	648	342	0.09	0.38	SW	2	50	A6	12.3	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2776		A	CU1	1	648	342	0.3	0.44	SW	2	48	A6	31.7	3-9	Large Ungulate	spiral fracture	Radius	Indt	Indt		18	Medial shaft fragment
2777		A	CU1	1	648	342	0.38	0.41	SW	2	49	A6	24.5	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2778		A	CU1	1	648	342	0.3	0.28	SW	2	50	A6	68.4	3-9	Bison		Humerus	Right	Indt		13	Proximal anterior/medial shaft; 3/4 of way round tube
2779		A	CU1	1	648	342	0.41	0.09	SW	2	48	A6	5.8	3-9	Large Ungulate		Rib	Indt	Indt		15	
2780		A	CU1	1	648	342	0.26	0.16	SW	2	51	A6	117.6	3-9	Bison		Tibia	Right	Fused		4	Measures as Female
2781		A	CU1	1	648	342	0.23	0.11	SW	2	46	A6	22.4	3-9	Bison	spiral fracture	Metatarsal	Right	Indt		5	Fits #2785; Proximal anterior edge. Measures as Female/Immature Male.
2782		A	CU1	1	648	342	0.21	0.05	SW	2	44	A6	62.6	3-9	Bison		Navicular Cuboid	Right	Fused		1	
2783		A	CU1	1	648	342	0.07	0.07	SW	2	44	A6	60.4	9-15	Bison	spiral fracture	Tibia	Left	Indt		5	
2784		A	CU1	1	648	342	0.08	0.65	SE	2	50	A6	13.5	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2785		A	CU1	1	648	342	0.08	0.13	SW	2	46	A6	58.3	9-15	Bison	spiral fracture	Metatarsal	Right	Indt		5	Fits #2781; Proximal posterior 2/3 and 1/4 shaft. Measures as Female/Immature Male.
2786		A	CU1	1	648	342	0.27	0.26	SW	2	53	A6	26.4	3-9	Bison	spiral fracture	Humerus	Indt	Indt		39	
2787		A	CU1	1	648	342	0.75	0.05	NW	2	45	A6	15.8	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2788		A	CU1	1	648	342	0.87	0.4	NW	2	46	A6	8.7	3-9	Large Ungulate	abraded	Rib	Indt	Indt		15	Recent breaks
2789		A	CU1	1	648	342	0.65	0.41	NW	2	47	A6	17.2	3-9	Bison	spiral fracture	Tibia	Right	Indt		5	
2790		A	CU1	1	648	342	0.04	0.63	SE	2	51	A6	20.9	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Posterior femur shaft
2791		A	CU1	1	648	342	0.2	0.93	SE	2	49	A6	4.2	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
2792		A	CU1	1	648	342	0.53	0.65	NE	2	49	A6	13.5	3-9	Large Ungulate		Rib	Indt	Indt		15	An odd shape, but not deliberately shaped. No sign of cutting or hacking.
2793		A	CU1	1	648	342	0.55	0.7	NE	2	51	A6	10.9	3-9	Bison	spiral fracture	Radius	Left	Indt		4	Fits #2794; With nutrient foramen
2794		A	CU1	1	648	342	0.55	0.7	NE	2	51	A6	5.9	3-9	Bison		Ulna	Left	Indt		3	Fits #2793
2795		A	CU1	1	648	342	0.55	0.99	NE	2	50	A6	7.5	3-9	Bison		Ulna	Right	Indt		3	
2796		A	CU1	1	648	342	0.67	0.96	NE	2	50	A6	25.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
2797	2807	A	CU1	11	648	342				2	44-54	A6	37.8	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2808		A	CU1	1	648	342				2	44-54	A6	3.5	3-9	Large Ungulate		Rib	Indt	Indt		15	
2809	2984	A	CU1	176	648	342				2	44-54	A6	86.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
2985	2999	A	CU1	15	648	342				2	44-54	A6	11.0	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
3000		A	CU1	1	648	342				2	44-54	A6	0.2	0-3	Small Mammal		Undifferentiated Long Bone	Indt	Indt		99	
3001-5000 See lithic catalogue																						
5001	5019	A	CU1	19	648	342				2	44-54	A6	10.7	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
5020	5024	A	CU1	5	648	342				2	44-54	A6	1.7	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
5025	5046	A	CU1	22	648	342			NE	2	44-54	A6	6.3	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen, NE quad (40x40cm)
5047	5051	A	CU1	5	648	342			NE	2	44-54	A6	1.0	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Fine screen, NE quad (40x40cm)
5052	5054	A	CU1	3	648	342			NE	2	44-54	A6	0.9	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	Fine screen, NE quad (40x40cm)
5055	5064	A	CU1	10	648	342			NE	2	44-54	A6	1.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen, NE (10x10cm)
5065		A	below CU1	1	648	342	0.64	0.79	NE	3	59	A6	65.7	3-9	Bison	spiral fracture	Metacarpal	Right	Fused		3	#5065-5070 Articulate well together; ABU 1. Measures as Female/Immature Male.

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5066		A	below CU1	1	648	342	0.58	0.77	NE	3	59	A6	18.2	3-9	Bison		Magnum	Right	Fused		1	#5065-5070 Articulate well together; ABU 1
5067		A	below CU1	1	648	342	0.53	0.76	NE	3	59	A6	18.3	3-9	Bison		Radial Carpal	Right	Fused		1	#5065-5070 Articulate well together; ABU 1
5068		A	below CU1	1	648	342	0.62	0.64	NE	3	59	A6	12.5	3-9	Bison		Unciform	Right	Fused		1	#5065-5070 Articulate well together; ABU 1
5069		A	below CU1	1	648	342	0.58	0.64	NE	3	59	A6	13.9	3-9	Bison		Ulnar Carpal	Right	Fused		1	#5065-5070 Articulate well together; ABU 1
5070		A	below CU1	1	648	342	0.59	0.56	NE	3	59	A6	17.0	3-9	Bison		Intermediate Carpal	Right	Fused		1	#5065-5070 Articulate well together; ABU 1
5071		A	CU1	1	648	342	0.95	0.61	NE	3	60	A6	16.8	3-9	Bison	abraded; spiral fracture	Radius	Indt	Indt		4	
5072		A	CU1	1	648	342				3	54-64	A6	1.1	0-3	Bison		Fifth Metacarpal	Indt	Indt		1	
5073	5095	A	CU1	23	648	342				3	54-64	A6	17.3	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5096	5098	A	CU1	3	648	338				3	43-53	A2	0.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5099	5111	A	CU1	13	648	338				3	43-53	A2	3.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
5112	5135	A	CU1	24	648	338				3	43-53	A2	1.8	0-3	Mammal	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
5136	5160	A	CU1	25	648	338				3	43-53	A2	1.9	0-3	Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
5161	5162	A	CU1	2	648	338				4	53-61	A2	1.0	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5163		A	CU1	1	648	338				5	64-73	A2	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
5164		A	CU1	1	648	338				6	73-84	A2	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
5165	5187	A	CU1	23	648	339				1	37	A7	4.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Backhoe removal
5188		A	CU1	1	648	339				1	37	A7	0.2	0-3	Small Mammal		Undifferentiated Long Bone	Indt	Indt		99	Backhoe removal
5189	5198	A	CU1	10	648	339				1	37	A7	3.7	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Backhoe removal
5199	5212	A	CU1	14	648	339				1	37	A7	4.5	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	Backhoe removal
5213	5216	A	CU1	4	648	339				2	37-47	A7	3.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5217		A	CU1	1	648	343	0.12	0.1	SW	2	50	A5	15.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Pelvic? Ischium neck with foramen?
5218		A	CU1	1	648	343	0.69	0.44	NW	2	49	A5	4.4	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Rib shaft?
5219		A	CU1	1	648	343	0.72	0.11	NW	2	53	A5	10.7	9-15	Large Ungulate		Rib	Indt	Indt		16	
5220		A	CU1	1	648	343	0.57	0.03	NW	2	57	A5	23.9	9-15	Bison	spiral fracture	Metacarpal	Left	Indt		9	Proximal posterior shaft
5221		A	CU1	1	648	343				2	45-55	A5	7.2	3-9	Bison		Radius	Indt	Indt		4	
5222	5262	A	CU1	41	648	343				2	45-55	A5	18.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5263	5268	A	CU1	6	648	343				2	45-55	A5	3.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5269		A	CU1	1	648	343	0.44	0.48	SW	3	57	A5	20.2	9-15	Bison		Ulna	Right	Indt		3	Fits #2658
5270		A	CU1	1	648	343	0.74	0.06	NW	3	59	A5	123.3	9-15	Bison		Radius	Right	Fused		2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5271	5272	A	CU1	2	648	343				3	55-66	A5	3.8	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5273	5283	A	CU1	11	648	343				3	55-66	A5	2.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5284		A	CU1	1	649	336				1	33-34	A1	0.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5285		A	CU1	1	649	336	0.18	0.54	SE	2	39	A1	3.2	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5286		A	CU1	1	649	336	0.03	0.03	SW	1	36	A1	30.2	3-9	Bison		Scapula	Left	Fused		4	
5287	5302	A	CU1	16	649	336				2	34-44	A1	6.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5303		A	CU1	1	649	336				1	33-34	A1	3.1	3-9	Large Ungulate	carnivore damage	Undifferentiated Scrap	Indt	Indt		99	Fine screen
5304		A	CU1	1	649	336				1	33-34	A1	3.2	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Fine screen
5305	5306	A	below CU1	2	649	336				2	34-44	A1	0.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Below Cultural Unit 1
5307	5308	A	CU1	2	649	336				3	44-54	A1	0.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5309		A	CU1	1	649	337	0.72	0.73	NE	2	31	A2	14.8	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
5310		A	CU1	1	649	337	0.79	0.8	NE	2	31	A2	6.1	3-9	Large Ungulate		Rib	Indt	Indt		15	
5311		A	CU1	1	649	337	0.92	0.08	NW	2	32	A2	5.1	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5312		A	CU1	1	649	337	0.36	0.02	SW	2	34	A2	5.9	3-9	Large Ungulate	abraded	Undifferentiated Long Bone	Indt	Indt		99	Fits #5313; Recent break
5313		A	CU1	1	649	337	0.39	0.02	SW	2	34	A2	2.5	3-9	Large Ungulate	abraded	Undifferentiated Long Bone	Indt	Indt		99	Fits #5312; Recent break
5314		A	CU1	1	649	337	0.02	0.98	SE	2	40	A2	4.5	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Recent breaks; Possible scapula

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5315		A	CU1	1	649	337	0.02	0.98	SE	2	40	A2	1.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5316	5322	A	CU1	7	649	337				2	35-45	A2	6.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5323	5331	A	CU1	9	649	337				3	45-55	A2	3.3	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5332	5334	A	CU1	3	649	338				1	32	A2	1.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5335		A	CU1	1	649	338	0.7	0.2	NW	2	32	A2	3.2	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Exfoliating
5336		A	CU1	1	649	338	0.88	0.93	NE	2	35	A2	16.0	3-9	Bison		Metapodial	Indt	Indt		10	Posterior distal shaft with nutrient foramen
5337		A	CU1	1	649	338	0.3	0.19	SW	2	39	A2	101.4	>15	Bison		Scapula	Left	Indt		5	Acromion largely present
5338		A	CU1	1	649	338	0.1	0.89	SE	2	41	A2	11.9	3-9	Bison	carnivore damage; spiral fracture	Metacarpal	Indt	Indt		9	Anterior shaft leg
5339		A	CU1	1	649	338	0.69	0.97	NE	2	34	A2	28.1	9-15	Bison		Rib	Right	Indt		16	
5340		A	CU1	1	649	338	0.11	0.48	SW	2	39	A2	3.7	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Recent breaks; Exfoliating
5341	5342	A	CU1	2	649	338				2	32-42	A2	4.4	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Lightly weathered
5343	5354	A	CU1	12	649	338				2	32-42	A2	6.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5355		A	CU1	1	649	338				2	32-42	A2	0.3	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
5356	5359	A	CU1	4	649	338				3	42-52	A2	2.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5360		A	CU1	1	649	339	0.7	0.05	NW	1	32	A2	112.8	>15	Bison	abraded	Scapula	Left	Indt		5	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5361		A	CU1	1	649	339	0.8	0.05	NW	1	33	A2	21.4	3-9	Bison	carnivore damage	Rib	Right	Indt		4	
5362		A	CU1	1	649	339	0.88	0.04	NW	1	33	A2	19.4	3-9	Large Ungulate	carnivore damage; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Probably radius shaft
5363		A	CU1	1	649	339	0.96	0.11	NW	1	33	A2	36.0	9-15	Bison		Scapula	Left	Indt		9	
5364		A	CU1	1	649	339	0.92	0.17	NW	1	36	A2	18.2	3-9	Large Ungulate	abraded; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Recent break; Exfoliating
5365		A	CU1	1	649	339	0.89	0.21	NW	1	36	A2	4.6	3-9	Large Ungulate	carnivore damage	Undifferentiated Scrap	Indt	Indt		99	
5366		A	CU1	1	649	339	0.86	0.2	NW	1	36	A2	16.8	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5367		A	CU1	1	649	339	0.62	0.53	NE	1	35	A2	4.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5368		A	CU1	1	649	339	0.64	0.58	NE	1	36	A2	6.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Recent Break
5369	5371	A	CU1	3	649	339				1	35-37	A2	13.0	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5372	5381	A	CU1	10	649	339				1	35-37	A2	6.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5382		A	CU1	1	649	339	0.74	0.03	NW	2	42	A2	5.5	3-9	Large Ungulate	carnivore damage	Undifferentiated Long Bone	Indt	Indt		99	
5383		A	CU1	1	649	339	0.67	0.08	NW	2	34	A2	10.3	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
5384		A	CU1	1	649	339	0.63	0.08	NW	2	34	A2	1.8	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5385		A	CU1	1	649	339	0.56	0.1	NW	2	34	A2	42.4	9-15	Bison		Mandible	Right	Indt		6	Symphysis, no teeth and ventral part horizontal ramus
5386		A	CU1	1	649	339	0.28	0.17	SW	2	35	A2	3.2	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5387		A	CU1	1	649	339	0.38	0.38	SW	2	34	A2	4.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5388		A	CU1	1	649	339	0.34	0.46	SW	2	32	A2	18.2	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5389		A	CU1	1	649	339	0.29	0.67	SE	2	36	A2	2.6	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5390		A	CU1	1	649	339	0.33	0.68	SE	2	36	A2	16.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5391		A	CU1	1	649	339	0.12	0.83	SE	2	38	A2	10.2	3-9	Bison		Pelvis	Left	Indt		13	
5392		A	CU1	1	649	339	0.06	0.94	SE	2	36	A2	20.1	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5393		A	CU1	1	649	339	0.59	0.09	NW	2	34	A2	11.5	3-9	Bison		Scapula	Indt	Indt		11	
5394		A	CU1	1	649	339	0.23	0.69	SE	2	37	A2	11.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5395		A	CU1	1	649	339	0.29	0.72	SE	2	36	A2	3.3	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5396	5407	A	CU1	12	649	339				2	37-47	A2	10.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5408	5410	A	CU1	3	649	339				2	37-47	A2	1.9	0-3	Large Ungulate		Skull	Indt	Indt		99	
5411	5415	A	CU1	5	649	339				3	47-57	A2	1.2	0-3	Mammal		Undifferentiated Scrap	Indt	Indt		99	Could be small ungulate; Thin-walled
5416		A	CU1	1	649	340				1	37-39	A3	6.8	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5417		A	CU1	1	649	340				1	37-39	A3	1.7	3-9	Large Ungulate		Rib	Indt	Indt		15	
5418	5420	A	CU1	3	649	340				1	37-39	A3	1.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5421		A	CU1	1	649	340	0.04	0.15	SW	2	41	A3	50.3	9-15	Bison	spiral fracture	Femur	Indt	Indt		18	
5422		A	CU1	1	649	340	0.25	0.38	SW	2	39	A3	9.5	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5423		A	CU1	1	649	340	0.21	0.46	SW	2	38	A3	0.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5424		A	CU1	1	649	340	0.01	0.48	SW	2	37	A3	1.3	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5425		A	CU1	1	649	340	0.07	0.49	SW	2	38	A3	1.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5426	5427	A	CU1	2	649	340	0.03	0.52	SE	2	40	A3	1.7	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5428		A	CU1	1	649	340	0.08	0.68	SE	2	40	A3	40.0	3-9	Bison		Skull	Right	Indt		7	Maxilla portion with M1 and M2 in wear
5429		A	CU1	1	649	340	0.35	0.55	SE	2	37	A3	5.2	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5430		A	CU1	1	649	340	0.32	0.68	SE	2	41	A3	44.0	9-15	Bison	spiral fracture	Tibia	Right	Indt		6	Posterior/medial shaft
5431		A	CU1	1	649	340	0.17	0.71	SE	2	41	A3	4.2	3-9	Bison		Scapula	Indt	Indt		18	
5432		A	CU1	1	649	340	0.13	0.76	SE	2	42	A3	11.0	3-9	Bison		Upper Tooth	Right	Indt		99	Permanent premolar with roots; In wear
5433		A	CU1	1	649	340	0.09	0.81	SE	2	43	A3	1.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5434		A	CU1	1	649	340	0.14	0.88	SE	2	42	A3	38.8	9-15	Bison		Mandible	Indt	Indt		15	Ventral margin horizontal ramus

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5435		A	CU1	1	649	340	0.11	0.92	SE	2	41	A3	0.9	0-3	Large Ungulate		Lower Tooth	Indt	Indt		99	Incisor root
5436		A	CU1	1	649	340	0.23	0.83	SE	2	42	A3	2.1	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5437		A	CU1	1	649	340	0.82	0.93	NE	2	38	A3	2.4	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5438		A	CU1	1	649	340	0.98	0.96	NE	2	39	A3	26.6	3-9	Bison		Upper Tooth	Left	Indt		99	Premolar and roots and small part of maxilla
5439		A	CU1	1	649	340	0.14	0.52	SE	2	42	A3	8.6	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Exfoliating; Many small fragments
5440		A	CU1	1	649	340	0.49	0.7	SE	2	45	A3	4.8	3-9	Large Ungulate		Rib	Indt	Indt		15	
5441	5477	A	CU1	37	649	340				2	39-43	A3	14.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5478		A	CU1	1	649	340				2	39-43	A3	1.8	0-3	Large Ungulate		Skull	Indt	Indt		99	
5479	5485	A	CU1	7	649	340				2	39-43	A3	3.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5486	5494	A	CU1	9	649	340				2	39-43	A3	3.5	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
5495	5496	A	CU1	2	649	340				2	39-43	A3	0.4	0-3	Large Ungulate		Tooth Fragment	Indt	Indt		99	
5497		A	CU1	1	649	340				2	43-45	A3	2.9	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5498	5503	A	CU1	6	649	340				2	43-45	A3	1.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5504	5509	A	CU1	6	649	340				2	43-45	A3	3.5	0-3	Mammal		Skull	Indt	Indt		99	Smaller animal? Dog? Could be a large ungulate too.
5510	5532	A	CU1	23	649	340				2	43-45	A3	12.6	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5533	5535	A	CU1	3	649	340				2	43-45	A3	1.6	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
5536	5539	A	CU1	4	649	340	0.95	0.95	NE	2	35-45	A3	2.5	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Fine screen
5540	5541	A	below CU1	2	649	340				2	45-49	A3	0.3	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Below Cultural Unit 1
5542		A	below CU1	1	649	340				2	45-49	A3	0.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Below Cultural Unit 1
5543	5556	A	CU1	14	649	340				3	49-59	A3	5.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5557		A	CU1	1	649	340				3	49-59	A3	0.5	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5558	5559	A	CU1	2	649	341				1	24-34	A3	1.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	North half of unit
5560		A	CU1	1	649	341				1	24-34	A3	0.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	North half of unit
5561	5570	A	CU1	10	649	341				2	35-41	A3	5.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5571	5572	A	CU1	2	649	341				2	35-41	A3	0.1	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
5573		A	CU1	1	649	341	0.52	0.86	NE	3	43	A3	32.7	3-9	Bison	spiral fracture	Femur	Indt	Indt		18	Mid shaft
5574		A	CU1	1	649	341	0.02	0.33	SW	3	44	A3	2.9	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5575		A	CU1	1	649	341	0.11	0.38	SW	3	45	A3	30.1	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Possible tibia anterior/medial, or femur
5576		A	CU1	1	649	341	0.1	0.4	SW	3	43	A3	3.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5577		A	CU1	1	649	341	0.34	0.36	SW	3	43	A3	13.8	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
5578		A	CU1	1	649	341	0.33	0.2	SW	3	43	A3	3.9	3-9	Large Ungulate		Rib	Indt	Indt		15	
5579		A	CU1	1	649	341	0.42	0.29	SW	3	41	A3	28.6	3-9	Bison	spiral fracture	Femur	Indt	Indt		18	Distal anterior shaft
5580		A	CU1	1	649	341	0.48	0.13	SW	3	41	A3	1.3	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5581		A	CU1	1	649	341	0.56	0.08	NW	3	39	A3	7.1	3-9	Large Ungulate	abraded; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Recent breaks
5582	5583	A	CU1	2	649	341	0.74	0.22	NW	3	40	A3	12.6	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5584	5585	A	CU1	2	649	341	0.74	0.22	NW	3	40	A3	0.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5586		A	CU1	1	649	341	0.97	0.02	NW	3	38	A3	10.7	3-9	Bison		Upper Tooth	Left	Indt		99	Permanent premolar
5587		A	CU1	1	649	341	0.97	0.6	NE	3	39	A3	5.5	3-9	Bison		Mandible	Indt	Indt		29	Posterior part of coronoid
5588		A	CU1	1	649	341	0.8	0.17	NW	3	41	A3	20.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Radius or tibia; Flattened cross section
5589		A	CU1	1	649	341	0.56	0.06	NW	3	40	A3	6.0	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5590		A	CU1	1	649	341	0.32	0.11	SW	3	44	A3	2.8	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5591		A	CU1	1	649	341	0.5	0.02	SW	3	41	A3	5.3	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5592		A	CU1	1	649	341	0.23	0.21	SW	3	46	A3	6.4	3-9	Large Ungulate		Rib	Indt	Indt		15	
5593	5594	A	CU1	2	649	341	0.5	0.14	SW	3	41	A3	1.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5595	5596	A	CU1	2	649	341			NE	3	39-49	A3	0.1	0-3	Mammal		Undifferentiated Scrap	Indt	Indt		99	Fine screen 10x10cm
5597	5599	A	CU1	3	649	341				3	41-51	A3	5.2	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5600	5698	A	CU1	99	649	341				3	41-51	A3	41.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5699	5700	A	CU1	2	649	341				3	41-51	A3	2.0	0-3	Large Ungulate		Rib	Indt	Indt		9	Rib head fragments
5701	5709	A	CU1	9	649	341				3	41-51	A3	3.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5710	5717	A	CU1	8	649	341				3	41-51	A3	2.4	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
5718	5725	A	CU1	8	649	341				4	51-63	A3	2.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5726	5734	A	CU1	9	649	342				1	41-41	A4	3.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5735	5736	A	CU1	2	649	342				1	41-41	A4	1.1	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5737		A	CU1	1	649	342				1	41-41	A4	0.7	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
5738		A	CU1	1	649	342	0.04	0.85	SE	3	53	A4	38.3	3-9	Bison		Metatarsal	Indt	Indt		12	Posterior mid shaft
5739		A	CU1	1	649	342	0.01	0.65	SE	3	44	A4	3.6	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5740		A	CU1	1	649	342	0.18	0.5	SW	3	40	A4	11.1	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5741		A	CU1	1	649	342	0.14	0.26	SW	3	38	A4	33.4	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5742		A	CU1	1	649	342	0.27	0.12	SW	3	38	A4	11.2	9-15	Large Ungulate	abraded	Rib	Indt	Indt		16	Recent breaks; Partial shaft
5743		A	CU1	1	649	342	0.33	0.13	SW	3	37	A4	6.3	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5744		A	CU1	1	649	342	0.43	0.22	SW	3	39	A4	35.1	9-15	Bison	carnivore damage	Rib	Right	Indt		10	One of the shorter, more anterior ribs
5745		A	CU1	1	649	342	0.67	0.43	NW	3	40	A4	5.8	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Exfoliating
5746		A	CU1	1	649	342	0.68	0.35	NW	3	38	A4	3.8	3-9	Large Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
5747		A	CU1	1	649	342	0.75	0.03	NW	3	38	A4	1.8	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5748		A	CU1	1	649	342	0.85	0.06	NW	3	39	A4	0.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5749		A	CU1	1	649	342	0.69	0.5	NW	3	40	A4	3.7	3-9	Large Ungulate		Rib	Indt	Indt		15	
5750		A	CU1	1	649	342				3	42-52	A4	7.7	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5751	5762	A	CU1	12	649	342				3	42-52	A4	4.5	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5763	5767	A	CU1	5	649	342				3	42-52	A4	2.0	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
5768		A	CU1	1	649	342				3	49-52	A4	2.8	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Sand layer under paleosol; Old break but pieces fit
5769	5806	A	CU1	38	649	342				3	42-52	A4	17.9	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5807	5812	A	CU1	6	649	342				3	42-52	A4	2.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5813	5815	A	CU1	3	649	342				3	42-52	A4	0.5	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	
5816	5837	A	CU1	22	649	342				4	52-62	A4	8.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5838		A	CU1	1	649	342				4	52-62	A4	0.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5839		A	CU2	1	649	342				23	56-66	A13	11.4	3-9	Antelope		Mandible	Right	Indt		18	M2 and M3 with some of alveoli. Both buccal and lingual.
5840		A	CU2	1	649	342				23	56-66	A13	0.8	0-3	Antelope	abraded	P-1	Left	Indt		2	
5841	5844	A	CU1	4	649	343				1	42-42	A4	2.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5845	5846	A	CU1	2	649	343				2	42-42	A4	0.3	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5847		A	CU1	1	649	343				2	42-42	A4	0.7	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5848		A	CU1	1	649	343	0.02	0.7	SE	3	40	A4	2.3	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5849		A	CU1	1	649	343	0.22	0.78	SE	3	37	A4	12.3	9-15	Large Ungulate	abraded	Rib	Indt	Indt		16	
5850		A	CU1	1	649	343	0.24	0.82	SE	3	36	A4	1.7	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Cranial?
5851		A	CU1	1	649	343	0.72	0.3	NW	3	32	A4	1.2	3-9	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
5852		A	CU1	1	649	343				3	42-52	A4	2.5	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5853	5877	A	CU1	25	649	343				3	42-52	A4	9.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5878	5882	A	CU1	5	649	343				4	52-62	A4	3.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5883		A	CU1	1	647	341				2	42-52	A6	0.4	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F1	99	Feature 1
5884	5886	A	CU1	3	648	340				2	38-48	A7	1.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5887	5889	A	CU1	3	648	340				2	38-48	A7	1.1	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
5890	5901	A	CU1	12	648	341				2	45-55	A6	1.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen
5902	5916	A	CU1	15	648	341				2	45-55	A6	3.0	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Fine screen
5917	5918	A	CU1	2	648	342				2	44-54	A6	0.3	0-3	Mammal		Undifferentiated Scrap	Indt	Indt		99	
5919	5921	A	CU1	3	648	342				2	44-54	A6	0.3	0-3	Mammal	burned	Undifferentiated Scrap	Indt	Indt		99	
5922		B	below CU1	1	638	334				1	34-44	B1	1.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5923		B	below CU1	1	638	334	0.95	0.67	NE	2	46	B1	63.7	3-9	Bison	abraded	Radius	Left	Fused		2	Recent breaks, crumbled when removed from unit.
5924		B	below CU1	1	638	334				2	44-54	B1	4.5	0-3	Large Ungulate	cut mark	Lumbar Vertebra	Axial	Indt		4	
5925		B	below CU1	1	638	334				3	54-64	B1	2.8	3-9	Large Canid		Metapodial	Indt	Fused		3	Distal 2/3
5926		B	below CU1	1	638	335				1	38-48	B2	15.9	3-9	Large Ungulate	abraded	RIB	Left	Indt		4	Recent break
5927	5929	B	below CU1	3	638	335				1	38-48	B2	4.0	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	Recent breaks; Possible rib
5930		B	below CU1	1	638	335				2	48-58	B2	0.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5933		B	CU2	1	638	336				23	52-62	B14	7.6	3-9	Antelope	spiral fracture	Metacarpal	Left	Fused		4	Proximal anterior shaft and proximal end
5932		B	CU2	1	638	336				23	52-62	B14	4.2	3-9	Antelope	spiral fracture	Femur	Indt	Indt		99	Distal shaft
5933	5938	B	CU2	6	638	336				23	52-62	B14	1.1	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
5939	5940	B	CU2	2	638	337				23	50-60	B14	8.7	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	2 fragments fit; old break. MP shaft?
5941	5942	B	CU2	2	638	337				23	50-60	B14	3.8	3-9	dium Mam	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Probably small ungulate too.
5943	5949	B	CU2	7	638	337				23	50-60	B14	2.9	0-3	dium Mam	abraded	Undifferentiated Scrap	Indt	Indt		99	Lightly weathered
5950		B	below CU1	1	639	334	0.03	0.93	SE	2	53	B1	4.6	3-9	Large Canid		Metatarsal	Right	Indt		10	RMT III - Shaft only; Tube
5951		B	below CU1	1	639	334	0.03	0.94	SE	2	53	B1	4.0	3-9	Large Canid		Metatarsal	Right	Indt		10	RMT IV - Shaft tube only
5952		B	below CU1	1	639	334				2	36-46	B1	0.3	0-3	Mammal		Undifferentiated Scrap	Indt	Indt		99	
5953		B	CU2	1	639	334	0.24	0.95	SE	24	68	B2	12.4	9-15	Antelope	spiral fracture	Tibia	Indt	Indt		99	Anterior shaft, distal 1/2
5954	5961	B	below CU1	8	639	335				1	35-45	B2	3.1	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
5962	5963	B	below CU1	2	639	335				2	45-55	B2	3.6	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
5964	5965	B	CU2	2	639	335				24	56-66	B13	1.2	3-9	dium Mammal		RIB	Indt	Indt		16	Probably antelope
5966		B	CU2	1	639	335				24	56-66	B13	3.9	3-9	Antelope	spiral fracture	Tibia	Indt	Indt		10	Posterior shaft fragment, proximal

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
5967	5971	B	CU2	5	639	335				24	56-66	B13	14.2	3-9	Small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5972	5973	B	CU2	2	639	335				24	56-66	B13	0.5	0-3	Medium Mammal		Undifferentiated Scrap	Indt	Indt		99	
5974	5980	B	CU2	7	639	335				24	56-66	B13	1.0	0-3	Medium Mammal		Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
5981	5989	B	CU2	9	639	335				24	56-66	B13	2.2	0-3	Medium Mammal	burned	Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
5990		B	CU2	1	639	335				24	56-66	B13	1.0	0-3	Small Rodent		Mandible	Right	Indt	F7	8	Feature 7 fine screen
5991		B	CU2	1	639	336	0.54	0.5	NW	23	57	B13	2.9	3-9	Small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5992		B	CU2	1	639	336	0.56	0.66	NE	23	56	B13	4.9	3-9	Antelope	spiral fracture	Radius	Indt	Indt		4	Distal anterior shaft
5993	5996	B	CU2	4	639	336				23	49-59	B13	6.5	3-9	Small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
5997	5999	B	CU2	3	639	336				23	49-59	B13	1.8	0-3	Medium Mammal	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6000	6002	B	CU2	3	639	336				23	49-59	B13	0.1	0-3	Mammal		Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
6003	6004	B	CU2	2	639	336				23	49-59	B13	0.1	0-3	Mammal	burned	Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
6005		B	CU2	1	639	336				23	49-59	B13	0.01	0-3	Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
6006		B	CU2	1	639	336	0.9	0.08	NW	24	62	B13	5.6	3-9	Antelope	spiral fracture	Radius	Right	Indt		4	Proximal-medial-posterior shaft
6007		B	CU2	1	639	337				23	51-61	B14	4.5	3-9	Antelope	Tool?; spiral fracture	Radius	Left	Indt		4	Proximal end posterior/lateral shaft; Polished; Tool?

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6008		B	CU2	1	639	337				23	51-61	B14	0.6	3-9	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6009	6010	B	CU2	2	639	337				23	51-61	B14	0.3	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6010		B	CU2	1	640	334				24	52-64	B11	5.9	3-9	Antelope	spiral fracture	Tibia	Right	Indt		5	posterior shaft with nutrient foramen
6012	6014	B	CU2	3	640	335				21	24-34	B13	1.9	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6015		B	CU2	1	640	335	0.7	0.82	NE	23	58	B13	2.5	3-9	dium Mam	burned	Undifferentiated Long Bone	Indt	Indt		99	
6016		B	CU2	1	640	335	0.28	0.02	SW	24	61	B13	6.5	3-9	Antelope	spiral fracture	Metatarsal	Indt	Indt		12	Anterior mid shaft
6017		B	CU2	1	640	335	0.3	0.2	SW	24	63	B13	5.5	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6018		B	CU2	1	640	335				24	54-64	B13	0.5	0-3	mall Ungulate		Lumbar Vertebra	Axial	Indt		6	Outside feature; A transverse process
6019		B	CU2	1	640	335				24	54-64	B13	1.4	3-9	mall Ungula	spiral fracture	Metatarsal	Indt	Indt		12	Anterior shaft fragment
6020		B	CU2	1	640	335				24	54-64	B13	2.2	3-9	dium Mam	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6021	6025	B	CU2	5	640	335				24	54-64	B13	2.2	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6026	6027	B	CU2	2	640	335				24	54-64	B13	1.9	0-3	dium Mam	burned; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6028		B	CU2	1	640	335				24	54-64	B13	0.8	0-3	dium Mam	calcined	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6029		B	CU2	1	640	335				24	54-64	B13	1.3	0-3	Small Ungulate	burned	P-1	Indt	Fused	F7	13	Feature 7 fine screen, Distal end
6030	6037	B	CU2	8	640	335				24	54-64	B13	2.1	0-3	Medium Mammal		Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
6038	6042	B	CU2	5	640	335				24	54-64	B13	5.4	0-3	Medium Mammal	burned	Undifferentiated Long Bone	Indt	Indt	F7	99	Feature 7 fine screen
6043		B	CU2	1	640	335				24	54-64	B13	0.6	0-3	Small Ungulate	abraded, burned	P-1	Indt	Fused	F7	2	Feature 7 fine screen, Proximal end
6044	6086	B	CU2	43	640	335				24	54-64	B13	7.9	0-3	Medium Mammal	burned	Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
6087	6113	B	CU2	27	640	335				24	54-64	B13	3.9	0-3	Medium Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
6114		B	CU2	1	640	336	0.37	0.34	SW	23	59	B13	1.1	3-9	Medium Mammal	burned; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6115		B	CU2	1	640	336	0.34	0.19	SW	23	58	B13	1.7	3-9	Medium Mammal	burned; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6116	6119	B	CU2	4	640	336				23	50-60	B13	8.3	3-9	Large Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6120	6127	B	CU2	8	640	336				23	50-60	B13	6.3	0-3	Medium Mammal	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6128		B	CU2	1	640	337	0.21	0.24	SW	23	57	B13	7.5	9-15	Antelope	spiral fracture	Tibia	Right	Indt		6	Posterior/lateral shaft
6129		B	CU2	1	640	337	0.05	0.06	SW	23	57	B13	11.8	9-15	Antelope	spiral fracture	Tibia	Right	Indt		2	Anterior shaft and base of crest

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6130		B	CU2	1	640	337				23	50-60	B13	10.3	3-9	Antelope	carnivore damage; spiral fracture	Metatarsal	Right	Fused		5	Proximal 1/3, but posterior partial proximal surface missing; Heavily gnawed
6131		B	CU2	1	641	335				23	39-49	B16	2.0	3-9	dium Mamm	carnivore damage; spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	2 tooth marks
6132	6133	B	CU2	2	641	335				23	39-49	B16	1.8	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6134		B	CU2	1	641	336				23	46-56	B16	6.9	3-9	Antelope	spiral fracture	Metapodial	Indt	Indt		10	
6135		B	CU2	1	641	336				23	46-56	B16	0.5	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6136	6137	B	CU2	2	641	337				23	48-58	B16	1.7	0-3	dium Mammal		Undifferentiated Long Bone	Indt	Indt		99	
6138	6141	B	CU2	4	641	337				23	48-58	B16	1.8	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6142		MH_CF 16		1							250	BS	1132.5	>15	Bison	abraded	Tibia	Right	Fused		1	Measures as Male. Very large individual; Cultural Unit 2; From wall on East side of Block C; 12U 520102 554339
6143	6144	A	CU1	2	649	340				2	39-49	A3	0.5	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6145		C	CU2	1	642	341				23	48-58	C2	0.2	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6146		C	CU2	1	642	342				22	39-49	C1	6.2	3-9	Antelope	spiral fracture	Metatarsal	Indt	Indt		10	Proximal shaft fragment
6147		C	CU2	1	642	342				23	49-60	C1	3.2	3-9	Antelope	spiral fracture	Tibia	Left	Indt		6	Posterior shaft
6148		C	CU2	1	642	343				23	52-62	C1	0.3	0-3	mall Ungulate		Lower Tooth	Indt	Indt		99	Incisor
6149	6156	C	CU2	8	642	343				23	52-62	C1	2.9	0-3	dium Mam	abraded	Undifferentiated Scrap	Indt	Indt		99	
6157		C	CU2	1	643	341				21	30-35	C2	0.8	0-3	dium Mam	abraded	Undifferentiated Scrap	Indt	Indt		99	
6158		C	CU2	1	643	341	0.62	0.6	NE	22	39	C2	4.0	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6159		C	CU2	1	643	341				22	35-45	C2	3.0	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6160	6161	C	CU2	2	643	341				22	35-45	C2	1.8	0-3	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6162		C	CU2	1	643	342	0.75	0.1	NW	22	43	C1	9.0	3-9	Antelope	spiral fracture	Metatarsal	Indt	Indt		10	Anterior mid shaft
6163		C	CU2	1	643	342	0.47	0.27	SW	22	44	C1	8.2	3-9	Antelope		Mandible	Right	Indt		46	
6164	6165	C	CU2	2	643	342				22	41-51	C1	3.4	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Outside feature
6166		C	CU2	1	643	342				22	41-51	C1	4.7	3-9	Antelope	carnivore damage	Metatarsal	Left	Indt		5	Fragment of proximal lateral end and some shaft; Outside feature
6167		C	CU2	1	643	342				22	41-51	C1	4.2	3-9	Antelope	carnivore damage; spiral fracture	Tibia	Indt	Indt		6	posterior shaft, tooth marks

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6168	6170	C	CU2	3	643	342				22	41-51	C1	9.5	3-9	small Ungulate	carnivore damage	Undifferentiated Long Bone	Indt	Indt		99	Outside feature
6171	6176	C	CU2	6	643	342				22	41-51	C1	4.9	0-3	medium Mammal		Undifferentiated Scrap	Indt	Indt		99	Outside feature
6177		C	CU2	1	643	342	0.99	0.85	NE	22	42	C1	10.3	3-9	small Ungulate	spiral fracture	Femur	Indt	Indt	F5	99	Feature 5; anterior midshaft
6178		C	CU2	1	643	342	0.97	0.98	NE	22	42	C1	9.8	3-9	Antelope	spiral fracture	Metapodial	Indt	Indt	F5	10	Feature 5; Shaft fragment
6179		C	CU2	1	643	342				22	41-51	C1	0.2	0-3	medium Mammal		Undifferentiated Scrap	Indt	Indt	F5	99	Feature 5
6180		C	CU2	1	643	342				22	41-51	C1	0.7	0-3	medium Mammal	burned	Undifferentiated Scrap	Indt	Indt	F5	99	Feature 5
6181		C	CU2	1	643	343	0.65	0.3	NW	22	45	C1	5.4	3-9	small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt	F5	99	Feature 5
6182		C	CU2	1	643	343	0.5	0.3	SW	22	48	C1	209.5	>15	Bison	abraded	Femur	Right	Fused	F5	26	Feature 5; Distal 1/4, medial condyle; Trochlea and lateral condyle removed, shaft tube above
6183		C	CU2	1	643	343	0.92	0.09	NW	22	46	C1	288.2	>15	Bison	burned; spiral fracture; abraded	Tibia	Right	Fused	F5	9	Feature 5; weathered, small patches burnt
6184	6189	C	CU2	6	643	343	0.65	0.35	NW	22	45	C1	3.5	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F5	99	Feature 5
6190	6192	C	CU2	3	643	343				22	40-52	C1	1.1	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt	F5	99	Feature 5

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6193		C	CU2	1	643	343	0.86	0.69	NE	22	45	C1	13.5	3-9	Antelope	spiral fracture	Tibia	Right	Indt		2	Medial shaft and base of crest
6194		C	CU2	1	643	343	0.84	0.88	NE	22	46	C1	3.3	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6195		C	CU2	1	643	343	0.66	0.63	NE	22	47	C1	11.0	3-9	Antelope	spiral fracture	Tibia	Left	Indt		6	Posterior/medial shaft
6196		C	CU2	1	643	343				22	40-52	C1	0.4	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
6197		C	CU2	1	643	343				22	40-52	C1	0.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	
6198		C	CU2	1	643	343				23	52-60	C1	2.2	0-3	Antelope		P-2	Left	Fused		1	
6199	6200	C	CU2	2	643	343				23	52-60	C1	6.8	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6201	6205	C	CU2	5	643	343				23	52-60	C1	4.4	0-3	mall Ungulate		Undifferentiated Scrap	Indt	Indt		99	
6206		C	CU2	1	644	340	0.6	0.3	NW	22	36	C2	1.9	3-9	dium Mam	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6207	6208	C	CU2	2	644	341				22	38-46	C2	2.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
6209		C	CU2	1	644	341				22	34-40	C2	0.6	0-3	dium Mam	burned; spiral fracture	Undifferentiated Long Bone	Indt	Indt	F6	99	Feature 6
6210	6211	C	CU2	2	644	341				22	34-40	C2	0.3	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6212		C	CU2	1	644	341	0.8	0.91	NE	23	41	C2	3.4	3-9	Large Ungulate	abraded; carnivore damage	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6
6213	6231	C	CU2	19	644	341				23	40-43	C2	4.9	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6232		C	CU2	1	644	341				23	40-43	C2	0.1	0-3	dium Mam	burned	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6233		C	CU2	1	644	343	0.16	0.12	SW	22	38	C1	7.7	3-9	Antelope	spiral fracture	Femur	Indt	Indt	F5	99	Feature 5; anterior midshaft with foramen
6234		C	CU2	1	644	342	0.8	0.43	NW	22	41	C1	3.4	3-9	small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6235		C	CU2	1	644	342				22	40-50	C1	3.0	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F5	99	Feature 5
6236		C	CU2	1	644	342				22	40-50	C1	1.2	0-3	medium Mammal		Undifferentiated Long Bone	Indt	Indt	F5	99	Feature 5
6237		C	CU2	1	644	342				22	40-50	C1	0.3	0-3	medium Mammal	burned	Undifferentiated Scrap	Indt	Indt	F5	99	Feature 5
6238		C	CU2	1	644	342				22	40-50	C1	0.1	0-3	medium Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F5	99	Feature 5
6239		C	CU2	1	644	342	0.9	0.02	NW	22	40	C1	2.5	3-9	small Ungulate	abraded	Undifferentiated Long Bone	Indt	Indt	F6	99	Feature 6
6240		C	CU2	1	644	342	0.91	0.33	NW	22	40	C1	4.2	3-9	small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Feature 6; With charcoal
6241	6245	C	CU2	5	644	342				22	40-50	C1	1.4	0-3	medium Mammal		Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6246	6247	C	CU2	2	644	342				22	40-50	C1	0.1	0-3	medium Mammal	burned	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6248	6250	C	CU2	3	644	342				22	40-50	C1	0.4	0-3	medium Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6251		C	CU2	1	644	343				22	42-42	C1	0.6	0-3	medium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6252		C	CU2	1	644	343	0.19	0.74	SE	22	41	C1	3.9	3-9	Antelope	abraded; spiral fracture	Metapodial	Indt	Indt		10	Posterior shaft fragment
6253		C	CU2	1	644	343				21	42-47	C1	3.5	3-9	Antelope	spiral fracture	Radius	Indt	Indt		4	Posterior/proximal shaft

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6254	6257	C	CU2	4	644	343				21	42-47	C1	3.7	0-3	Antelope		Tooth Fragment	Indt	Indt		99	Molar fragments
6258		C	CU2	1	644	343				22	42-52	C1	3.0	3-9	Antelope	spiral fracture	Metatarsal	Indt	Indt	F5	12	Feature 5 screen; Anterior distal shaft
6259		C	CU2	1	644	343				22	42-52	C1	0.9	0-3	mall Ungula	spiral fracture	Metapodial	Indt	Indt	F5	10	Feature 5 screen
6260		C	CU2	1	644	343				22	42-52	C1	3.8	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt	F5	99	Feature 5 screen
6261	6264	C	CU2	4	644	343				22	42-52	C1	2.1	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt	F5	99	Feature 5 screen
6265		C	CU2	1	644	343				22	42-52	C1	0.9	0-3	Antelope		Tooth Fragment	Indt	Indt	F5	99	Feature 5 screen
6266		C	CU2	1	644	343	0.76	0.77	NE	23	44	C1	5.3	3-9	mall Ungula	spiral fracture	Femur	Indt	Indt		99	Anterior mid shaft
6267		C	CU2	1	644	343				23	52-61	C1	3.9	3-9	mall Ungula	abraded; spiral fracture	Metapodial	Indt	Indt		10	Shaft fragments
6268		C	CU2	1	645	340	0.09	0.77	SE	22	38	C4	2.5	3-9	mall Ungula	abraded	Undifferentiated Long Bone	Indt	Indt		99	Exfoliating
6269		C	CU2	1	645	340	0.05	0.23	SW	22	36	C4	2.0	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6270		C	CU2	1	645	340				22	33-43	C4	1.7	0-3	mall Ungulate		RIB	Right	Unfused		8	No Epiphyses
6271	6272	C	CU2	2	645	340				22	33-43	C4	6.5	3-9	Antelope	spiral fracture	Tibia	Indt	Indt		99	Distal medial shaft
6273		C	CU2	1	645	340				22	33-43	C4	1.2	0-3	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6274	6277	C	CU2	4	645	340				22	33-43	C4	0.9	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6278	6279	C	CU2	2	645	340				22	33-43	C4	0.4	0-3	dium Mam	burned	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6280	6285	C	CU2	6	645	340				22	33-43	C4	3.9	0-3	dium Mam	calcined	Undifferentiated Scrap	Indt	Indt		99	
6286	6326	C	CU2	41	645	341	0.45	0.61	SE	22	40	C4	4.7	0-3	dium Mam	calcined	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6
6327	6339	C	CU2	13	645	341				22	34-44	C4	3.6	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6340	6361	C	CU2	22	645	341				22	34-44	C4	6.5	0-3	dium Mam	burned	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6362	6419	C	CU2	58	645	341				22	34-44	C4	7.2	0-3	dium Mam	calcined	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6420		C	CU2	1	645	341				22	34-44	C4	0.2	0-3	mall Mammal		Calcaneum	Indt	Indt		1	
6421	6422	C	CU2	2	645	341				22	34-44	C4	3.5	0-3	dium Mam	burned	Undifferentiated Long Bone	Indt	Indt		99	
6423	6427	C	CU2	5	645	341				22	34-44	C4	0.8	0-3	dium Mam	abraded	Undifferentiated Scrap	Indt	Indt		99	
6428		C	CU2	1	645	341				22	34-44	C4	1.4	3-9	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	Flat bone - Possibly pelvic or mandible.
6429	6430	C	CU2	2	645	341				22	34-44	C4	2.8	0-3	dium Mam	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	Fine screen; Outside feature
6431		C	CU2	1	645	341				22	34-44	C4	1.6	0-3	dium Mam	burned	Undifferentiated Long Bone	Indt	Indt		99	Fine screen; Outside feature
6432	6439	C	CU2	8	645	341				22	34-44	C4	1.1	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	Fine screen; Outside feature
6440		C	CU2	1	645	341				23	44-54	C4	0.1	0-3	dium Mam	burned	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6441		C	CU2	1	645	341				23	44-54	C4	0.1	0-3	dium Mam	calcined	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6443		C	CU2	1	645	342	0.32	0.86	SE	22	42	C4	2.3	3-9	mall Ungula	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6442		C	CU2	1	645	342	0.32	0.86	SE	22	42	C4	8.1	9-15	Antelope	spiral fracture	Tibia	Indt	Indt		99	Distal medial shaft

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6444		C	CU2	1	645	342	0.32	0.86	SE	22	42	C3	3.7	3-9	small Ungulate	spiral fracture	Radius	Indt	Indt		99	Proximal medial shaft
6445		C	CU2	1	645	342	0.32	0.86	SE	22	42	C3	0.5	0-3	medium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6446		C	CU2	1	645	342	0.23	0.8	SE	22	43	C3	6.2	3-9	Antelope	spiral fracture	Radius	Indt	Indt		4	
6447		C	CU2	1	645	342	0.23	0.8	SE	22	43	C3	0.6	0-3	Antelope		Ulna	Indt	Indt		3	
6448		C	CU2	1	645	342	0.23	0.8	SE	22	43	C3	1.9	3-9	small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6449		C	CU2	1	645	342				22	34-44	C3	5.8	3-9	Antelope	spiral fracture	Metatarsal	Indt	Indt		12	Posterior lateral shaft
6450		C	CU2	1	645	342				22	34-44	C3	6.3	3-9	Antelope	spiral fracture	Humerus	Left	Indt		39	Distal lateral shaft
6451	6453	C	CU2	3	645	342				22	34-44	C3	8.9	3-9	small Ungulate	spiral fracture	Undifferentiated Long Bone	Indt	Indt		99	
6454	6456	C	CU2	3	645	342				22	34-44	C3	7.3	0-3	small Ungulate		Undifferentiated Long Bone	Indt	Indt		99	
6457	6465	C	CU2	9	645	342				22	34-44	C3	3.9	0-3	medium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6466	6479	C	CU2	14	645	342				22	34-44	C3	3.2	0-3	medium Mammal		Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6480	6485	C	CU2	6	645	342				22	34-44	C3	0.3	0-3	medium Mammal	burned	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6486	6495	C	CU2	10	645	342				22	34-44	C3	1.7	0-3	medium Mammal	calcined	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
6496		C	CU2	1	645	343				22	36-46	C3	6.1	3-9	Antelope		Tibia	Indt	Indt		99	Distal medial shaft
6497	6505	C	CU2	9	645	343				22	36-46	C3	2.6	0-3	medium Mammal	abraded	Undifferentiated Scrap	Indt	Indt		99	
6506		C	CU2	1	645	343	0.47	0.33	SW	23	47	C3	11.6	9-15	Antelope	spiral fracture	Femur	Indt	Indt		99	Medial mid shaft

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6507		C	CU2	1	645	343	0.12	0.74	SE	23	46	C3	15.1	9-15	Antelope	abraded; spiral fracture	Tibia	Left	Indt		99	Lateral shaft; Exfoliating
6508		C	CU2	1	645	343	0.93	0	NW	23	49	C3	129.3	>15	Bison		RIB	Left	Indt		10	
6509	6511	C	CU2	3	645	343				23	46-57	C3	1.5	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6512		C	CU2	1	646	340	0.02	0.83	SE	22	40	C4	3.5	3-9	Antelope	spiral fracture	Femur	Indt	Indt		99	Mid shaft with foramen
6513		C	CU2	1	646	340				22	30-41	C4	0.1	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6514		C	CU2	1	646	341	0.15	0.08	SW	22	39	C4	20.8	9-15	Antelope	spiral fracture	Tibia	Right	Indt		6	Red staining; 2/3 proximal posterior shaft
6515		C	CU2	1	646	341				22	33-43	C4	6.4	3-9	Antelope	spiral fracture	Metacarpal	Indt	Indt		9	Distal posterior shaft
6516	6522	C	CU2	7	646	341				22	33-43	C4	0.8	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6523		C	CU2	1	646	341				22	33-43	C4	0.01	0-3	mall Mammal		Undifferentiated Scrap	Indt	Indt		99	
6524		C	CU2	1	646	341	0.8	0.67	NE	23	45	C4	0.9	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6525		C	CU2	1	646	342				22	38-48	C3	0.9	0-3	dium Mammal		Undifferentiated Long Bone	Indt	Indt		99	
6526		C	CU2	1	646	342				22	38-48	C3	0.3	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6527	6529	C	CU2	3	646	342				23	48-58	C3	1.0	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	
6530		C	CU2	1	646	343	0.18	0.25	SW	23	53	C3	44.4	3-9	Bison		P-1	Left	Fused		2	
6531	6534	C	CU2	4	646	343				23	47-57	C3	1.8	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
6535	6540	C	CU2	6	646	343				23	47-57	C3	5.5	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6541		C	CU2	1	646	343				23	47-57	C3	0.2	0-3	dium Mam	calcined	Undifferentiated Scrap	Indt	Indt		99	
6542		C	CU2	1	646	343	0.77	0.63	NE	24	62	C3	8.6	3-9	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Potentially posterior scapula border or part of ascending ramus?
6543		C	CU2	1	646	343	0.73	0.86	NE	24	61	C3	514.6	>15	Bison	abraded	Scapula	Left	Fused		30	Large Individual
6544		C	CU2	1	646	343	0.7	0.85	NE	24	57	C3	14.9	3-9	Bison		Upper Tooth	Left	Indt		99	Premolar 1 or 2; In full wear
6545		C	CU2	1	646	343	0.82	0.91	NE	24	62	C3	20.8	3-9	Bison		Mandible	Right	Indt		21	BU 21 except it's ventral side and lateral partial symphysis surface
6546		C	CU2	1	646	343	0.39	0.94	SE	24	61	C3	214.2	9-15	Bison		Thoracic Vertebra	Axial	Fused		4	Large individual - ABU 3
6547		C	CU2	1	646	343	0.33	0.97	SE	24	61	C3	305.0	>15	Bison		Cervical Vertebra V	Axial	Fused		16	Large individual - ABU 3; Body good but post of spine gone
6548	6560	C	CU2	13	646	343				24	57-67	C3	4.9	0-3	Large Ungulate	abraded	Undifferentiated Scrap	Indt	Indt		99	
6561		C	CU2	1	646	343				24	57-67	C3	1.8	3-9	Large Ungulate	abraded, burned	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6562	6570	C	CU2	9	646	343				24	57-67	C3	8.2	0-3	Large Ungulate	abraded, burned	Undifferentiated Scrap	Indt	Indt		99	Maybe parts of a proximal metapodial fragment but very weathered
6571	6572	B	CU2	2	639	335				24	56-66	B13	0.2	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
6573		B	CU2	1	639	336				23	49-59	C13	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
6574		B	CU2	1	640	335				24	54-64	B13	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F7	99	Feature 7 fine screen
6575		C	CU2	1							n/a	n/a	375.8	9-15	Bison		Axis	Axial	Fused		1	East wall, cultural unit 2, last day of monitoring; Large individual
6576		MH_CF 17		1							400	BS	167.7	9-15	Bison	abraded	Metatarsal	Right	Fused		8	Measures as male. Backhoe break mid-shaft
6577		MH_CF20		1							350	BS	164.9	9-15	Bison	abraded	Mandible	Left	Indt		43	Backhoe damage; P4, M1, M2; Mandible/hyoid vertical margin; P4 and M1 broken, M2 in wear but style not yet worn.
6578		MH_CF19		1							400	BS	55.4	3-9	Bison		P-1	Right	Fused		1	
6579		A	CU1	1	648	336	0.76	0.94	NE	2	45	A1	2.2	3-9	Large Ungulate	Tool	Undifferentiated Scrap	Indt	Indt		99	Polished bone awl; Upright

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
6580-7355		See lithic catalogue																				
7354		MH_CF21		1							660	BS	125.1	9-15	Bison	abraded	Ulna	Left	Indt		2	Recent breaks, possibly backhoe? Due to this not sure what original element BU was.
7355		C	CU2	1	644	341				22	38-46	C2	0.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7356	7357	C	CU2	2	644	341				23	46-56	C2	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7358	7359	C	CU2	2	644	341				23	46-56	C2	0.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7360	7362	C	CU2	3	644	341				23	46-56	C2	0.2	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7363		C	CU2	1	644	342				22	40-50	C1	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	Fine screen
7364		C	CU2	1	644	342				22	40-50	C1	0.4	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7365		C	CU2	1	645	341				22	34-40	C1/ C4	0.01	0-3	Mussel Shell		Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7366	7369	C	CU2	4	645	341				22	34-40	C1/ C4	0.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7370		C	CU2	1	645	341				22	34-40	C1/ C4	0.1	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7371		C	CU2	1	645	342				22	34-37	C3	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7372		C	CU2	1	645	342				22	34-37	C3	0.1	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F6	99	Feature 6 fine screen
7373	7374	C	CU2	2	646	341				23	33-43	C4	0.6	0-3	dium Mammal		Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Faunal Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Block/ Way point/ Back hoe Test	CU	Qty	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Animal Class	Bone Observation	Element	Side	Age	Feature	BU	Comments
7375		A	CU1	1	648	338				3	43-53	A2	0.2	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2 fine screen
7376	7378	A	CU1	3	648	338				3	43-53	A2	2.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
7379		A	CU1	1	648	338				3	43-53	A2	0.1	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
7380	7383	A	CU1	4	648	338				2	32-43	A2	2.7	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt		99	Outside feature
7384		A	CU1	1	648	338				2	32-43	A2	0.2	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2
7385	7388	A	CU1	4	648	338	0.43	0.65	SE	3	42	A1	7.8	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F2	99	Feature 2
7389		A	CU1	1	648	338				4	53-64	A2	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
7390	7392	A	CU1	2	648	338				4	53-64	A2	1.3	0-3	Large Ungulate	burned	Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
7393		A	CU1	1	648	338				5	64-73	A2	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
7394		A	CU1	1	648	338				5	64-73	A2	0.2	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
7395		A	CU1	1	648	338				6	73-84	A2	0.1	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt	F4	99	Feature 4 fine screen
7396	7399	A	CU1	4	648	341				2	45-55	A6	1.9	0-3	Large Ungulate		Undifferentiated Scrap	Indt	Indt		99	
7400	7402	A	CU1	3	648	341				2	45-55	A6	0.8	0-3	Large Ungulate	calcined	Undifferentiated Scrap	Indt	Indt		99	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
197		1	MH_CF1	1							250	BS	92.8	>5.0	Secondary Decortication Flake	Quartzite	red		
198		1	MH_CF1	1							250	BS	73.7	>5.0	Secondary Decortication Flake	Quartzite	red		
199		1	MH_CF1	1							250	BS	16.8	>5.0	Secondary Decortication Flake	Quartzite	tan		
200		1	MH_CF1	1							250	BS	23.5	>5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
201		1	MH_CF1	1							250	BS	8.7	>5.0	Flake Fragment	Quartzite	red		cortex covers dorsal surface, decortication flake
202	203	2	MH_CF1	1							250	BS	19.5	2.5-5.0	Flake Fragment	Quartz	white		
204		1	MH_CF1	1							250	BS	1.1	0.66-2.5	Flake Fragment	Quartz	white		cortex on dorsal surface
205		1	MH_CF1	1							250	BS	2.2	0.66-2.5	Platform Bearing Flake	Quartz	white		broken medially
206		1	MH_CF1	1							250	BS	0.4	0.66-2.5	Platform Bearing Flake	Swan River Chert	white		fine grained, translucent

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
207		1	MH_CF1	1							250	BS	0.01	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	grey		
208		1	MH_CF1	1							250	BS	9.5	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
209		1	MH_CF1	1							250	BS	11	2.5-5.0	Retouched Flake	Quartzite	grey		complete flake; minimal unifacial retouch on distal end, dorsal surface; Max L= 31.90mm, Max W= 30.12mm, Max T= 15.51mm
210		1	MH_CF1	1							250	BS	4.1	0.66-2.5	Platform Bearing Flake	Quartzite	purple		
211	212	2	MH_CF1	1							250	BS	3.7	0.66-2.5	Flake Fragment	Quartzite	purple		
213	214	2	MH_CF1	1							250	BS	6.3	2.5-5.0	Platform Bearing Flake	Quartzite	purple		cortex on platform
215		1	MH_CF1	1							250	BS	2.6	2.5-5.0	Platform Bearing Flake	Quartzite	purple		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
216		1	MH_CF1	1							250	BS	0.2	0.66-2.5	Flake Fragment	Quartzite	orange		
217		1	MH_CF1	1							250	BS	3.4	2.5-5.0	Platform Bearing Flake	Quartzite	orange		
218	220	3	MH_CF1	1							250	BS	20	2.5-5.0	Platform Bearing Flake	Quartzite	red tan		
221	222	2	MH_CF1	1							250	BS	15.9	2.5-5.0	Primary Decortication Flake	Quartzite	red		
223		1	MH_CF1	1							250	BS	6.6	2.5-5.0	Secondary Decortication Flake	Quartzite	red		
224	226	3	MH_CF1	1							250	BS	24.8	2.5-5.0	Platform Bearing Flake	Quartzite	red		cortex on platform
227		1	MH_CF1	1							250	BS	10.5	2.5-5.0	Platform Bearing Flake	Quartzite	red		
228	229	2	MH_CF1	1							250	BS	4.2	0.66-2.5	Platform Bearing Flake	Quartzite	red		cortex on platform
230	231	2	MH_CF1	1							250	BS	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	red		
232		1	MH_CF1	1							250	BS	1	0.66-2.5	Flake Fragment	Quartzite	red		cortex covers dorsal surface, decortication flake

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
233		1	MH_CF1	1							250	BS	23.1	2.5-5.0	Retouched Flake	Quartzite	grey		complete flake; secondary decortication; unifacial retouch on distal end, dorsal surface; Max L= 51.00mm, Max W= 35.47mm, Max T= 12.51mm
234		1	MH_CF1	1							250	BS	9.3	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
235		1	MH_CF1	1							250	BS	5.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		coarse grained
236		1	MH_CF1	1							250	BS	2.1	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
237	240	4	MH_CF1	1							250	BS	7.9	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
241	242	2	MH_CF1	1							250	BS	17.9	2.5-5.0	Primary Decortication Flake	Quartzite	tan		
243	245	3	MH_CF1	1							250	BS	14.5	2.5-5.0	Platform Bearing Flake	Quartzite	tan		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/Shovel Test/Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
246		1	MH_CF1	1							250	BS	2.9	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
247		1	MH_CF1	1							250	BS	3.1	0.66-2.5	Secondary Decortication Flake	Quartzite	tan		
248		1	MH_CF1	1							250	BS	2	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
249	250	2	MH_CF1	1							250	BS	1.8	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
251	252	2	MH_CF1	1							250	BS	2	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
253		1	MH_CF1	1							250	BS	7.7	2.5-5.0	Primary Decortication Flake	Swan River Chert			
254	258	5	MH_CF1	1							250	BS	20.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			
259	260	2	MH_CF1	1							250	BS	6.1	2.5-5.0	Flake Fragment	Swan River Chert			
261	266	6	MH_CF1	1							250	BS	8.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
267	270	4	MH_CF1	1							250	BS	2.7	0.66-2.5	Flake Fragment	Swan River Chert			
271		1	MH_CF1	1							250	BS	0.1	0.66-2.5	Retouch/Resharpener Flake	Swan River Chert			
272		1	MH_CF1	1							250	BS	0.7	0.66-2.5	Block Shatter	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
273		1	MH_CF1	1							250	BS	154.1	>5.0	Core, Multidirectional	Quartzite	tan		MLD=83.20 mm; cortex remaining
274		1	MH_CF1	1							250	BS	42.4	>5.0	Core, Multidirectional	Quartzite	tan		MLD=61.23 mm; cortex remaining
275		1	MH_CF1	1							250	BS	99.2	>5.0	Core, Multidirectional	Quartzite	grey		MLD=56.89 mm; cortex remaining
276		1	MH_CF1	1							250	BS	8.2	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
277		1	MH_CF1	1							250	BS	5.2	2.5-5.0	Core, Bipolar	Chert	grey		exhausted; MLD=26.79 mm
278		1	MH_CF1	1							250	BS	1.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
279		1	MH_CF1	1							250	BS	0.1	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
280		1	MH_CF1	1							250	BS	0.1	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
281		1	MH_CF6	1							n/a	BS	1119.2	>5.0	Core, Multidirectional	Quartzite	grey		MLD=124.05 mm; cortex remaining; only a few flakes removed
282		1	MH_CF9								250-300	BS	270.8	>5.0	Secondary Decortication Flake	Quartzite	brown		cortex on platform and distal end
283		1	MH_CF14								250-300	BS	29.3	>5.0	Flake Fragment	Swan River Chert			check against material in FBR, perhaps same cobble
284	3000	See Faunal Catalogue																	
3001		1	A	1	646	337				1	28-37	A7	0.4	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
3002		1	A	1	646	337				1	28-37	A7	1.4	0.66-2.5	Flake Fragment	Granite	red grey		
3003		1	A	1	646	337				1	28-37	A7	34.6	>5.0	Secondary Decortication Flake	Quartzite	tan		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3004		1	A	1	646	337	0.8	0.14	NW	2	37	A7	8.9	>5.0	Primary Decortication Flake	Quartzite	red grey		
3005		1	A	1	646	337	0.88	0.55	NE	2	38	A7	3.4	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3006		1	A	1	646	337	0.89	0.56	NE	2	48	A7	5.6	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3007	3008	2	A	1	646	337	0.89	0.56	NE	2	48	A7	6.2	2.5-5.0	Bifacial Reduction Flake	Swan River Chert			
3009	3010	2	A	1	646	337	0.89	0.56	NE	2	48	A7	7.8	2.5-5.0	Flake Fragment	Swan River Chert			
3011	3013	3	A	1	646	337	0.89	0.56	NE	2	48	A7	3.2	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
3014	3017	4	A	1	646	337	0.89	0.56	NE	2	48	A7	4.8	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3018	3019	2	A	1	646	337	0.89	0.56	NE	2	48	A7	0.1	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
3020	3021	2	A	1	646	337	0.89	0.56	NE	2	48	A7	1	0.66-2.5	Flake Fragment	Swan River Chert			
3022		1	A	1	646	337	0.89	0.56	NE	2	48	A7	15.3	2.5-5.0	Biface Fragment	Swan River Chert			biface fragment; bifacially worked on one side; metrics n/a
3023		1	A	1	646	337				2	37-47	A7	0.4	0.66-2.5	Platform Bearing Flake	Granite	grey pink		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3024	3025	2	A	1	646	337				2	37-47	A7	0.9	0.66-2.5	Flake Fragment	Swan River Chert			
3026	3027	2	A	1	647	336				1	28-38	A8	1.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3028		1	A	1	647	336				1	28-38	A8	0.9	0.66-2.5	Flake Fragment	Swan River Chert			
3029		1	A	1	647	336				1	28-38	A8	3.2	0.66-2.5	Core, Bipolar	Swan River Chert			exhausted; MLD=24.69 mm
3030		1	A	1	647	336	0.4	0.24	SW	2	41	A8	4.6	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3031		1	A	1	647	336	0.5	0.24	SW	2	47	A8	146.5	>5.0	Retouched Flake	Quartzite	red		complete; a little cortex remains; bifacial retouch along distal end, some unifacial on ventral surface; Max L= 86.29mm, Max W= 64.05mm, Max T= 27.51mm

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3032		1	A	1	647	336				2	38-48	A8	19.5	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
3033		1	A	1	647	336				2	38-48	A8	7.2	2.5-5.0	Bifacial Reduction Flake	Swan River Chert			
3034	3038	5	A	1	647	336				2	38-48	A8	22.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3039	3042	4	A	1	647	336				2	38-48	A8	10.5	2.5-5.0	Flake Fragment	Swan River Chert			
3043	3072	30	A	1	647	336				2	38-48	A8	27.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3073	3090	18	A	1	647	336				2	38-48	A8	18.2	0.66-2.5	Flake Fragment	Swan River Chert			
3091	3092	2	A	1	647	336				2	38-48	A8	0.5	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
3093		1	A	1	647	337	0.26	0.41	SW	2	37	A8	2.5	2.5-5.0	Flake Fragment	Quartzite	tan		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3094		1	A	1	647	337	0.05	0.88	SE	2	48	A8	25	2.5-5.0	Retouched Flake	Quartzite	grey pink		complete bipolar flake with some cortex remaining, secondary decortication flake; unifacial retouch on dorsal surface right lateral edge; Max L= 45.40mm, Max W= 39.77mm, Max T=18.56 mm
3095		1	A	1	647	337	0.35	0.07	SW	2	40	A8	4.8	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3096		1	A	1	647	337	0.27	0.09	SW	2	37	A8	0.4	0.66-2.5	Flake Fragment	Swan River Chert			
3097		1	A	1	647	337	0.22	0.15	SW	2	41	A8	0.5	0.66-2.5	Bifacial Reduction Flake	Chalcedony	brown		KRF?
3098		1	A	1	647	337				2	26-36	A8	3	0.66-2.5	Block Shatter	Granite	brown		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3099		1	A	1	647	337				2	26-36	A8	0.2	0.66-2.5	Platform Bearing Flake	Quartzite	grey		fine grained
3100	3102	3	A	1	647	337				2	26-36	A8	1.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3103	3104	2	A	1	647	337				2	26-36	A8	0.8	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
3105	3106	2	A	1	647	337				2	26-36	A8	2	0.66-2.5	Block Shatter	Swan River Chert			
3107	3108	2	A	1	647	337				2	26-36	A8	1.2	0.66-2.5	Flake Fragment	Swan River Chert			
3109		1	A	1	647	337	0.68	0.64	NE	3	38	A8	7.6	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform and down side
3110		1	A	1	647	337	0.64	0.66	NE	3	37	A8	0.7	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3111		1	A	1	647	337	0.6	0.71	NE	3	38	A8	1.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3112		1	A	1	647	337	0.88	0.34	NW	3	39	A8	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3113		1	A	1	647	337	0.65	0.14	NW	3	40	A8	3.2	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3114		1	A	1	647	337	0.97	0.31	NW	3	41	A8	8.3	2.5-5.0	Flake Fragment	Swan River Chert			
3115		1	A	1	647	337	0.64	0.29	NW	3	41	A8	3.4	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3116		1	A	1	647	337	0.83	0.12	NW	3	38	A8	0.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3117		1	A	1	647	337	0.96	0.26	NW	3	41	A8	3	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3118		1	A	1	647	337	0.95	0.11	NW	3	40	A8	26.9	>5.0	Retouched Flake	Swan River Chert			broken flake; bifacial retouch along lateral edges and distal end; Max L n/a, Max W= 43.88mm, Max T=14.43 mm
3119		1	A	1	647	337				3	36-46	A8	3.3	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	F2 screen
3120	3122	3	A	1	647	337				3	36-46	A8	1.1	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	F2 screen
3123	3125	3	A	1	647	337				3	36-46	A8	1	0.66-2.5	Flake Fragment	Swan River Chert		F2	F2 screen
3126		1	A	1	647	337				3	36-46	A8	8.9	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
3127		1	A	1	647	337				3	36-46	A8	3.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3128	3129	2	A	1	647	337				3	36-46	A8	1.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3130	3131	2	A	1	647	337				3	36-46	A8	0.9	0.66-2.5	Block Shatter	Swan River Chert			
3132		1	A	1	647	337				3	36-46	A8	4.9	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
3133		1	A	1	647	337				3	36-46	A8	0.3	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
3134		1	A	1	647	337				3	36-46	A8	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
3135		1	A	1	647	337				3	36-46	A8	0.2	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
3136		1	A	1	647	337				3	36-46	A8	1.3	0.66-2.5	Flake Fragment	Quartz	white		
3137		1	A	1	647	337				3	36-46	A8	0.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3138		1	A	1	647	337				3	36-46	A8	0.5	0.66-2.5	Flake Fragment	Granite	red grey		
3139		1	A	1	647	337				3	36-46	A8	2.2	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3140	3141	2	A	1	647	337				3	36-46	A8	7.3	2.5-5.0	Flake Fragment	Swan River Chert			
3142	3143	2	A	1	647	337				3	36-46	A8	3.6	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
3144	3146	3	A	1	647	337				3	36-46	A8	2.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3147	3150	4	A	1	647	337				3	36-46	A8	0.4	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
3151	3157	7	A	1	647	337				3	36-46	A8	3.9	0.66-2.5	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3158	3161	4	A	1	647	337				3	36-46	A8	2.4	0.66-2.5	Block Shatter	Swan River Chert			
3162		1	A	1	647	337				3	36-46	A8	1.7	0.66-2.5	Biface	Swan River Chert			complete; triangular; bifacially worked on all three sides; possible point preform; Max L=20.61 mm, Max W= 16.28mm, Max T=5.54 mm
3163		1	A	1	647	337	0.98	0.85	NE	4	44	A8	3.8	2.5-5.0	Platform Bearing Flake	Quartzite	tan	F2	
3164		1	A	1	647	337	0.98	0.89	NE	4	44	A8	3.3	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3165		1	A	1	647	337	0.97	0.94	NE	4	43	A8	1.5	0.66-2.5	Flake Fragment	Quartzite	grey	F2	coarse grained
3166		1	A	1	647	337	0.98	0.99	NE	4	43	A8	1.7	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	cortex on platform
3167		1	A	1	647	337				4	46-56	A8	1.5	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3168		1	A	1	647	337				4	46-56	A8	0.01	0-0.66	Microdebitage	Swan River Chert		F2	fine screen
3169	3172	4	A	1	647	337				4	46-56	A8	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen
3173	3175	3	A	1	647	337				4	46-56	A8	0.4	0.66-2.5	Flake Fragment	Swan River Chert		F2	fine screen
3176		1	A	1	647	337				4	46-56	A8	0.7	0.66-2.5	Platform Bearing Flake	Quartzite	grey	F2	fine screen
3177		1	A	1	647	337				4	46-56	A8	0.3	0.66-2.5	Flake Fragment	Quartzite	red	F2	fine screen
3178		1	A	1	647	337				4	46-56	A8	0.1	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	grey	F2	fine screen
3179		1	A	1	647	338	0.08	0.15	SW	1	40	A7	6.9	2.5-5.0	Platform Bearing Flake	Quartzite	tan		
3180		1	A	1	647	338	0.65	0.73	NE	1	46	A7	92.9	>5.0	Secondary Decortication Flake	Quartzite	grey		
3181		1	A	1	647	338	0.57	0.89	NE	2	42	A7	5.6	>5.0	Platform Bearing Flake	Quartzite	grey		
3182		1	A	1	647	338	0.19	0.15	SW	2	42	A7	3.3	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3183		1	A	1	647	338	0.83	0.46	NW	2	39	A7	13.3	2.5-5.0	Block Shatter	Quartzite	black red		cortex
3184		1	A	1	647	338				2	35-45	A7	3.2	2.5-5.0	Secondary Decortication Flake	Quartzite	grey		
3185		1	A	1	647	338				2	35-45	A7	0.4	0.66-2.5	Flake Fragment	Quartzite	red		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3186		1	A	1	647	338	0.73	0.7	NE	3	45	A7	47	>5.0	Platform Bearing Flake	Quartzite	tan	F2	cortex on platform
3187		1	A	1	647	338	0.62	0.38	NW	3	42	A7	0.5	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3188		1	A	1	647	338	0.72	0.04	NW	3	38	A7	0.4	0.66-2.5	Flake Fragment	Swan River Chert		F2	
3189		1	A	1	647	338	0.7	0.49	NW	3	44	A7	74.9	>5.0	Flake Fragment	Quartzite	black red	F2	some cortex remains on dorsal surface
3190		1	A	1	647	338	0.73	0.57	NE	3	45	A7	17.9	>5.0	Platform Bearing Flake	Quartzite	red	F2	cortex on platform
3191		1	A	1	647	338	0.92	0.59	NE	3	43	A7	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	
3192		1	A	1	647	338	0.62	0.32	NW	3	43	A7	0.7	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3193		1	A	1	647	338	0.68	0.28	NW	3	42	A7	8	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3194		1	A	1	647	338	0.8	0.19	NW	3	45	A7	1.8	0.66-2.5	Flake Fragment	Quartzite	grey	F2	coarse grained
3195		1	A	1	647	338	0.94	0.04	NW	3	42	A7	2.3	2.5-5.0	Platform Bearing Flake	Quartzite	red	F2	cortex on platform
3196		1	A	1	647	338			E1/2	3	45-59	A7	1.5	0.66-2.5	Platform Bearing Flake	Quartzite	tan		outside F2; cortex on platform
3197		1	A	1	647	338			E1/2	3	45-59	A7	1.3	0.66-2.5	Platform Bearing Flake	Quartzite	grey		outside F2

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3198		1	A	1	647	338			E1/2	3	45-59	A7	4.9	0.66-2.5	Flake Fragment	Swan River Chert			outside F2
3199		1	A	1	647	338			E1/2	3	45-59	A7	0.4	0.66-2.5	Block Shatter	Swan River Chert			outside F2
3200		1	A	1	647	338				3	45-59	A7	1.1	0.66-2.5	Flake Fragment	Swan River Chert			outside F2
3201		1	A	1	647	338				3	45-59	A7	0.1	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	brown		outside F2
3202	3204	3	A	1	647	338			E1/2	3	45-59	A7	0.8	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3205	3207	3	A	1	647	338			E1/2	3	45-59	A7	2.4	0.66-2.5	Flake Fragment	Swan River Chert		F2	
3208		1	A	1	647	338			E1/2	3	45-59	A7	2.4	0.66-2.5	Flake Fragment	Quartzite	red	F2	
3209	3220	12	A	1	647	338				3	45-59	A7	2.8	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen
3221	3227	7	A	1	647	338				3	45-59	A7	1.8	0.66-2.5	Flake Fragment	Swan River Chert		F2	fine screen
3228	3238	11	A	1	647	338				3	45-59	A7	0.4	0-0.66	Microdebitage	Swan River Chert		F2	fine screen
3239	3247	9	A	1	647	338				3	45-59	A7	0.4	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F2	fine screen
3248		1	A	1	647	338				3	45-59	A7	0.2	0.66-2.5	Bifacial Reduction Flake	Swan River Chert		F2	fine screen
3249	3250	2	A	1	647	338				3	45-59	A7	0.2	0.66-2.5	Bifacial Reduction Flake	Chert	brown	F2	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3251		1	A	1	647	338				3	45-59	A7	0.01	0.66-2.5	Flake Fragment	Chert	brown	F2	fine screen
3252	3255	4	A	1	647	338				3	45-59	A7	3.2	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F2	fine screen
3256	3257	2	A	1	647	338				3	45-59	A7	0.4	0.66-2.5	Flake Fragment	Quartzite	tan	F2	fine screen
3258		1	A	1	647	338				3	45-59	A7	0.3	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	fine screen
3259	3261	3	A	1	647	338				3	45-59	A7	0.9	0.66-2.5	Flake Fragment	Quartzite	red	F2	fine screen
3262	3265	4	A	1	647	338				3	45-59	A7	3.2	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen
3266	3268	3	A	1	647	338				3	45-59	A7	3.4	0.66-2.5	Flake Fragment	Swan River Chert		F2	fine screen
3269	3271	3	A	1	647	338				3	45-59	A7	0.1	0.66-2.5	Microdebitage	Swan River Chert		F2	fine screen
3272		1	A	1	647	338				3	45-59	A7	0.1	0.66-2.5	Bifacial Reduction Flake	Swan River Chert		F2	fine screen
3273		1	A	1	647	338				3	45-59	A7	0.3	0.66-2.5	Block Shatter	Swan River Chert		F2	fine screen
3274		1	A	1	647	338				3	45-59	A7	3.4	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen; cortex on platform
3275	3278	4	A	1	647	338				3	45-59	A7	3.4	0.66-2.5	Flake Fragment	Swan River Chert		F2	fine screen
3279	3282	4	A	1	647	338				3	45-59	A7	1.5	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen
3283	3285	3	A	1	647	338				3	45-59	A7	41.6	2.5-5.0	Block Shatter	Swan River Chert		F2	fine screen
3286		1	A	1	647	339	0.66	0.06	NW	2	41	A7	1.5	2.5-5.0	Flake Fragment	Quartzite	grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3287		1	A	1	647	339	0.74	0.04	NW	2	41	A7	22	2.5-5.0	Core, Multidirectional	Quartzite	tan		MLD=43.57 mm; some cortex remains
3288		1	A	1	647	339	0.77	0.01	NW	2	42	A7	9.5	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
3289		1	A	1	647	339	0.87	0.01	NW	2	41	A7	24.6	2.5-5.0	Secondary Decortication Flake	Quartzite	purple		
3290		1	A	1	647	339	0.81	0.26	NW	2	43	A7	2.9	2.5-5.0	Flake Fragment	Quartzite	tan		
3291		1	A	1	647	339	0.78	0.31	NW	2	40	A7	13.7	2.5-5.0	Retouched Flake	Quartzite	grey		flake fragment; some unifacial retouch along one lateral edge; metrics n/a
3292		1	A	1	647	339	0.74	0.69	NE	2	44	A7	19.4	2.5-5.0	Block Shatter	Swan River Chert			
3293		1	A	1	647	339	0.98	0.81	NE	2	40	A7	5.2	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3294		1	A	1	647	339	0.77	0.82	NE	2	40	A7	7.6	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3295		1	A	1	647	339	0.72	0.91	NE	2	41	A7	3.3	2.5-5.0	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3296		1	A	1	647	339	0.85	0.89	NE	2	38	A7	18.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3297		1	A	1	647	339	0.42	0.05	SW	2	44	A7	10.5	2.5-5.0	Flake Fragment	Quartz	white		from concentration
3298		1	A	1	647	339	0.42	0.05	SW	2	44	A7	3.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			from concentration
3299		1	A	1	647	339	0.42	0.05	SW	2	44	A7	1.7	0.66-2.5	Platform Bearing Flake	Quartzite	tan		from concentration
3300	3301	2	A	1	647	339				2	46-47	A7	1.1	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
3302		1	A	1	647	339				2	46-47	A7	0.6	0.66-2.5	Platform Bearing Flake	Quartzite	red		cortex on platform
3303		1	A	1	647	339				2	46-47	A7	0.3	0.66-2.5	Flake Fragment	Quartzite	red		
3304	3306	3	A	1	647	339				2	46-47	A7	3.4	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
3307		1	A	1	647	339				2	46-47	A7	2	0.66-2.5	Platform Bearing Flake	Swan River Chert	pink		
3308	3311	4	A	1	647	339				2	46-47	A7	2.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3312		1	A	1	647	339				2	46-47	A7	0.01	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
3313		1	A	1	647	339				2	46-47	A7	0.7	0.66-2.5	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3314		1	A	1	647	339				2	46-47	A7	4.7	2.5-5.0	Flake Fragment	Quartzite	red		pedestals; cortex on dorsal surface, decortication flake
3315	3316	2	A	1	647	339				2	46-47	A7	2.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			pedestals
3317	3319	3	A	1	647	339	0.89-1.0	0.88-1.0	NE	2	46-47	A7	2.4	0.66-2.5	Block Shatter	Swan River Chert			fine screen
3320		1	A	1	647	339	0.89-1.0	0.88-1.0	NE	2	46-47	A7	0.01	0.66-2.5	Flake Fragment	Siltstone	black		fine screen
3321		1	A	1	647	339	0.89-1.0	0.88-1.0	NE	2	46-47	A7	0.1	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			fine screen
3322	3327	6	A	1	647	339	0.89-1.0	0.88-1.0	NE	2	46-47	A7	0.2	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			fine screen
3328	3329	2	A	1	647	339	0.89-1.0	0.88-1.0	NE	2	46-47	A7	0.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			fine screen
3330		1	A	1	647	339	0.89-1.0	0.88-1.0	NE	2	46-47	A7	0.1	0.66-2.5	Flake Fragment	Swan River Chert			fine screen
3331	3336	6	A	1	647	339				2	46-47	A7	7.9	0.66-2.5	Block Shatter	Swan River Chert			sand layer below CU1
3337		1	A	1	647	340				1	38-38	A7	0.5	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
3338		1	A	1	647	340	0.96	0.3	NW	2	37	A7	9.3	2.5-5.0	Secondary Decortication Flake	Quartzite	tan		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3339		1	A	1	647	340	0.94	0.2	NW	2	38	A7	10.8	2.5-5.0	Secondary Decortication Flake	Swan River Chert			
3340		1	A	1	647	340	0.61	0.12	NW	2	38	A7	14.4	>5.0	Secondary Decortication Flake	Quartzite	tan		
3341		1	A	1	647	340				2	38-48	A7	0.6	0.66-2.5	Platform Bearing Flake	Quartzite	red		cortex on platform
3342		1	A	1	647	340				2	38-48	A7	7.4	2.5-5.0	Flake Fragment	Quartzite	tan		cortex on dorsal surface, decortication flake
3343		1	A	1	647	340				2	38-48	A7	8.9	2.5-5.0	Core Fragment	Quartz	white		MLD=33.70m m; some cortex remaining
3344		1	A	1	647	340				3	36-43	A6	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
3345		1	A	1	647	340				3	36-43	A6	0.5	0.66-2.5	Block Shatter	Swan River Chert			
3346		1	A	1	647	342	0.25	0.26	SW	2	49	A6	1.1	0.66-2.5	Flake Fragment	Swan River Chert			
3347		1	A	1	647	342	0.75	0.2	NW	2	49	A6	10.2	>5.0	Platform Bearing Flake	Quartzite	red tan		cortex on platform
3348		1	A	1	647	342	0.97	0.09	NW	2	46	A6	19.1	>5.0	Secondary Decortication Flake	Quartzite	grey		some cortex on dorsal surface

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3349		1	A	1	647	342				2	47-57	A6	4.4	2.5-5.0	Primary Decortication Flake	Quartzite	grey		
3350		1	A	1	647	342				2	47-57	A6	0.9	2.5-5.0	Flake Fragment	Quartzite	red		
3351		1	A	1	647	342				2	47-57	A6	1.5	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
3352		1	A	1	647	342				2	47-57	A6	0.4	0.66-2.5	Platform Bearing Flake	Quartz	white		
3353	3354	2	A	1	647	342				2	47-57	A6	1.3	0.66-2.5	Flake Fragment	Quartz	white		
3355	3357	3	A	1	647	342				2	47-57	A6	0.9	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3358		1	A	1	647	342				2	47-57	A6	1.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			cortex on platform
3359	3360	2	A	1	647	342				2	47-57	A6	1.7	0.66-2.5	Flake Fragment	Swan River Chert			
3361	3365	5	A	1	647	342				2	47-57	A6	4.9	0.66-2.5	Platform Bearing Flake	Quartzite	red		
3366	3367	2	A	1	647	342				2	47-57	A6	1.2	0.66-2.5	Flake Fragment	Quartzite	grey		
3368		1	A	1	647	339				2	46-47	A7	0.2	0.66-2.5	Flake Fragment	Quartzite	tan		
3369		1	A	1	647	343				1	43-43	A5	5.2	2.5-5.0	Platform Bearing Flake	Quartzite	red		
3370		1	A	1	647	343				1	43-43	A5	2.4	2.5-5.0	Flake Fragment	Quartzite	red		cortex remains on dorsal surface
3371	3373	3	A	1	647	343				1	43-43	A5	2.9	0.66-2.5	Flake Fragment	Quartzite	grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3374		1	A	1	647	343				1	43-43	A5	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3375		1	A	1	647	343				1	43-43	A5	0.6	0.66-2.5	Flake Fragment	Swan River Chert			
3376	3377	2	A	1	647	343				1	43-43	A5	2.5	0.66-2.5	Block Shatter	Swan River Chert			
3378	3379	2	A	1	647	343				1	43-43	A5	2	0.66-2.5	Platform Bearing Flake	Quartz	white		
3380		1	A	1	647	343	0.9	0.11	NW	2	47	A5	8.6	>5.0	Primary Decortication Flake	Quartzite	grey		
3381	3382	2	A	1	647	343				2	43-53	A5	21.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3383		1	A	1	647	343				2	43-53	A5	12.2	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
3384		1	A	1	647	343				2	43-53	A5	3.2	2.5-5.0	Secondary Decortication Flake	Quartzite	grey		
3385		1	A	1	647	343				2	43-53	A5	6.1	2.5-5.0	Flake Fragment	Quartzite	grey		
3386		1	A	1	647	343				2	43-53	A5	3.1	2.5-5.0	Flake Fragment	Quartzite	grey		
3387	3391	5	A	1	647	343				2	43-53	A5	7.1	0.66-2.5	Platform Bearing Flake	Quartz	white		
3392	3395	4	A	1	647	343				2	43-53	A5	3.1	0.66-2.5	Flake Fragment	Quartz	white		
3396	3397	2	A	1	647	343				2	43-53	A5	1.1	0.66-2.5	Platform Bearing Flake	Quartzite	red		
3398	3400	3	A	1	647	343				2	43-53	A5	3.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3401	3402	2	A	1	647	343				2	43-53	A5	1.5	0.66-2.5	Flake Fragment	Quartzite	tan		
3403	3406	4	A	1	647	343				2	43-53	A5	2.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3407		1	A	1	647	343				2	43-53	A5	0.3	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
3408	3412	5	A	1	647	343				2	43-53	A5	4.9	0.66-2.5	Flake Fragment	Swan River Chert			
3413		1	A	1	647	343				2	43-53	A5	0.5	0.66-2.5	Platform Bearing Flake	Chert	brown		Montana?
3414	3415	2	A	1	647	343				2	43-53	A5	4.9	0.66-2.5	Flake Fragment	Granite	pink		
3416		1	A	1	647	343	0.66	0.41	NW	2	46	A5	15.4	>5.0	Core, Bipolar	Swan River Chert			exhausted; MLD=50.62 mm
3417		1	A	1	647	343	0.61	0.46	NW	2	48	A5	21.3	>5.0	Secondary Decortication Flake	Swan River Chert			
3418		1	A	1	647	343	0.02	0.61	SE	2	47	A5	15.8	>5.0	Secondary Decortication Flake	Swan River Chert			
3419		1	A	1	647	343	0.1	0.37	SW	2	45	A5	11.3	2.5-5.0	Platform Bearing Flake	Quartz	white		
3420		1	A	1	647	343	0.36	0.7	SE	2	45	A5	3.5	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
3421		1	A	1	647	343	0.04	0.72	SE	2	49	A5	53.8	>5.0	Platform Bearing Flake	Quartzite	red		cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3422		1	A	1	647	343	0.06	0.23	SW	2	49	A5	19.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
3423		1	A	1	647	343	0.04	0.4	SW	2	48	A5	10.4	2.5-5.0	Platform Bearing Flake	Quartz	white		
3424		1	A	1	647	343	0.3	0.7	SE	2	49	A5	9.9	2.5-5.0	Block Shatter	Swan River Chert			
3425		1	A	1	647	343	0.35	0.76	SE	2	48	A5	10.9	2.5-5.0	Flake Fragment	Quartzite	grey		
3426		1	A	1	647	343				3	53-63	A5	7.4	0.66-2.5	Block Shatter	Quartzite	grey		
3427		1	A	1	647	343				3	53-63	A5	1.8	0.66-2.5	Block Shatter	Granite	pink		
3428		1	A	1	648	336	0.38	0.85	SE	2	40	A1	1.8	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3429		1	A	1	648	336	0.6	0.84	NE	2	40	A1	22.9	2.5-5.0	Core Fragment	Swan River Chert			cortex on two opposite ends; MLD= 48.84mm
3430		1	A	1	648	336	0.72	0.66	NE	2	40	A1	7.1	2.5-5.0	Block Shatter	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3431		1	A	1	648	336	0.21	0.46	SW	2	40	A1	3.2	2.5-5.0	Utilized Flake	Swan River Chert			complete flake, utilization on left lateral edge; Max L=36.32mm, Max W= 13.99mm, Max T= 5.90mm
3432		1	A	1	648	336	0.2	0.45	SW	2	40	A1	3.8	2.5-5.0	Platform Bearing Flake	Quartzite	tan		
3433		1	A	1	648	336	0.22	0.53	SE	2	41	A1	5.8	2.5-5.0	Flake Fragment	Coarse Grained Material	grey		cortex on dorsal surface, decortication flake
3434		1	A	1	648	336	0.31	0.44	SW	2	41	A1	7.1	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
3435		1	A	1	648	336	0.36	0.38	SW	2	41	A1	8.9	0.66-2.5	Block Shatter	Quartzite	red		small amount of cortex remaining
3436		1	A	1	648	336	0.45	0.43	SW	2	42	A1	5.5	2.5-5.0	Core, Bipolar	Quartzite	grey		exhausted; MLD=33.14 mm
3437		1	A	1	648	336	0.75	0.82	NE	2	41	A1	9.6	2.5-5.0	Flake Fragment	Quartzite	tan		cortex present

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3438		1	A	1	648	336	0.85	0.62	NE	2	41	A1	11.4	2.5-5.0	Platform Bearing Flake	Quartzite	red grey		cortex on platform
3439		1	A	1	648	336	0.95	0.53	NE	2	41	A1	4.8	2.5-5.0	Platform Bearing Flake	Quartz	white		cortex on platform
3440		1	A	1	648	336	0.25	0.5	SW	2	41	A1	16.9	2.5-5.0	Platform Bearing Flake	Quartzite	red grey		cortex on platform
3441		1	A	1	648	336	0.24	0.27	SW	2	42	A1	6.1	2.5-5.0	Flake Fragment	Swan River Chert			
3442		1	A	1	648	336	0.06	0.97	SE	2	42	A1	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3443	3445	3	A	1	648	336				2	31-41	A1	0.1	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
3446		1	A	1	648	336				2	31-41	A1	5.6	2.5-5.0	Flake Fragment	Swan River Chert			some cortex on dorsal surface
3447	3454	8	A	1	648	336				2	31-41	A1	6.8	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3455		1	A	1	648	336				2	31-41	A1	0.1	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
3456	3457	2	A	1	648	336				2	31-41	A1	1.7	0.66-2.5	Flake Fragment	Swan River Chert			
3458	3459	2	A	1	648	336				2	31-41	A1	0.7	0.66-2.5	Platform Bearing Flake	Coarse Grained Material			
3460		1	A	1	648	336				2	31-41	A1	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3461		1	A	1	648	336				2	31-41	A1	1	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
3462	3463	2	A	1	648	336				2	31-41	A1	0.8	0.66-2.5	Flake Fragment	Quartzite	red		
3464	3465	2	A	1	648	336				2	31-41	A1	0.6	0.66-2.5	Flake Fragment	Quartzite	tan		
3466		1	A	1	648	336				2	31-41	A1	0.3	0.66-2.5	Platform Bearing Flake	Quartzite	red grey		
3467		1	A	1	648	336				2	31-41	A1	0.3	0.66-2.5	Platform Bearing Flake	Granite	red		
3468		1	A	1	648	336	0.14	0.2	SW	3	44	A1	12.5	>5.0	Secondary Decortication Flake	Quartzite	grey		
3469		1	A	1	648	336				3	41-51	A1	0.2	0.66-2.5	Flake Fragment	Quartzite	grey		
3470		1	A	1	648	336				3	41-51	A1	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	red		
3471		1	A	1	648	337				1	32-34	A2	1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3472		1	A	1	648	337	0.47	0.1	SW	2	39	A2	8.2	2.5-5.0	Flake Fragment	Swan River Chert			
3473		1	A	1	648	337	0.6	0.2	NW	2	39	A2	3.8	0.66-2.5	Primary Decortication Flake	Swan River Chert			
3474		1	A	1	648	337	0.77	0.19	NW	2	39	A2	4	2.5-5.0	Platform Bearing Flake	Swan River Chert			cortex on platform
3475		1	A	1	648	337	0.89	0.92	NE	2	42	A2	2.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3476		1	A	1	648	337	0.28	0.87	SE	2	42	A2	9.1	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2 - not recorded on card, took from map	very red, heated?
3477		1	A	1	648	337	0.27	0.84	SE	2	42	A2	1.8	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2 - not recorded on card, took from map	
3478		1	A	1	648	337	0.2	0.86	SE	2	41	A2	4.1	2.5-5.0	Platform Bearing Flake	Quartzite	red	F2 - not recorded on card, took from map	cortex on platform
3479		1	A	1	648	337	0.09	0.95	SE	2	42	A2	2.1	0.66-2.5	Flake Fragment	Coarse Grained Material	grey	F2 - not recorded on card, took from map	cortex on dorsal surface, decortication flake

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3480		1	A	1	648	337	0.05	0.97	SE	2	42	A2	7	2.5-5.0	Bifacial Reduction Flake	Swan River Chert		F2 - not recorded on card, took from map	
3481		1	A	1	648	337	0.43	0.24	SW	2	40	A2	17.7	2.5-5.0	Block Shatter	Swan River Chert			
3482		1	A	1	648	337	0.25	0.39	SW	2	42	A2	3.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3483		1	A	1	648	337	0.33	0.38	SW	2	42	A2	3.6	2.5-5.0	Utilized Flake	Swan River Chert			complete flake; utilization along right lateral edge; Max L= 26.82mm, Max W=25.03 mm, Max T=6.80mm
3484		1	A	1	648	337	0.42	0.22	SW	2	40	A2	0.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3485		1	A	1	648	337	0.62	0.24	NW	2	42	A2	5.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3486		1	A	1	648	337	0.79	0.35	NW	2	42	A2	4.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3487		1	A	1	648	337	0.67	0.51	NE	2	41	A2	1	0.66-2.5	Flake Fragment	Swan River Chert			
3488		1	A	1	648	337	0.09	0.31	SW	2	41	A2	7.7	0.66-2.5	Retouched Flake	Swan River Chert			broken flake; unifacial retouch along left lateral edge, ventral surface; Max L= 30.43mm, Max W n/a, Max T=10.06mm
3489		1	A	1	648	337	0.24	0.43	SW	2	39	A2	1.8	0.66-2.5	Secondary Decortication Flake	Quartzite	tan		
3490		1	A	1	648	337	0.42	0.28	SW	2	41	A2	0.8	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3491		1	A	1	648	337	0.15	0.16	SW	2	40	A2	0.6	0.66-2.5	Flake Fragment	Swan River Chert			
3492		1	A	1	648	337	0.06	0.06	SW	2	42	A2	1.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3493		1	A	1	648	337	0.17	0.36	SW	2	42	A2	2.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3494		1	A	1	648	337	0.09	0.28	SW	2	40	A2	2.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3495		1	A	1	648	337	0.13	0.17	SW	2	42	A2	0.7	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3496		1	A	1	648	337	0.28	0.29	SW	2	42	A2	0.5	0.66-2.5	Flake Fragment	Swan River Chert			
3497		1	A	1	648	337	0.38	0.32	SW	2	43	A2	1.5	0.66-2.5	Flake Fragment	Quartzite	tan		
3498		1	A	1	648	337	0.35	0.29	SW	2	41	A2	1	0.66-2.5	Flake Fragment	Swan River Chert			
3499		1	A	1	648	337	0.44	0.45	SW	2	42	A2	5.2	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3500		1	A	1	648	337	0.02	0.08	SW	2	43	A2	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	grey		coarse grained; cortex on platform
3501		1	A	1	648	337	0.04	1	SE	2	42	A2	2.1	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F2	cortex on platform
3502		1	A	1	648	337				2	34-44	A2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	tan		
3503	3506	4	A	1	648	337				2	34-44	A2	3.6	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
3507	3508	2	A	1	648	337				2	34-44	A2	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
3509		1	A	1	648	337				2	34-44	A2	0.2	0.66-2.5	Flake Fragment	Quartzite	tan		
3510		1	A	1	648	337				2	34-44	A2	0.8	0.66-2.5	Flake Fragment	Quartzite	purple		
3511	3512	2	A	1	648	337				2	34-44	A2	1.4	0.66-2.5	Platform Bearing Flake	Quartzite	red		
3513		1	A	1	648	337				2	34-44	A2	1	0.66-2.5	Flake Fragment	Quartzite	red		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3514	3516	3	A	1	648	337				2	34-44	A2	1.7	0.66-2.5	Flake Fragment	Quartzite	grey		
3517		1	A	1	648	337				2	34-44	A2	0.1	0.66-2.5	Bifacial Reduction Flake	Quartzite	grey		
3518		1	A	1	648	337				2	34-44	A2	3.5	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3519	3528	10	A	1	648	337				2	34-44	A2	10.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3529	3536	8	A	1	648	337				2	34-44	A2	0.8	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
3537	3542	6	A	1	648	337				2	34-44	A2	3.8	0.66-2.5	Flake Fragment	Swan River Chert			
3543	3547	5	A	1	648	337				2	34-44	A2	3.7	0.66-2.5	Block Shatter	Swan River Chert			
3548		1	A	1	648	337				2	34-44	A2	0.4	0.66-2.5	Platform Bearing Flake	Montana Chert	mottled brown		white cortex
3549		1	A	1	648	337				2	34-44	A2	0.6	0.66-2.5	Platform Bearing Flake	Coarse Grained Material	grey		cortex on platform
3550		1	A	1	648	337				2	34-44	A2	0.9	>5.0	Platform Bearing Flake	Argillite	purple		
3551		1	A	1	648	337	0.83	0.71	NE	3	43	A2	41.5	0.66-2.5	Block Shatter	Quartzite	grey		
3552		1	A	1	648	337	0.31	0.68	SE	3	41	A2	1.9	0.66-2.5	Secondary Decortication Flake	Quartzite	grey		
3553		1	A	1	648	337	0.37	0.64	SE	3	43	A2	3.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3554		1	A	1	648	337	0.5	0.65	SE	3	41	A2	2.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3555		1	A	1	648	337	0.49	0.48	SW	3	43	A2	3.1	2.5-5.0	Flake Fragment	Swan River Chert			
3556		1	A	1	648	337	0.75	0.46	NW	3	42	A2	5.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3557		1	A	1	648	337	0.41	0.65	SE	3	44	A2	7.4	2.5-5.0	Platform Bearing Flake	Swan River Chert			refits to #3558; platform split medially between two pieces
3558		1	A	1	648	337	0.91	0.57	NE	3	45	A2	3.4	2.5-5.0	Platform Bearing Flake	Swan River Chert			refits to #3557; platform split medially between two pieces
3559		1	A	1	648	337	0.42	0.62	SE	3	44	A2	8.4	2.5-5.0	Platform Bearing Flake	Quartzite	red		
3560		1	A	1	648	337	0.03	0.76	SE	3	47	A2	12.2	2.5-5.0	Block Shatter	Swan River Chert		F2	
3561		1	A	1	648	337	0.16	0.76	SE	3	46	A2	2.7	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3562		1	A	1	648	337	0.19	0.79	SE	3	44	A2	5.7	2.5-5.0	Flake Fragment	Swan River Chert		F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3563		1	A	1	648	337	0.32	0.88	SE	3	44	A2	6	2.5-5.0	Secondary Decortication Flake	Swan River Chert		F2	
3564		1	A	1	648	337	0.37	0.81	SE	3	43	A2	7.4	2.5-5.0	Secondary Decortication Flake	Swan River Chert		F2	
3565		1	A	1	648	337	0.52	0.84	NE	3	43	A2	0.6	0.66-2.5	Bifacial Reduction Flake	Montana Chert	mottled brown	F2	
3566		1	A	1	648	337	0.54	0.9	NE	3	44	A2	0.9	0.66-2.5	Platform Bearing Flake	Argillite	purple	F2	
3567		1	A	1	648	337	0.18	0.82	SE	3	45	A2	2.6	2.5-5.0	Platform Bearing Flake	Quartzite	red	F2	cortex on platform
3568		1	A	1	648	337	0.38	0.86	SE	3	44	A2	3.8	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3569		1	A	1	648	337	0.17	0.82	SE	3	46	A2	4.5	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3570		1	A	1	648	337	0.16	0.87	SE	3	47	A2	3.6	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3571		1	A	1	648	337	0.16	0.9	SE	3	46	A2	1	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3572		1	A	1	648	337	0.09	0.71	SE	3	48	A2	8.3	2.5-5.0	Platform Bearing Flake	Quartzite	tan	F2	cortex on platform
3573		1	A	1	648	337	0.09	0.71	SE	3	48	A2	2.2	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3574		1	A	1	648	337	0.08	0.75	NE	3	48	A2	21.4	2.5-5.0	Core, Bipolar	Quartzite	tan	F2	possibly bidirectional; MLD=44.46 mm
3575		1	A	1	648	337	0.04	0.79	SE	3	49	A2	2.2	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3576		1	A	1	648	337	0.07	0.77	SE	3	51	A2	5	2.5-5.0	Platform Bearing Flake	Quartzite	grey	F2	cortex on platform
3577	3578	2	A	1	648	337				3	44-54	A2	7.4	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3579		1	A	1	648	337				3	44-54	A2	11.7	2.5-5.0	Block Shatter	Swan River Chert			
3580		1	A	1	648	337				3	44-54	A2	4.9	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
3581		1	A	1	648	337				3	44-54	A2	0.1	0.66-2.5	Platform Bearing Flake	Quartz	clear		
3582		1	A	1	648	337				3	44-54	A2	0.5	0.66-2.5	Platform Bearing Flake	Argillite	purple		
3583	3584	2	A	1	648	337				3	44-54	A2	0.6	0.66-2.5	Retouch/ Resharpener Flake	Montana Chert	mottled brown		
3585		1	A	1	648	337				3	44-54	A2	1	0.66-2.5	Platform Bearing Flake	Chert	grey		
3586		1	A	1	648	337				3	44-54	A2	3.4	0.66-2.5	Platform Bearing Flake	Swan River Chert	grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3587		1	A	1	648	337				3	44-54	A2	0.6	0.66-2.5	Platform Bearing Flake	Coarse Grained Material	grey		
3588	3589	2	A	1	648	337				3	44-54	A2	1	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
3590		1	A	1	648	337				3	44-54	A2	2	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
3591	3593	3	A	1	648	337				3	44-54	A2	1.1	0.66-2.5	Flake Fragment	Quartzite	tan		
3594		1	A	1	648	337				3	44-54	A2	0.4	0.66-2.5	Block Shatter	Quartzite	grey		
3595	3598	4	A	1	648	337				3	44-54	A2	5.4	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
3599	3610	12	A	1	648	337				3	44-54	A2	8.7	0.66-2.5	Platform Bearing Flake	Swan River Chert	tan		
3611	3614	4	A	1	648	337				3	44-54	A2	0.5	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert	tan		
3615	3624	10	A	1	648	337				3	44-54	A2	7	0.66-2.5	Flake Fragment	Swan River Chert	tan		
3625		1	A	1	648	337				3	44-54	A2	1.8	0.66-2.5	Block Shatter	Swan River Chert	tan		
3626	3627	2	A	1	648	337				3	44-54	A2	1.5	0.66-2.5	Platform Bearing Flake	Argillite	purple	F2	
3628		1	A	1	648	337				3	44-54	A2	0.3	0.66-2.5	Flake Fragment	Quartz	clear	F2	
3629	3630	2	A	1	648	337				3	44-54	A2	0.4	0.66-2.5	Platform Bearing Flake	Montana Chert	mottled brown	F2	
3631	3632	2	A	1	648	337				3	44-54	A2	0.2	0.66-2.5	Flake Fragment	Montana Chert	mottled brown	F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3633		1	A	1	648	337				3	44-54	A2	0.01	0.66-2.5	Flake Fragment	Chalcedony	brown	F2	
3634	3635	2	A	1	648	337				3	44-54	A2	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	grey	F2	
3636		1	A	1	648	337				3	44-54	A2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	tan	F2	with dark speckles
3637	3643	7	A	1	648	337				3	44-54	A2	0.2	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	mottled brown	F2	
3644	3646	3	A	1	648	337				3	44-54	A2	0.2	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	red	F2	
3647	3650	4	A	1	648	337				3	44-54	A2	0.2	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	grey	F2	
3651	3680	30	A	1	648	337				3	44-54	A2	1.5	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F2	
3681		1	A	1	648	337				3	44-54	A2	0.01	0-0.66	Microdebitage	Chalcedony	brown	F2	
3682		1	A	1	648	337				3	44-54	A2	0.01	0-0.66	Microdebitage	Quartz	white	F2	
3683	3695	13	A	1	648	337				3	44-54	A2	0.3	0-0.66	Microdebitage	Swan River Chert		F2	
3696	3697	2	A	1	648	337				3	44-54	A2	0.3	0.66-2.5	Bifacial Reduction Flake	Swan River Chert		F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3698		1	A	1	648	337				3	44-54	A2	0.3	0.66-2.5	Secondary Decortication Flake	Swan River Chert		F2	
3699	3724	26	A	1	648	337				3	44-54	A2	6.8	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3725	3756	32	A	1	648	337				3	44-54	A2	5.3	0.66-2.5	Flake Fragment	Swan River Chert		F2	
3757	3760	4	A	1	648	337				3	44-54	A2	0.3	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F2	
3761		1	A	1	648	337				3	44-54	A2	0.01	0.66-2.5	Microdebitage	Swan River Chert		F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3762		1	A	1	648	337				3	44-54	A2	0.9	0.66-2.5	Retouched Flake	Swan River Chert		F2	broken flake; bifacial retouch on three sides, one side broken, original shape triangular; thin, possibly preform; Max L n/a, Max W= 16.54, Max T=3.13 mm
3763	3765	3	A	1	648	337				3	44-54	A2	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	
3766	3767	2	A	1	648	337				3	44-54	A2	0.01	0.66-2.5	Platform Bearing Flake	Quartzite	grey	F2	
3768	3770	3	A	1	648	337				3	44-54	A2	0.5	0.66-2.5	Platform Bearing Flake	Quartzite	ran	F2	
3771	3772	2	A	1	648	337				3	44-54	A2	1.7	0.66-2.5	Platform Bearing Flake	Quartzite	grey	F2	cortex on platform
3773		1	A	1	648	337				3	44-54	A2	0.1	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3774		1	A	1	648	337				3	44-54	A2	0.3	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F2	cortex on platform
3775	3782	8	A	1	648	337				3	44-54	A2	2.6	0.66-2.5	Flake Fragment	Quartzite	red	F2	
3783	3787	5	A	1	648	337				3	44-54	A2	1.6	0.66-2.5	Flake Fragment	Quartzite	grey	F2	
3788	3789	2	A	1	648	337				3	44-54	A2	0.2	0.66-2.5	Retouch/ Resharpener Flake	Chert	grey	F2	
3790	3791	2	A	1	648	337				3	44-54	A2	0.01	0-0.66	Microdebitage	Quartzite	tan	F2	
3792		1	A	1	648	337				3	44-54	A2	0.3	0.66-2.5	Retouched Flake	Quartzite	grey	F2	fragment; bifacial retouch on remnants of right and left lateral edges; small; metrics n/a
3793		1	A	1	648	336	0.23	0.02	SW	3	41	A1	3.9	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
3794		1	A	1	648	337				4	51-61	A2	14	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
3795		1	A	1	648	337				4	51-61	A2	3.4	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform; 2 pieces refit
3796		1	A	1	648	337				4	51-61	A2	9.6	2.5-5.0	Platform Bearing Flake	Quartzite	red		
3797		1	A	1	648	337				4	51-61	A2	0.4	0.66-2.5	Flake Fragment	Quartz	white		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3798		1	A	1	648	337				4	51-61	A2	0.1	0.66-2.5	Bifacial Reduction Flake	Chert	mottled brown		Montana?
3799		1	A	1	648	337				4	51-61	A2	0.8	0.66-2.5	Platform Bearing Flake	Quartzite	red		cortex on platform
3800	3801	2	A	1	648	337				4	51-61	A2	1.3	0.66-2.5	Platform Bearing Flake	Quartzite	red		
3802	3803	2	A	1	648	337				4	51-61	A2	0.4	0.66-2.5	Flake Fragment	Quartzite	red		
3804		1	A	1	648	337				4	51-61	A2	1.5	0.66-2.5	Block Shatter	Quartzite	red		
3805		1	A	1	648	337				4	51-61	A2	1	0.66-2.5	Platform Bearing Flake	Quartzite	grey		coarse grained
3806	3808	3	A	1	648	337				4	51-61	A2	0.2	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	grey		
3809		1	A	1	648	337				4	51-61	A2	0.7	0.66-2.5	Platform Bearing Flake	Swan River Chert			cortex on platform
3810		1	A	1	648	337				4	51-61	A2	0.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
3811	3812	2	A	1	648	337				4	51-61	A2	0.2	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
3813	3814	2	A	1	648	337				4	51-61	A2	0.2	0.66-2.5	Flake Fragment	Swan River Chert			
3815		1	A	1	648	337				5	61-71	A2	4.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3816		1	A	1	648	337				5	61-71	A2	22	>5.0	Primary Decortication Flake	Quartzite	purple	F3	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3817		1	A	1	648	337				5	61-71	A2	5.6	2.5-5.0	Platform Bearing Flake	Swan River Chert		F3	fine screen
3818		1	A	1	648	337				5	61-71	A2	0.9	2.5-5.0	Flake Fragment	Swan River Chert		F3	fine screen
3819	3821	3	A	1	648	337				5	61-71	A2	1.5	0.66-2.5	Platform Bearing Flake	Quartzite	red	F3	fine screen
3822	3823	2	A	1	648	337				5	61-71	A2	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F3	fine screen
3824		1	A	1	648	337				5	61-71	A2	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F3	fine screen; cortex on platform
3825		1	A	1	648	337				5	61-71	A2	0.1	0.66-2.5	Flake Fragment	Quartzite	tan	F3	fine screen
3826		1	A	1	648	337				5	61-71	A2	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert		F3	fine screen
3827		1	A	1	648	337				5	61-71	A2	0.1	0.66-2.5	Flake Fragment	Quartz	white	F3	fine screen
3828		1	A	1	648	337				6	71-81	A2	0.3	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
3829		1	A	1	648	337				6	71-81	A2	2.3	2.5-5.0	Platform Bearing Flake	Quartzite	grey	F3	fine screen
3830		1	A	1	648	337				6	71-81	A2	0.2	0.66-2.5	Platform Bearing Flake	Quartzite	grey	F3	fine screen
3831	3832	2	A	1	648	337				6	71-81	A2	0.6	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F3	fine screen; cortex on platform
3833		1	A	1	648	337				6	71-81	A2	0.1	0.66-2.5	Flake Fragment	Swan River Chert		F3	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3834		1	A	1	648	338				1	30-32	A2	0.8	0.66-2.5	Platform Bearing Flake	Siltstone	grey		
3835		1	A	1	648	338				1	30-32	A2	0.5	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
3836		1	A	1	648	338	0.79	0.97	NE	2	42	A2	2.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3837		1	A	1	648	338	0.98	0.48	NW	2	44	A2	3.2	2.5-5.0	Secondary Decortication Flake	Swan River Chert			outside of feature
3838		1	A	1	648	338	0.96	0.45	NW	2	43	A2	2.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			outside of feature
3839		1	A	1	648	338	0.45	0.83	SE	2	42	A2	7.9	2.5-5.0	Flake Fragment	Quartzite	purple	F2	
3840		1	A	1	648	338	0.48	0.72	SE	2	42	A2	3.7	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3841		1	A	1	648	338	0.29	0.86	SE	2	41	A2	5.2	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3842		1	A	1	648	338	0.88	0.73	NE	2	46	A2	382.7	>5.0	Core, Multidirectional	Quartzite	grey		MLD=89.8mm
3843		1	A	1	648	338	0.12	0.78	SE	2	42	A2	0.3	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3844		1	A	1	648	338	0.25	0.89	SE	2	42	A2	1.3	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3845		1	A	1	648	338	0.23	0.39	SW	2	39	A2	78.5	>5.0	Platform Bearing Flake	Quartzite	red	F2	
3846		1	A	1	648	338	0.56	0.72	NE	2	43	A2	6.9	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3847		1	A	1	648	338	0.29	0.74	SE	2	42	A2	18.8	2.5-5.0	Platform Bearing Flake	Quartzite	red	F2	
3848		1	A	1	648	338	0.83	0.87	NE	2	43	A2	3.3	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3849		1	A	1	648	338	0.75	0.41	NW	2	42	A2	5.1	2.5-5.0	Platform Bearing Flake	Quartzite	red	F2	cortex on platform
3850		1	A	1	648	338	0.24	0.75	SE	2	41	A2	2.5	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3851		1	A	1	648	338	0.33	0.91	SE	2	41	A2	1.3	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3852		1	A	1	648	338	0.32	0.85	SE	2	42	A2	1.2	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3853		1	A	1	648	338	0.47	0.91	SE	2	40	A2	6.4	2.5-5.0	Bifacial Reduction Flake	Swan River Chert		F2	
3854		1	A	1	648	338	0.53	0.83	NE	2	41	A2	2	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3855		1	A	1	648	338	0.48	0.92	SE	2	41	A2	2.9	2.5-5.0	Bifacial Reduction Flake	Swan River Chert		F2	
3856		1	A	1	648	338	0.23	0.67	SE	2	45	A2	8.8	2.5-5.0	Flake Fragment	Swan River Chert		F2	
3857		1	A	1	648	338	0.47	0.63	SE	2	44	A2	3.3	2.5-5.0	Platform Bearing Flake	Argillite	purple	F2	
3858		1	A	1	648	338	0.65	0.51	NE	2	43	A2	6.9	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3859		1	A	1	648	338	0.25	0.63	SE	2	43	A2	1.7	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3860	3861	2	A	1	648	338	0.9-1.0	0.9-1.0	NE	2	32-43	A2	1.5	0.66-2.5	Flake Fragment	Swan River Chert			fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3862		1	A	1	648	338	0.9-1.0	0.9-1.0	NE	2	32-43	A2	1.3	0.66-2.5	Block Shatter	Quartzite	grey		
3863		1	A	1	648	338	0.9-1.0	0.9-1.0	NE	2	32-43	A2	3.7	0.66-2.5	Platform Bearing Flake	Granite	red		
3864		1	A	1	648	338				2	32-43	A2	9.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		outside of feature; cortex on platform
3865		1	A	1	648	338				2	32-43	A2	1.6	2.5-5.0	Flake Fragment	Swan River Chert			outside of feature
3866		1	A	1	648	338				2	32-43	A2	0.5	2.5-5.0	Platform Bearing Flake	Quartz	white		outside of feature
3867		1	A	1	648	338				2	32-43	A2	1.5	0.66-2.5	Platform Bearing Flake	Petrified Wood			outside of feature
3868		1	A	1	648	338				2	32-43	A2	0.2	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			outside of feature
3869	3877	9	A	1	648	338				2	32-43	A2	7	0.66-2.5	Platform Bearing Flake	Swan River Chert			outside of feature
3878	3879	2	A	1	648	338				2	32-43	A2	0.5	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			outside of feature
3880	3884	5	A	1	648	338				2	32-43	A2	2.7	0.66-2.5	Flake Fragment	Swan River Chert			outside of feature
3885		1	A	1	648	338				2	32-43	A2	8.5	2.5-5.0	Platform Bearing Flake	Quartzite	red grey	F2	cortex on platform
3886		1	A	1	648	338				2	32-43	A2	0.7	2.5-5.0	Platform Bearing Flake	Quartzite	red	F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3887		1	A	1	648	338				2	32-43	A2	3.9	2.5-5.0	Flake Fragment	Quartzite	grey	F2	
3888		1	A	1	648	338				2	32-43	A2	4.4	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3889		1	A	1	648	338				2	32-43	A2	1.1	2.5-5.0	Flake Fragment	Swan River Chert		F2	
3890		1	A	1	648	338				2	32-43	A2	3.6	2.5-5.0	Block Shatter	Swan River Chert		F2	
3891		1	A	1	648	338				2	32-43	A2	0.4	0.66-2.5	Platform Bearing Flake	Montana Chert	mottled brown	F2	
3892		1	A	1	648	338				2	32-43	A2	0.3	0.66-2.5	Platform Bearing Flake	Chert	grey	F2	
3893		1	A	1	648	338				2	32-43	A2	0.5	0.66-2.5	Block Shatter	Quartz	grey	F2	
3894	3895	2	A	1	648	338				2	32-43	A2	0.9	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F2	
3896	3898	3	A	1	648	338				2	32-43	A2	2.6	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	
3899		1	A	1	648	338				2	32-43	A2	1.2	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	cortex on platform
3900		1	A	1	648	338				2	32-43	A2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	red	F2	
3901	3902	2	A	1	648	338				2	32-43	A2	3.2	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	
3903	3906	4	A	1	648	338				2	32-43	A2	2.3	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	cortex on platform
3907	3909	3	A	1	648	338				2	32-43	A2	3.5	0.66-2.5	Flake Fragment	Quartzite	red	F2	
3910		1	A	1	648	338				2	32-43	A2	0.01	0-0.66	Microdebitage	Quartzite	grey	F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3911	3936	26	A	1	648	338				2	32-43	A2	14.3	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3937	3960	24	A	1	648	338				2	32-43	A2	7.8	0.66-2.5	Flake Fragment	Swan River Chert		F2	
3961	3962	2	A	1	648	338				2	32-43	A2	0.6	0.66-2.5	Block Shatter	Swan River Chert		F2	
3963	3964	2	A	1	648	338				2	32-43	A2	1.6	0.66-2.5	Bifacial Reduction Flake	Swan River Chert		F2	
3965	3974	10	A	1	648	338				2	32-43	A2	0.9	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F2	
3975	3978	4	A	1	648	338				2	32-43	A2	0.1	0-0.66	Microdebitage	Swan River Chert		F2	
3979		1	A	1	648	338				3	43-53	A2	6.1	2.5-5.0	Flake Fragment	Swan River Chert			
3980		1	A	1	648	338				3	43-53	A2	2.5	2.5-5.0	Platform Bearing Flake	Swan River Chert			
3981	3984	4	A	1	648	338				3	43-53	A2	3.1	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
3985		1	A	1	648	338				3	43-53	A2	0.3	0.66-2.5	Platform Bearing Flake	Quartzite	red		
3986		1	A	1	648	338				3	43-53	A2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Montana Chert	mottled brown		
3987	3988	2	A	1	648	338				3	43-53	A2	2.7	0.66-2.5	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
3989	3990	2	A	1	648	338				3	43-53	A2	0.4	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
3991	3994	4	A	1	648	338				3	43-53	A2	1.2	0.66-2.5	Flake Fragment	Swan River Chert			
3995		1	A	1	648	338	0.25	0.46	SW	3	46	A2	6.2	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	
3996		1	A	1	648	338	0.22	0.43	SW	3	42	A2	7.4	2.5-5.0	Block Shatter	Swan River Chert		F2	
3997		1	A	1	648	338	0.75	0.37	NW	3	42	A2	1.3	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	
3998		1	A	1	648	338	0.65	0.26	NW	3	45	A2	1.1	2.5-5.0	Platform Bearing Flake	Chert	brown	F2	
3999		1	A	1	648	338	0.57	0.12	NW	3	46	A2	5.1	2.5-5.0	Bifacial Reduction Flake	Swan River Chert		F2	2 pieces refit
4000		1	A	1	648	338	0.37	0.03	SW	3	48	A2	45.9	2.5-5.0	Core, Bipolar	Swan River Chert		F2	MLD=44.49m m
4001	4010	10	A	1	648	338				3	43-53	A2	0.9	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen
4011	4022	12	A	1	648	338				3	43-53	A2	0.7	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F2	fine screen
4023	4031	9	A	1	648	338				3	43-53	A2	0.7	0.66-2.5	Flake Fragment	Swan River Chert		F2	fine screen
4032	4045	14	A	1	648	338				3	43-53	A2	0.5	0-0.66	Microdebitage	Swan River Chert		F2	fine screen
4046	4047	2	A	1	648	338				3	43-53	A2	0.5	0.66-2.5	Platform Bearing Flake	Quartz	white	F2	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4048		1	A	1	648	338				3	43-53	A2	3.4	2.5-5.0	Platform Bearing Flake	Quartzite	tan	F2	fine screen
4049		1	A	1	648	338				3	43-53	A2	2.3	2.5-5.0	Platform Bearing Flake	Quartzite	red	F2	fine screen
4050	4051	2	A	1	648	338				3	43-53	A2	2.7	2.5-5.0	Platform Bearing Flake	Argillite	purple	F2	fine screen
4052	4055	4	A	1	648	338				3	43-53	A2	8.9	2.5-5.0	Platform Bearing Flake	Swan River Chert		F2	fine screen
4056		1	A	1	648	338				3	43-53	A2	3.6	2.5-5.0	Flake Fragment	Swan River Chert		F2	fine screen
4057		1	A	1	648	338				3	43-53	A2	7	2.5-5.0	Block Shatter	Swan River Chert		F2	fine screen
4058		1	A	1	648	338				3	43-53	A2	0.01	0.66-2.5	Platform Bearing Flake	Montana Chert	mottled brown	F2	fine screen; reddened; heated?
4059	4071	13	A	1	648	338				3	43-53	A2	1	0.66-2.5	Retouch/ Resharpener Flake	Montana Chert	mottled brown	F2	fine screen; some reddened; heated?
4072	4073	2	A	1	648	338				3	43-53	A2	0.2	0.66-2.5	Retouch/ Resharpener Flake	Montana Chert	mottled brown	F2	fine screen; some reddened; heated?
4074		1	A	1	648	338				3	43-53	A2	0.01	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	red	F2	fine screen
4075	4078	4	A	1	648	338				3	43-53	A2	1.5	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4079		1	A	1	648	338				3	43-53	A2	0.2	0.66-2.5	Bifacial Reduction Flake	Quartzite	tan	F2	fine screen
4080	4081	2	A	1	648	338				3	43-53	A2	0.7	0.66-2.5	Flake Fragment	Quartzite	red	F2	fine screen
4082		1	A	1	648	338				3	43-53	A2	0.2	0.66-2.5	Flake Fragment	Argillite	purple	F2	fine screen
4083		1	A	1	648	338				3	43-53	A2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Siltstone	black	F2	fine screen
4084		1	A	1	648	338				3	43-53	A2	0.01	0-0.66	Microdebitage	Siltstone	black	F2	fine screen
4085		1	A	1	648	338				3	43-53	A2	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen
4086		1	A	1	648	338				3	43-53	A2	0.3	0.66-2.5	Bifacial Reduction Flake	Swan River Chert		F2	fine screen
4087	4094	8	A	1	648	338				3	43-53	A2	0.8	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F2	fine screen
4095	4101	7	A	1	648	338				3	43-53	A2	2.6	0.66-2.5	Block Shatter	Swan River Chert		F2	fine screen
4102	4131	30	A	1	648	338				3	43-53	A2	22.9	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen
4132	4154	23	A	1	648	338				3	43-53	A2	12.7	0.66-2.5	Flake Fragment	Swan River Chert		F2	fine screen
4155		1	A	1	648	338				3	43-53	A2	1.3	0.66-2.5	Platform Bearing Flake	Quartzite	red	F2	fine screen
4156	4159	4	A	1	648	338				3	43-53	A2	4.3	0.66-2.5	Flake Fragment	Quartzite	red	F2	fine screen
4160		1	A	1	648	338				3	43-53	A2	0.3	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F2	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4161	4167	7	A	1	648	338				3	43-53	A2	3.8	0.66-2.5	Platform Bearing Flake	Swan River Chert		F2	fine screen
4168	4171	4	A	1	648	338				3	43-53	A2	3.2	0.66-2.5	Flake Fragment	Swan River Chert		F2	fine screen
4172		1	A	1	648	338				4	53-64	A2	55.9	>5.0	Secondary Decortication Flake	Quartzite	red	F4	fine screen
4173		1	A	1	648	338				4	53-64	A2	3.6	2.5-5.0	Primary Decortication Flake	Quartzite	tan	F4	fine screen
4174		1	A	1	648	338				4	53-64	A2	1.2	2.5-5.0	Platform Bearing Flake	Quartzite	grey	F4	fine screen
4175	4176	2	A	1	648	338				4	53-64	A2	17.6	2.5-5.0	Flake Fragment	Quartzite	grey	F4	fine screen
4177		1	A	1	648	338				4	53-64	A2	2.8	2.5-5.0	Flake Fragment	Quartzite	red	F4	fine screen; some cortex remains
4178	4181	4	A	1	648	338				4	53-64	A2	1.7	0.66-2.5	Platform Bearing Flake	Swan River Chert		F4	fine screen
4182	4183	2	A	1	648	338				4	53-64	A2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F4	fine screen
4184	4187	4	A	1	648	338				4	53-64	A2	0.4	0.66-2.5	Flake Fragment	Swan River Chert		F4	fine screen
4188		1	A	1	648	338				4	53-64	A2	1.5	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F4	fine screen; cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4189	4190	2	A	1	648	338				4	53-64	A2	0.3	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	grey	F4	fine screen
4191	4193	3	A	1	648	338				4	53-64	A2	0.8	0.66-2.5	Flake Fragment	Quartzite	grey	F4	fine screen
4194		1	A	1	648	338				4	53-64	A2	0.01	0.66-2.5	Retouch/ Resharpener Flake	Montana Chert	mottled brown	F4	fine screen
4195	4196	2	A	1	648	338				5	64-73	A2	0.1	0.66-2.5	Platform Bearing Flake	Quartzite	grey	F4	fine screen
4197	4199	3	A	1	648	338				5	64-73	A2	1.6	0.66-2.5	Flake Fragment	Quartzite	grey	F4	fine screen
4200	4203	4	A	1	648	338				5	64-73	A2	0.4	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F4	fine screen
4204	4206	3	A	1	648	338				5	64-73	A2	0.1	0-0.66	Microdebitage	Swan River Chert		F4	fine screen
4207	4209	3	A	1	648	338				6	73-84	A2	0.4	0.66-2.5	Platform Bearing Flake	Swan River Chert		F4	fine screen
4210	4212	3	A	1	648	339				1	37-37	A7	33.5	2.5-5.0	Block Shatter	Granite	grey		
4213		1	A	1	648	339				1	37-37	A7	66.4	>5.0	Block Shatter	Swan River Chert			
4214		1	A	1	648	339				1	37-37	A7	14.2	2.5-5.0	Block Shatter	Swan River Chert			
4215		1	A	1	648	339				1	37-37	A7	28.8	2.5-5.0	Core, Multidirectional	Swan River Chert			MLD=42.59m m
4216		1	A	1	648	339				1	37-37	A7	11.1	2.5-5.0	Block Shatter	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4217		1	A	1	648	339				1	37-37	A7	10.8	2.5-5.0	Flake Fragment	Swan River Chert			
4218	4219	2	A	1	648	339				1	37-37	A7	30.3	2.5-5.0	Block Shatter	Quartzite	grey		
4220		1	A	1	648	339				1	37-37	A7	5.4	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4221		1	A	1	648	339				1	37-37	A7	5.5	2.5-5.0	Platform Bearing Flake	Coarse Grained Material	grey		
4222		1	A	1	648	339				1	37-37	A7	6.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4223	4224	2	A	1	648	339				1	37-37	A7	9.2	2.5-5.0	Flake Fragment	Swan River Chert			
4225		1	A	1	648	339				1	37-37	A7	2.2	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4226	4229	4	A	1	648	339				1	37-37	A7	5.3	0.66-2.5	Block Shatter	Swan River Chert			
4230		1	A	1	648	339				1	37-37	A7	0.8	0.66-2.5	Biface Fragment	Swan River Chert			biface fragment; bifacially worked sides and one end; metrics n/a
4231	4232	2	A	1	648	339				1	37-37	A7	1.9	0.66-2.5	Platform Bearing Flake	Quartz	white		
4233		1	A	1	648	339				1	37-37	A7	1.2	0.66-2.5	Flake Fragment	Quartz	white		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4234		1	A	1	648	339				1	37-37	A7	0.3	0.66-2.5	Bifacial Reduction Flake	Quartzite	purple		
4235	4236	2	A	1	648	339				1	37-37	A7	2.2	0.66-2.5	Flake Fragment	Quartzite	purple		
4237		1	A	1	648	339				1	37-37	A7	2.3	0.66-2.5	Secondary Decortication Flake	Quartzite	tan		
4238	4240	3	A	1	648	339				1	37-37	A7	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
4241		1	A	1	648	339				1	37-37	A7	1.8	0.66-2.5	Flake Fragment	Quartzite	tan		
4242	4243	2	A	1	648	339				1	37-37	A7	0.8	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4244	4247	4	A	1	648	339				1	37-37	A7	1.2	0.66-2.5	Flake Fragment	Quartzite	grey		
4248		1	A	1	648	339				1	37-37	A7	2.4	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
4249	4250	2	A	1	648	339				1	37-37	A7	4	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
4251		1	A	1	648	339				1	37-37	A7	0.5	0.66-2.5	Flake Fragment	Quartzite	grey		
4252		1	A	1	648	339				1	37-37	A7	2.2	0.66-2.5	Block Shatter	Quartzite	grey		
4253	4256	4	A	1	648	339				1	37-37	A7	12.5	0.66-2.5	Block Shatter	Swan River Chert			
4257		1	A	1	648	339				1	37-37	A7	0.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4258	4263	6	A	1	648	339				1	37-37	A7	0.6	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4264	4269	6	A	1	648	339				1	37-37	A7	5.9	0.66-2.5	Flake Fragment	Swan River Chert			
4270	4275	6	A	1	648	339				1	37-37	A7	0.1	0-0.66	Microdebitage	Swan River Chert			
4276		1	A	1	648	339				1	37-37	A7	2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4277		1	A	1	648	339	0.84	0.28	NW	1	37	A7	1.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4278		1	A	1	648	339				1	37-37	A7	13.9	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
4279		1	A	1	648	339				1	37-37	A7	2.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4280		1	A	1	648	339				1	37-37	A7	0.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4281		1	A	1	648	339	0.18	0.59	SE	2	40	A7	10.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4282		1	A	1	648	339	0.92	0.15	NW	2	41	A7	2.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4283		1	A	1	648	339	0.46	0.44	SW	2	36	A7	2.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4284		1	A	1	648	339	0.46	0.74	SE	2	40	A7	2	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4285		1	A	1	648	339	0.05	0.03	SW	2	42	A7	10	2.5-5.0	Flake Fragment	Swan River Chert			
4286		1	A	1	648	339	0.05	0.11	SW	2	39	A7	7.9	2.5-5.0	Flake Fragment	Swan River Chert			
4287		1	A	1	648	339	0.46	0.87	SE	2	39	A7	15.7	2.5-5.0	Platform Bearing Flake	Quartzite	red		cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4288		1	A	1	648	339	0.48	0.86	SE	2	39	A7	5.2	2.5-5.0	Platform Bearing Flake	Quartzite	red		cortex on platform
4289		1	A	1	648	339	0.72	0.07	NW	2	39	A7	23.2	>5.0	Primary Decortication Flake	Swan River Chert			
4290		1	A	1	648	339	0.62	0.23	NW	2	38	A7	59.8	2.5-5.0	Core, Multidirectional	Quartz	white		MLD=51.21m m
4291		1	A	1	648	339	0.89	0.33	NW	2	35	A7	1.5	2.5-5.0	Retouched Flake	Chert	grey		flake fragment; one lateral edge unifacially retouched on dorsal surface; other lateral edge exhibits usewear; two lateral edges converge to point, remainder broken away; metrics n/a

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4292		1	A	1	648	339	0.55	0.39	NW	2	38	A7	0.8	0.66-2.5	Flake Fragment	Swan River Chert			
4293		1	A	1	648	339	0.66	0.73	NE	2	36	A7	9.8	2.5-5.0	Core, Multidirectional	Swan River Chert			MLD=35.52m m
4294		1	A	1	648	339	0.54	0.81	NE	2	37	A7	1.6	2.5-5.0	Bifacial Reduction Flake	Swan River Chert			
4295		1	A	1	648	339	0.89	0.63	NE	2	40	A7	4.9	2.5-5.0	Platform Bearing Flake	Quartzite	red		
4296		1	A	1	648	339	0.29	0.46	SW	2	42	A7	42.6	>5.0	Primary Decortication Flake	Quartzite	red grey		
4297		1	A	1	648	339	0.27	0.99	SE	2	42	A7	1.9	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
4298		1	A	1	648	339	0.95	0.05	NW	2	40	A7	30.9	>5.0	Secondary Decortication Flake	Swan River Chert			
4299		1	A	1	648	339	0.15	0.42	SW	2	42	A7	3.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4300		1	A	1	648	339	0.02	0.94	SE	2	42	A7	0.8	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
4301		1	A	1	648	339	0.02	0.47	SW	2	43	A7	2.7	0.66-2.5	Platform Bearing Flake	Quartz	white		
4302		1	A	1	648	339	0.06	0.23	SW	2	43	A7	3.5	2.5-5.0	Platform Bearing Flake	Quartz	white		
4303		1	A	1	648	339	0.14	0.52	SE	2	42	A7	11.4	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4304		1	A	1	648	339	0.11	0.91	SE	2	41	A7	7.2	2.5-5.0	Block Shatter	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4305		1	A	1	648	339	0.11	0.91	SE	2	41	A7	0.01	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
4306		1	A	1	648	339	0.56	0.26	NW	2	41	A7	5.8	2.5-5.0	Platform Bearing Flake	Quartzite	red		cortex on platform
4307		1	A	1	648	339	0.16	0.37	SW	2	43	A7	21.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4308		1	A	1	648	339	0.27	0.94	SE	2	43	A7	10.4	>5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4309		1	A	1	648	339	0.52	0.42	NW	2	40	A7	4.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
4310		1	A	1	648	339	0.16	0.48	SW	2	40	A7	5.5	2.5-5.0	Platform Bearing Flake	Swan River Chert			cortex on platform
4311		1	A	1	648	339	0.73	0.54	NE	2	40	A7	3.9	2.5-5.0	Bifacial Reduction Flake	Swan River Chert			
4312		1	A	1	648	339	0.32	0.94	SE	2	43	A7	6.3	2.5-5.0	Secondary Decortication Flake	Quartz	white		
4313		1	A	1	648	339				2	37-47	A7	2.7	2.5-5.0	Platform Bearing Flake	Quartzite	red		
4314	4315	2	A	1	648	339				2	37-47	A7	1.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4316		1	A	1	648	339				2	37-47	A7	0.4	0.66-2.5	Flake Fragment	Swan River Chert			
4317		1	A	1	648	339				2	37-47	A7	19.3	>5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
4318		1	A	1	648	339				2	37-47	A7	3.7	2.5-5.0	Platform Bearing Flake	Argillite	purple		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4319		1	A	1	648	339				2	37-47	A7	4.7	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
4320		1	A	1	648	339				2	37-47	A7	3	2.5-5.0	Platform Bearing Flake	Quartzite	red		
4321	4326	6	A	1	648	339				2	37-47	A7	24.4	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4327	4328	2	A	1	648	339				2	37-47	A7	3.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4329		1	A	1	648	339				2	37-47	A7	0.5	0.66-2.5	Platform Bearing Flake	Argillite	purple		
4330		1	A	1	648	339				2	37-47	A7	0.3	0.66-2.5	Platform Bearing Flake	Montana Chert	mottled brown		
4331		1	A	1	648	339				2	37-47	A7	1.9	0.66-2.5	Platform Bearing Flake	Quartz	white		cortex on platform
4332		1	A	1	648	339				2	37-47	A7	1.2	0.66-2.5	Flake Fragment	Granite	red grey		
4333	4334	2	A	1	648	339				2	37-47	A7	1.8	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4335	4338	4	A	1	648	339				2	37-47	A7	2.9	0.66-2.5	Flake Fragment	Quartzite	grey		
4339	4340	2	A	1	648	339				2	37-47	A7	1.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
4341		1	A	1	648	339				2	37-47	A7	0.2	0.66-2.5	Flake Fragment	Quartzite	tan		
4342	4343	2	A	1	648	339				2	37-47	A7	2	0.66-2.5	Platform Bearing Flake	Quartzite	red		
4344		1	A	1	648	339				2	37-47	A7	0.4	0.66-2.5	Flake Fragment	Quartzite	red		
4345	4365	21	A	1	648	339				2	37-47	A7	14.7	0.66-2.5	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4366	4372	7	A	1	648	339				2	37-47	A7	6.5	0.66-2.5	Flake Fragment	Swan River Chert			
4373	4382	10	A	1	648	339				2	37-47	A7	3	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
4383	4386	4	A	1	648	339				2	37-47	A7	8.8	0.66-2.5	Block Shatter	Swan River Chert			
4387		1	A	1	648	339				3	47-57	A7	0.4	0.66-2.5	Flake Fragment	Quartzite	red		some cortex remaining
4388		1	A	1	648	340	0.62	0.71	NE	1	37	A7	0.8	0.66-2.5	Flake Fragment	Swan River Chert			
4389	4391	3	A	1	648	340				1	34-38	A7	2.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4392	4393	2	A	1	648	340				1	34-38	A7	0.7	0.66-2.5	Flake Fragment	Swan River Chert			
4394		1	A	1	648	340				1	34-38	A7	1.4	0.66-2.5	Block Shatter	Swan River Chert			
4395		1	A	1	648	340				1	34-38	A7	0.6	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
4396		1	A	1	648	340				1	34-38	A7	0.3	0.66-2.5	Platform Bearing Flake	Quartzite	red		
4397		1	A	1	648	340				1	34-38	A7	0.5	0.66-2.5	Flake Fragment	Quartzite	grey		
4398		1	A	1	648	340				1	34-38	A7	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4399		1	A	1	648	340				1	34-38	A7	0.5	0.66-2.5	Platform Bearing Flake	Quartz	white		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4400		1	A	1	648	340	0.1	0.04	SW	2	34	A7	21.5	2.5-5.0	Block Shatter	Swan River Chert			
4401		1	A	1	648	340	0.24	0.21	SW	2	35	A7	20.4	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4402		1	A	1	648	340	0.32	0.79	SE	2	42	A7	1.6	2.5-5.0	Platform Bearing Flake	Quartzite	red		
4403		1	A	1	648	340	0.33	0.89	SE	2	44	A7	50.1	>5.0	Retouched flake	Quartzite	tan		complete flake; secondary decortication; bifacial retouch along right lateral edge; unifacial along left lateral edge ventral surface; Max L= 58.26mm, Max W= 43.50mm, Max T=19.38 mm

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4404		1	A	1	648	340	0.31	0.87	SE	2	40	A7	22.8	>5.0	Secondary Decortication Flake	Quartzite	tan		
4405		1	A	1	648	340	0.36	0.9	SE	2	32	A7	4.5	2.5-5.0	Platform Bearing Flake	Quartz	white		
4406		1	A	1	648	340	0.5	0.95	SE	2	42	A7	1.7	0.66-2.5	Flake Fragment	Swan River Chert			
4407		1	A	1	648	340	0.54	0.64	NE	2	37	A7	2.6	2.5-5.0	Block Shatter	Quartzite	grey		
4408		1	A	1	648	340	0.72	0.97	NE	2	37	A7	5.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4409		1	A	1	648	340	0.73	0.7	NE	2	40	A7	41	>5.0	Core, Bipolar	Chert	grey		Hand Hill agate? Swan River?; MLD=60.22m m
4410		1	A	1	648	340	0.62	0.7	NE	2	40	A7	4	2.5-5.0	Platform Bearing Flake	Quartzite	brown		cortex on platform
4411		1	A	1	648	340	0.98	0.59	NE	2	33	A7	2.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4412		1	A	1	648	340	1	0.82	NE	2	34	A7	302.8	>5.0	Core, Multidirectional	Quartzite	grey		MLD=95.60 mm; flattish cobble with each end flaked
4413		1	A	1	648	340	0.77	0.25	NW	2	40	A7	5.2	2.5-5.0	Platform Bearing Flake	Quartzite	red		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4414		1	A	1	648	340	0.57	0.22	NW	2	40	A7	43.3	>5.0	Secondary Decortication Flake	Quartzite	tan		
4415		1	A	1	648	340	0.47	0.26	SW	2	39	A7	72.3	>5.0	Platform Bearing Flake	Swan River Chert			
4416		1	A	1	648	340	0.49	0.11	SW	2	36	A7	29.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4417		1	A	1	648	340	0.01	0.08	SW	2	40	A7	8.1	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4418		1	A	1	648	340	0.25	0.57	SE	2	37	A7	1.6	0.66-2.5	Flake Fragment	Quartzite	red		
4419		1	A	1	648	340	0.41	0.63	SE	2	42	A7	2.2	0.66-2.5	Bipolar Flake	Swan River Chert			
4420		1	A	1	648	340	0.43	0.69	SE	2	40	A7	2.2	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4421		1	A	1	648	340	0.56	0.96	NE	2	40	A7	9	2.5-5.0	Platform Bearing Flake	Quartzite	red		cortex on platform
4422		1	A	1	648	340	0.73	0.77	NE	2	43	A7	14.6	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4423		1	A	1	648	340	1	0.9	NE	2	40	A7	14.3	2.5-5.0	Platform Bearing Flake	Quartzite	red grey		cortex on platform
4424		1	A	1	648	340	1	0.42	NW	2	30	A7	41.9	>5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
4425		1	A	1	648	340	0.44	0.02	SW	2	35	A7	2.2	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4426		1	A	1	648	340	0.49	0.01	SW	2	36	A7	1.8	2.5-5.0	Secondary Decortication Flake	Quartzite	red		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4427		1	A	1	648	340	0.48	0.3	SW	2	37	A7	3.9	0.66-2.5	Block Shatter	Swan River Chert			
4428		1	A	1	648	340	0.57	0.9	NE	2	42	A7	2.2	0.66-2.5	Flake Fragment	Quartz	white		cortex remains on dorsal surface
4429		1	A	1	648	340	0.83	0.48	NW	2	40	A7	1.3	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
4430		1	A	1	648	340	0.4	0.32	SW	2	40	A7	5.6	2.5-5.0	Flake Fragment	Swan River Chert			
4431		1	A	1	648	340	0.44	0.31	SW	2	40	A7	8.5	2.5-5.0	Platform Bearing Flake	Quartz	white		
4432		1	A	1	648	340	0.6	0.2	NW	2	41	A7	11.5	2.5-5.0	Block Shatter	Quartzite	red		
4433		1	A	1	648	340	0.48	0.17	SW	2	39	A7	8.1	2.5-5.0	Secondary Decortication Flake	Quartzite	grey		
4434		1	A	1	648	340	0.6	0.2	NW	2	43	A7	0.9	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4435		1	A	1	648	340	0.54	0.42	NW	2	44	A7	4.6	2.5-5.0	Primary Decortication Flake	Swan River Chert			
4436		1	A	1	648	340	0.41	0.29	SW	2	39	A7	1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4437		1	A	1	648	340	0.41	0.41	SW	2	40	A7	1.6	0.66-2.5	Flake Fragment	Quartzite	red grey		
4438		1	A	1	648	340	0.37	0.13	SW	2	39	A7	1.3	0.66-2.5	Platform Bearing Flake	Quartzite	red		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4439		1	A	1	648	340	0.42	0.12	SW	2	36	A7	31	>5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4440		1	A	1	648	340	0.54	0.2	NW	2	39	A7	1.5	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
4441	4442	2	A	1	648	340				2	38-48	A7	12.7	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4443		1	A	1	648	340				2	38-48	A7	2.6	2.5-5.0	Flake Fragment	Quartzite	grey		cortex covers dorsal surface
4444	4445	2	A	1	648	340				2	38-48	A7	6.6	2.5-5.0	Platform Bearing Flake	Quartzite			
4446		1	A	1	648	340				2	38-48	A7	0.2	0.66-2.5	Platform Bearing Flake	Montana Chert	mottled brown		
4447	4448	2	A	1	648	340				2	38-48	A7	1.3	0.66-2.5	Flake Fragment	Quartz	white		
4449	4458	10	A	1	648	340				2	38-48	A7	5.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4459	4465	7	A	1	648	340				2	38-48	A7	2.4	0.66-2.5	Flake Fragment	Swan River Chert			
4466	4470	5	A	1	648	340				2	38-48	A7	2.5	0.66-2.5	Block Shatter	Swan River Chert			
4471	4474	4	A	1	648	340				2	38-48	A7	1.7	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
4475	4479	5	A	1	648	340				2	38-48	A7	4.6	0.66-2.5	Platform Bearing Flake	Quartzite	tan		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4480		1	A	1	648	340				2	38-48	A7	0.3	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	tan		
4481	4486	6	A	1	648	340				2	38-48	A7	3.9	0.66-2.5	Flake Fragment	Quartzite	tan		
4487	4490	4	A	1	648	340				2	38-48	A7	2.1	0.66-2.5	Platform Bearing Flake	Quartzite	red		cortex on platform
4491	4493	3	A	1	648	340				2	38-48	A7	2.5	0.66-2.5	Platform Bearing Flake	Quartzite	red		
4494	4496	3	A	1	648	340				2	38-48	A7	1.4	0.66-2.5	Flake Fragment	Quartzite	red		
4497	4501	5	A	1	648	340				2	38-48	A7	3.2	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4502		1	A	1	648	340				2	38-48	A7	1.4	0.66-2.5	Primary Decortication Flake	Quartzite	grey		
4503	4509	7	A	1	648	340				2	38-48	A7	4.1	0.66-2.5	Flake Fragment	Quartzite	grey		
4510		1	A	1	648	340				2	38-48	A7	0.01	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
4511		1	A	1	648	341				1	45-45	A6	3.3	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4512		1	A	1	648	341				1	45-45	A6	1	0.66-2.5	Flake Fragment	Swan River Chert			
4513		1	A	1	648	341	0.98	0.14	NW	2	40	A6	12	2.5-5.0	Flake Fragment	Swan River Chert			
4514		1	A	1	648	341	0.87	0.15	NW	2	42	A6	5.5	2.5-5.0	Block Shatter	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4515		1	A	1	648	341	0.83	0.14	NW	2	42	A6	4.8	2.5-5.0	Flake Fragment	Swan River Chert			
4516		1	A	1	648	341	0.79	0.17	NW	2	42	A6	2.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4517		1	A	1	648	341	0.79	0.34	NW	2	43	A6	6	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4518		1	A	1	648	341	0.76	0.44	NW	2	45	A6	45.4	>5.0	Flake Fragment	Quartzite	tan		strip of cortex around half of thick flake
4519		1	A	1	648	341	0.89	0.18	NW	2	43	A6	3.4	0.66-2.5	Flake Fragment	Swan River Chert			
4520		1	A	1	648	341	0.67	0.17	NW	2	44	A6	0.6	0.66-2.5	Flake Fragment	Swan River Chert			
4521		1	A	1	648	341	0.66	0.18	NW	2	44	A6	1.4	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4522		1	A	1	648	341	0.68	0.21	NW	2	43	A6	2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4523		1	A	1	648	341	0.57	0.11	NW	2	44	A6	1.9	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4524		1	A	1	648	341	0.43	0.21	SW	2	46	A6	55.6	>5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
4525		1	A	1	648	341	0.45	0.25	SW	2	47	A6	3.9	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4526		1	A	1	648	341	0.42	0.87	SE	2	45	A6	4.2	2.5-5.0	Platform Bearing Flake	Quartz	white		
4527		1	A	1	648	341	0.36	0.79	SE	2	45	A6	3.2	0.66-2.5	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4528		1	A	1	648	341	0.26	0.59	SE	2	43	A6	17.7	2.5-5.0	Secondary Decortication Flake	Swan River Chert			
4529		1	A	1	648	341	0.27	0.69	SE	2	44	A6	5.1	2.5-5.0	Primary Decortication Flake	Quartzite	tan		
4530		1	A	1	648	341	0.25	0.75	SE	2	44	A6	5.3	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4531		1	A	1	648	341	0.09	0.7	SE	2	45	A6	1.3	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
4532		1	A	1	648	341	0.09	0.74	SE	2	45	A6	16.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4533		1	A	1	648	341	0.05	0.94	SE	2	45	A6	103.7	>5.0	Core Fragment	Quartzite	grey		MLD=82.02m m, cortex remaining
4534		1	A	1	648	341	0.96	0.85	NE	2	42	A6	1.8	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4535		1	A	1	648	341	0.85	0.85	NE	2	42	A6	4.8	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4536		1	A	1	648	341	0.85	0.98	NE	2	45	A6	4.6	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4537		1	A	1	648	341	0.76	0.99	NE	2	43	A6	3	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4538		1	A	1	648	341	0.77	0.66	NE	2	42	A6	1.5	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
4539		1	A	1	648	341	0.75	0.59	NE	2	43	A6	9.3	2.5-5.0	Secondary Decortication Flake	Swan River Chert			MLs=37.52m m

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4540		1	A	1	648	341	0.64	0.54	NE	2	44	A6	0.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4541		1	A	1	648	341	0.99	0.15	NW	2	41	A6	26.2	2.5-5.0	Core, Multidirectional	Swan River Chert			MLD=39.1mm
4542		1	A	1	648	341	0.7	0.17	NW	2	47	A6	3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4543		1	A	1	648	341	0.73	0.34	NW	2	47	A6	4	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4544		1	A	1	648	341	0.73	0.4	NW	2	47	A6	0.3	0.66-2.5	Flake Fragment	Swan River Chert			
4545		1	A	1	648	341	0.59	0.26	NW	2	45	A6	0.01	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
4546		1	A	1	648	341	0.56	0.28	NW	2	45	A6	0.6	0.66-2.5	Flake Fragment	Swan River Chert			
4547		1	A	1	648	341	0.54	0.29	NW	2	45	A6	19.1	2.5-5.0	Block Shatter	Swan River Chert			
4548		1	A	1	648	341	0.56	0.37	NW	2	45	A6	1.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4549		1	A	1	648	341	0.5	0.6	SE	2	44	A6	5.7	2.5-5.0	Retouched Flake	Swan River Chert			flake fragment; lateral edge unifacially retouched on dorsal surface; metrics n/a

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4550		1	A	1	648	341	0.77	0.47	NW	2	45	A6	4.3	2.5-5.0	Flake Fragment	Quartzite	red grey		
4551		1	A	1	648	341	0.68	0.6	NE	2	47	A6	12.6	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4552		1	A	1	648	341	0.65	0.69	NE	2	45	A6	4.9	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4553		1	A	1	648	341	0.6	0.67	NE	2	46	A6	67.8	>5.0	Secondary Decortication Flake	Quartzite	red grey		
4554		1	A	1	648	341	0.5	0.7	SE	2	47	A6	6.5	2.5-5.0	Secondary Decortication Flake	Swan River Chert			
4555		1	A	1	648	341	0.45	0.89	SE	2	46	A6	11.9	2.5-5.0	Core, Multidirectional	Quartzite	purple		MLD=36.17m m
4556		1	A	1	648	341	0.41	0.8	SE	2	46	A6	40	>5.0	Primary Decortication Flake	Quartzite	grey		
4557		1	A	1	648	341	0.32	0.9	SE	2	48	A6	17.5	2.5-5.0	Platform Bearing Flake	Quartzite	purple		cortex on platform
4558		1	A	1	648	341	0.03	0.93	SE	2	46	A6	3.3	2.5-5.0	Secondary Decortication Flake	Quartzite	tan		
4559		1	A	1	648	341	0.03	0.93	SE	2	46	A6	0.8	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
4560		1	A	1	648	341	0.02	0.02	SW	2	46	A6	18.7	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4561	4568	8	A	1	648	341				2	45-55	A6	0.4	0.66-2.5	Retouch/ Resharpener Flake	Chert	brown		
4569		1	A	1	648	341				2	45-55	A6	0.01	0.66-2.5	Retouch/ Resharpener Flake	Siltstone	black		
4570	4571	2	A	1	648	341				2	45-55	A6	0.1	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	tan		
4572	4575	4	A	1	648	341				2	45-55	A6	0.2	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	grey		
4576		1	A	1	648	341				2	45-55	A6	0.01	0-0.66	Microdebitage	Quartzite	grey		
4577	4591	15	A	1	648	341				2	45-55	A6	0.8	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
4592	4605	14	A	1	648	341				2	45-55	A6	1.1	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
4606		1	A	1	648	341				2	45-55	A6	0.1	0.66-2.5	Retouch/ Resharpener Flake	Argillite	purple		
4607	4614	8	A	1	648	341				2	45-55	A6	0.2	0-0.66	Microdebitage	Swan River Chert			
4615	4618	4	A	1	648	341				2	45-55	A6	0.2	0.66-2.5	Block Shatter	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4619	4621	3	A	1	648	341				2	45-55	A6	1.7	0.66-2.5	Platform Bearing Flake	Quartz	white		
4622	4623	2	A	1	648	341				2	45-55	A6	0.8	0.66-2.5	Flake Fragment	Quartz	white		
4624	4630	7	A	1	648	341				2	45-55	A6	2.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			milky coloured, some with black line
4631		1	A	1	648	341				2	45-55	A6	0.7	0.66-2.5	Secondary Decortication Flake	Swan River Chert			milky coloured w/black line
4632	4634	3	A	1	648	341				2	45-55	A6	0.9	0.66-2.5	Flake Fragment	Swan River Chert			milky coloured
4635	4636	2	A	1	648	341				2	45-55	A6	6.1	2.5-5.0	Flake Fragment	Swan River Chert			
4637	4645	9	A	1	648	341				2	45-55	A6	5.9	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4646		1	A	1	648	341				2	45-55	A6	0.2	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
4647	4655	9	A	1	648	341				2	45-55	A6	4.5	0.66-2.5	Flake Fragment	Swan River Chert			
4656	4657	2	A	1	648	341				2	45-55	A6	6.9	2.5-5.0	Platform Bearing Flake	Quartzite	purple		cortex on platform
4658		1	A	1	648	341				2	45-55	A6	3.2	2.5-5.0	Platform Bearing Flake	Quartzite	purple		
4659		1	A	1	648	341				2	45-55	A6	3.5	2.5-5.0	Flake Fragment	Quartzite	purple		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4660		1	A	1	648	341				2	45-55	A6	0.2	0.66-2.5	Platform Bearing Flake	Quartzite	purple		
4661	4662	2	A	1	648	341				2	45-55	A6	0.9	0.66-2.5	Flake Fragment	Quartzite	purple		
4663	4664	2	A	1	648	341				2	45-55	A6	1	0.66-2.5	Platform Bearing Flake	Argillite	purple		
4665		1	A	1	648	341				2	45-55	A6	2.3	2.5-5.0	Platform Bearing Flake	Quartzite	red		cortex on platform
4666		1	A	1	648	341				2	45-55	A6	2.3	2.5-5.0	Platform Bearing Flake	Quartzite	red		
4667		1	A	1	648	341				2	45-55	A6	3.5	2.5-5.0	Flake Fragment	Quartzite	red		some cortex remaining
4668	4670	3	A	1	648	341				2	45-55	A6	3.4	0.66-2.5	Platform Bearing Flake	Quartzite	red		cortex on platform
4671	4674	4	A	1	648	341				2	45-55	A6	2.6	0.66-2.5	Platform Bearing Flake	Quartzite	red		
4675	4679	5	A	1	648	341				2	45-55	A6	4.3	0.66-2.5	Flake Fragment	Quartzite	red		
4680		1	A	1	648	341				2	45-55	A6	3.6	2.5-5.0	Platform Bearing Flake	Quartzite	red tan		
4681		1	A	1	648	341				2	45-55	A6	1.7	2.5-5.0	Platform Bearing Flake	Quartzite	red tan		cortex on platform
4682	4684	3	A	1	648	341				2	45-55	A6	2	0.66-2.5	Platform Bearing Flake	Quartzite	red tan		
4685		1	A	1	648	341				2	45-55	A6	0.4	0.66-2.5	Flake Fragment	Quartzite	red tan		
4686		1	A	1	648	341				2	45-55	A6	0.7	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4687		1	A	1	648	341				2	45-55	A6	4.4	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4688	4689	2	A	1	648	341				2	45-55	A6	4.9	2.5-5.0	Platform Bearing Flake	Quartzite	tan		
4690		1	A	1	648	341				2	45-55	A6	1.4	2.5-5.0	Flake Fragment	Quartzite	tan		
4691		1	A	1	648	341				2	45-55	A6	1.6	0.66-2.5	Bifacial Reduction Flake	Quartzite	tan		
4692		1	A	1	648	341				2	45-55	A6	1.4	0.66-2.5	Secondary Decortication Flake	Quartzite	tan		
4693	4700	8	A	1	648	341				2	45-55	A6	6	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
4701	4705	5	A	1	648	341				2	45-55	A6	2.6	0.66-2.5	Flake Fragment	Quartzite	tan		
4706		1	A	1	648	341				2	45-55	A6	0.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4707		1	A	1	648	341				2	45-55	A6	2.3	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4708		1	A	1	648	341				2	45-55	A6	4.2	0.66-2.5	Secondary Decortication Flake	Quartzite	grey		
4709	4711	3	A	1	648	341				2	45-55	A6	2.3	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
4712	4714	3	A	1	648	341				2	45-55	A6	2.3	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4715	4719	5	A	1	648	341				2	45-55	A6	4	0.66-2.5	Flake Fragment	Quartzite	grey		
4720	4725	6	A	1	648	341				2	45-55	A6	0.7	0.66-2.5	Platform Bearing Flake	Quartzite	grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4726	4727	2	A	1	648	341				2	45-55	A6	0.5	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	grey		
4728		1	A	1	648	341				2	45-55	A6	1.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4729		1	A	1	647	341				1	36-42	A6	4	2.5-5.0	Platform Bearing Flake	Quartzite	red		
4730		1	A	1	647	341				1	36-42	A6	0.5	0.66-2.5	Secondary Decortication Flake	Swan River Chert			
4731		1	A	1	647	341				1	36-42	A6	0.2	0.66-2.5	Flake Fragment	Quartzite	red		
4732		1	A	1	647	341	0.48	0.75	SE	2	49	A6	9.2	0.66-2.5	Platform Bearing Flake	Quartzite	red grey		cortex on platform
4733		1	A	1	647	341	0.12	0.21	SW	2	46	A6	25.6	>5.0	Flake Fragment	Quartzite	grey		
4734		1	A	1	647	341	0.78	0.75	NE	2	51	A6	1.7	0.66-2.5	Flake Fragment	Quartzite	red	F1	cortex on dorsal surface, decortication flake
4735		1	A	1	647	341	0.69	0.75	NE	2	49	A6	3.2	0.66-2.5	Platform Bearing Flake	Quartzite	red	F1	cortex on platform
4736		1	A	1	647	341				2	42-52	A6	0.7	0.66-2.5	Flake Fragment	Swan River Chert			
4737		1	A	1	647	341				2	42-52	A6	0.8	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4738		1	A	1	647	341				2	42-52	A6	0.5	0.66-2.5	Flake Fragment	Quartzite	tan		cortex on dorsal surface, decortication flake
4739		1	A	1	647	341				2	42-52	A6	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
4740		1	A	1	647	341				2	42-52	A6	0.5	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4741		1	A	1	647	341				2	42-52	A6	0.3	0.66-2.5	Platform Bearing Flake	Swan River Chert		F1	
4742		1	A	1	647	341				2	42-52	A6	0.2	0.66-2.5	Flake Fragment	Swan River Chert		F1	
4743	4744	2	A	1	647	341				2	42-52	A6	0.8	0.66-2.5	Platform Bearing Flake	Quartzite	red	F1	cortex on platform
4745		1	A	1	647	341				2	42-52	A6	0.3	0.66-2.5	Platform Bearing Flake	Quartzite	red	F1	
4746		1	A	1	647	341				2	42-52	A6	0.4	0.66-2.5	Flake Fragment	Quartzite	red	F1	
4747		1	A	1	647	341				2	42-52	A6	0.6	0.66-2.5	Platform Bearing Flake	Quartzite	red	F1	
4748	4749	2	A	1	647	341				2	42-52	A6	1.5	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F1	cortex on platform
4750		1	A	1	648	342				1	44-44	A6	5	2.5-5.0	Platform Bearing Flake	Quartzite	purple		cortex on platform
4751		1	A	1	648	342	0.9	0.05	NW	2	44	A6	1.1	0.66-2.5	Platform Bearing Flake	Quartzite	red grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4752		1	A	1	648	342	0.98	0.14	NW	2	44	A6	3.3	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4753		1	A	1	648	342	0.96	0.11	NW	2	44	A6	3.1	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4754		1	A	1	648	342	0.93	0.25	NW	2	45	A6	5.9	2.5-5.0	Flake Fragment	Quartzite	grey		
4755		1	A	1	648	342	0.96	0.26	NW	2	43	A6	0.8	0.66-2.5	Platform Bearing Flake	Swan River Chert			banded/
4756		1	A	1	648	342	0.83	0.39	NW	2	44	A6	46.4	>5.0	Platform Bearing Flake	Quartzite	red tan		
4757		1	A	1	648	342	0.79	0.43	NW	2	45	A6	0.9	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
4758		1	A	1	648	342	0.72	77	NE	2	48	A6	1.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4759		1	A	1	648	342	0.51	0.67	NE	2	47	A6	4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4760		1	A	1	648	342	0.54	0.73	NE	2	50	A6	4.1	2.5-5.0	Flake Fragment	Quartzite	red		
4761		1	A	1	648	342	0.41	0.75	SE	2	48	A6	0.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4762		1	A	1	648	342	0.62	0.96	NE	2	50	A6	0.7	0.66-2.5	Platform Bearing Flake	Argillite	purple		
4763		1	A	1	648	342	0.04	0.81	SE	2	49	A6	1.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			cortex on platform
4764		1	A	1	648	342	0	0.12	SW	2	45	A6	11.5	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
4765		1	A	1	648	342	0.27	0.45	SW	2	47	A6	2.8	2.5-5.0	Platform Bearing Flake	Quartzite	red grey		cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4766		1	A	1	648	342	0.2	0.08	SW	2	47	A6	10.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
4767		1	A	1	648	342	0.25	0.11	SW	2	51	A6	19.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4768		1	A	1	648	342	0.21	0.21	SW	2	52	A6	5.5	0.66-2.5	Block Shatter	Swan River Chert			cortex on platform
4769		1	A	1	648	342	0.19	0.04	SW	2	47	A6	10.1	2.5-5.0	Primary Decortication Flake	Quartzite	grey		
4770		1	A	1	648	342	0.71	0.23	NW	2	46	A6	1.3	0.66-2.5	Platform Bearing Flake	Quartzite	red		
4771		1	A	1	648	342	0.83	0.07	NW	2	45	A6	2.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			cortex on platform
4772		1	A	1	648	342	0.82	0.43	NW	2	46	A6	1.4	2.5-5.0	Flake Fragment	Quartzite	red		
4773		1	A	1	648	342	0.63	0.39	NW	2	48	A6	2.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4774		1	A	1	648	342	0.54	0.66	NE	2	49	A6	2.6	2.5-5.0	Platform Bearing Flake	Quartzite	tan		
4775		1	A	1	648	342	0.76	0.54	NE	2	47	A6	9.8	2.5-5.0	Flake Fragment	Quartzite	red		cortex on edge
4776		1	A	1	648	342	0.11	0.65	SE	2	51	A6	2	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4777	4779	3	A	1	648	342				2	44-54	A6	15.9	2.5-5.0	Platform Bearing Flake	Quartzite	red		cortex on platform
4780		1	A	1	648	342				2	44-54	A6	5.3	2.5-5.0	Flake Fragment	Quartzite	tan		
4781	4782	2	A	1	648	342				2	44-54	A6	6.6	2.5-5.0	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4783		1	A	1	648	342				2	44-54	A6	6	0.66-2.5	Platform Bearing Flake	Quartz	white		
4784		1	A	1	648	342				2	44-54	A6	0.4	0.66-2.5	Flake Fragment	Quartz	white		
4785		1	A	1	648	342				2	44-54	A6	1.2	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4786	4792	7	A	1	648	342				2	44-54	A6	6.7	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
4793	4797	5	A	1	648	342				2	44-54	A6	3.5	0.66-2.5	Flake Fragment	Quartzite	grey		
4798	4804	7	A	1	648	342				2	44-54	A6	3.8	0.66-2.5	Platform Bearing Flake	Quartzite	red		
4805	4807	3	A	1	648	342				2	44-54	A6	1.1	0.66-2.5	Flake Fragment	Quartzite	red		
4808	4810	3	A	1	648	342				2	44-54	A6	1.8	0.66-2.5	Platform Bearing Flake	Argillite	purple		
4811		1	A	1	648	342				2	44-54	A6	0.8	0.66-2.5	Secondary Decortication Flake	Quartzite	tan		
4812	4816	5	A	1	648	342				2	44-54	A6	3.1	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
4817	4818	2	A	1	648	342				2	44-54	A6	1	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
4819	4821	3	A	1	648	342				2	44-54	A6	1.9	0.66-2.5	Flake Fragment	Quartzite	tan		
4822		1	A	1	648	342				2	44-54	A6	1.4	0.66-2.5	Secondary Decortication Flake	Swan River Chert			
4823	4842	20	A	1	648	342				2	44-54	A6	11.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4843	4845	3	A	1	648	342				2	44-54	A6	0.3	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
4846	4847	2	A	1	648	342				2	44-54	A6	0.1	0.66-2.5	Microdebitage	Swan River Chert			
4848	4862	15	A	1	648	342				2	44-54	A6	9.8	0.66-2.5	Flake Fragment	Swan River Chert			
4863	4866	4	A	1	648	342			NE	2	44-46	A6	21.5	2.5-5.0	Block Shatter	Swan River Chert			fine screen, 40x40 cm
4867	4874	8	A	1	648	342			NE	2	44-46	A6	21	0.66-2.5	Block Shatter	Swan River Chert			fine screen, 40x40 cm
4875	4877	3	A	1	648	342			NE	2	44-46	A6	1	0.66-2.5	Platform Bearing Flake	Swan River Chert			fine screen, 40x40 cm
4878	4881	4	A	1	648	342			NE	2	44-46	A6	0.6	0.66-2.5	Flake Fragment	Swan River Chert			fine screen, 40x40 cm
4882		1	A	1	648	342			NE	2	44-46	A6	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chert	mottled brown		fine screen, 40x40 cm; possibly Montana Chert?
4883		1	A	1	648	342				2	44-46	A6	0.2	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
4884		1	A	1	648	342			NE	2	44-46	A6	0.01	0-0.66	Microdebitage	Swan River Chert			fine screen, 10x10 cm
4885		1	A	1	648	342			NE	2	44-46	A6	0.01	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			fine screen, 10x10 cm

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4886		1	A	1	648	343				1	45-45	A5	2.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4887	4888	2	A	1	648	343				1	45-45	A5	2.6	2.5-5.0	Flake Fragment	Quartzite	red		one with cortex on dorsal surface
4889		1	A	1	648	343				1	45-45	A5	0.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4890		1	A	1	648	343				1	45-45	A5	0.8	0.66-2.5	Flake Fragment	Swan River Chert			
4891		1	A	1	648	343				1	45-45	A5	1.7	0.66-2.5	Flake Fragment	Quartzite	grey		
4892		1	A	1	648	343	0.14	0.91	SE	2	47	A5	7.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4893		1	A	1	648	343	0.11	0.37	SW	2	46	A5	5.8	2.5-5.0	Flake Fragment	Swan River Chert			
4894		1	A	1	648	343	0.14	0.35	SW	2	46	A5	12.6	2.5-5.0	Block Shatter	Swan River Chert			
4895		1	A	1	648	343	0.09	0.03	SW	2	45	A5	1.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
4896		1	A	1	648	343	0.35	0.03	SW	2	49	A5	9.2	2.5-5.0	Block Shatter	Swan River Chert			
4897		1	A	1	648	343	0.54	0.03	NW	2	48	A5	8.2	2.5-5.0	Platform Bearing Flake	Quartzite	red		cortex on platform
4898		1	A	1	648	343	0.36	0.12	SW	2	49	A5	12.7	2.5-5.0	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4899		1	A	1	648	343	0.48	0.15	SW	2	51	A5	4.2	2.5-5.0	Flake Fragment	Coarse Grained Material	grey		
4900		1	A	1	648	343	0.18	0.54	SE	2	50	A5	5.3	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4901		1	A	1	648	343	0.32	0.31	SW	2	52	A5	5.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
4902		1	A	1	648	343	0.36	0.3	SW	2	51	A5	0.9	0.66-2.5	Flake Fragment	Swan River Chert			
4903		1	A	1	648	343	0.64	0.48	NW	2	50	A5	6.6	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4904		1	A	1	648	343	0.69	0.39	NW	2	48	A5	4.2	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4905		1	A	1	648	343	0.67	0.2	NW	2	51	A5	10	2.5-5.0	Block Shatter	Swan River Chert			
4906		1	A	1	648	343	0.66	0.12	NW	2	50	A5	1.9	0.66-2.5	Secondary Decortication Flake	Swan River Chert			
4907		1	A	1	648	343				2	45-55	A5	0.3	0.66-2.5	Platform Bearing Flake	Montana Chert	mottled brown		
4908		1	A	1	648	343				2	45-55	A5	0.4	0.66-2.5	Platform Bearing Flake	Chert	grey		slightly mottled
4909		1	A	1	648	343				2	45-55	A5	0.1	0.66-2.5	Flake Fragment	Chert	grey		slightly mottled
4910	4911	2	A	1	648	343				2	45-55	A5	1.9	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
4912	4919	8	A	1	648	343				2	45-55	A5	9.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4920	4929	10	A	1	648	343				2	45-55	A5	9.8	0.66-2.5	Flake Fragment	Swan River Chert			
4930		1	A	1	648	343				2	45-55	A5	0.5	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
4931	4932	2	A	1	648	343				2	45-55	A5	4.6	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4933		1	A	1	648	343				2	45-55	A5	2.2	2.5-5.0	Flake Fragment	Quartzite	grey		
4934	4935	2	A	1	648	343				2	45-55	A5	3.7	0.66-2.5	Platform Bearing Flake	Quartzite	red		cortex on platform
4936		1	A	1	648	343				2	45-55	A5	1.8	0.66-2.5	Platform Bearing Flake	Quartzite	red grey		
4937		1	A	1	648	343				2	45-55	A5	0.3	0.66-2.5	Flake Fragment	Quartzite	red grey		
4938		1	A	1	648	343				2	45-55	A5	0.4	0.66-2.5	Platform Bearing Flake	Argillite	purple		
4939		1	A	1	648	343				2	45-55	A5	0.3	0.66-2.5	Flake Fragment	Argillite	purple		
4940		1	A	1	649	336				1	33-34	A1	6.6	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4941		1	A	1	649	336				1	33-34	A1	6.2	2.5-5.0	Block Shatter	Swan River Chert			
4942		1	A	1	649	336				1	33-34	A1	1.1	0.66-2.5	Flake Fragment	Quartzite	tan		
4943		1	A	1	649	336				1	33-34	A1	0.9	0.66-2.5	Block Shatter	Quartzite	red		
4944		1	A	1	649	336				1	33-34	A1	0.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4945		1	A	1	649	336				1	33-34	A1	0.7	0.66-2.5	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4946		1	A	1	649	336	0.27	0.9	SE	2	38	A1	124.1	>5.0	Core, Multidirectional	Swan River Chert			MLD=75.27m m
4947		1	A	1	649	336	0.26	0.5	SW	2	38	A1	5.4	2.5-5.0	Primary Decortication Flake	Quartzite	grey		
4948		1	A	1	649	336	0.04	0.77	SE	2	40	A1	30.5	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4949		1	A	1	649	336				2	34-44	A1	0.3	0.66-2.5	Platform Bearing Flake	Chalcedony	pink		
4950		1	A	1	649	336				2	34-44	A1	1.8	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4951		1	A	1	649	336				2	34-44	A1	1.1	0.66-2.5	Flake Fragment	Swan River Chert			
4952		1	A	1	649	336				2	34-44	A1	0.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4953		1	A	1	649	336				2	34-44	A1	1.5	0.66-2.5	Secondary Decortication Flake	Quartzite	purple		
4954		1	A	1	649	336				2	34-44	A1	0.4	0.66-2.5	Flake Fragment	Quartzite	grey		
4955		1	A	1	649	336				2	34-44	A1	1	0.66-2.5	Platform Bearing Flake	Siltstone	brown		some cortex remaining
4956		1	A	1	649	336				2	34-44	A1	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	grey		below CU1; cortex on platform
4957		1	A	1	649	336				2	34-44	A1	1.3	0.66-2.5	Flake Fragment	Quartzite	tan		below CU1
4958		1	A	1	649	336				2	34-44	A1	39.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4959		1	A	1	649	336				2	34-44	A1	3.2	2.5-5.0	Flake Fragment	Swan River Chert			fine screen
4960		1	A	1	649	336				2	34-44	A1	1.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			fine screen
4961	4963	3	A	1	649	336				2	34-44	A1	2.2	0.66-2.5	Flake Fragment	Swan River Chert			fine screen
4964	4965	2	A	1	649	336				2	34-44	A1	0.7	0.66-2.5	Platform Bearing Flake	Quartzite	grey		fine screen
4966		1	A	1	649	336				3	44-54	A1	0.3	0.66-2.5	Platform Bearing Flake	Chert	black		
4967	4969	3	A	1	649	337				1	35-35	A2	3.7	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4970	4971	2	A	1	649	337				1	35-35	A2	2.6	0.66-2.5	Flake Fragment	Swan River Chert			
4972		1	A	1	649	337				1	35-35	A2	3.1	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform; 2 pieces refit
4973		1	A	1	649	337				1	35-35	A2	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
4974		1	A	1	649	337				2	35-45	A2	18.1	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
4975		1	A	1	649	337				2	35-45	A2	4.3	2.5-5.0	Flake Fragment	Quartzite	grey		
4976	4979	4	A	1	649	337				2	35-45	A2	24.1	2.5-5.0	Platform Bearing Flake	Swan River Chert			
4980	4981	2	A	1	649	337				2	35-45	A2	20.6	2.5-5.0	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
4982		1	A	1	649	337				2	35-45	A2	4.4	2.5-5.0	Platform Bearing Flake	Chalcedony	grey pink		
4983		1	A	1	649	337				2	35-45	A2	2.8	2.5-5.0	Platform Bearing Flake	Quartz	white		
4984		1	A	1	649	337				2	35-45	A2	4	2.5-5.0	Retouched Flake	Banded Siltstone	grey		concentric rings around a central fossil; flake fragment; unifacial retouch along margin left lateral edge, dorsal surface; metrics n/a
4985		1	A	1	649	337				2	35-45	A2	0.2	0.66-2.5	Platform Bearing Flake	Chert	grey		
4986		1	A	1	649	337				2	35-45	A2	0.8	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
4987	4989	3	A	1	649	337				2	35-45	A2	1.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
4990	4996	7	A	1	649	337				2	35-45	A2	7.4	0.66-2.5	Flake Fragment	Swan River Chert			
4997	5000	4	A	1	649	337				2	35-45	A2	8.8	0.66-2.5	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
5001	6579	See Faunal Catalogue																	
6580		1	A	1	649	340				2	39-49	A2	3.3	2.5-5.0	Flake Fragment	Quartzite	red		cortex on dorsal surface
6581	6582	2	A	1	649	340				2	39-49	A2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Chert	mottled brown		Montana chert
6583		1	A	1	649	340				2	39-49	A2	0.6	0.66-2.5	Platform Bearing Flake	Quartz	white		
6584		1	A	1	649	340				2	39-49	A2	0.3	0.66-2.5	Flake Fragment	Quartzite	grey		
6585		1	A	1	649	340				2	39-49	A2	2.2	0.66-2.5	Platform Bearing Flake	Quartzite	red		cortex on platform
6586	6590	5	A	1	649	340				2	39-49	A2	3.5	0.66-2.5	Platform Bearing Flake	Quartzite	red		
6591	6592	2	A	1	649	340				2	39-49	A2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	red		
6593		1	A	1	649	340				2	39-49	A2	0.3	0.66-2.5	Flake Fragment	Quartzite	grey		
6594	6596	3	A	1	649	340				2	39-49	A2	2.1	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
6597	6598	2	A	1	649	340				2	39-49	A2	1.4	0.66-2.5	Flake Fragment	Quartzite	tan		
6599	6606	8	A	1	649	340				2	39-49	A2	4.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6607	6614	8	A	1	649	340				2	39-49	A2	5.6	0.66-2.5	Flake Fragment	Swan River Chert			
6615		1	A	1	649	340				2	39-49	A2	0.4	0.66-2.5	Block Shatter	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6616		1	A	1	649	340				3	49-59	A2	1.3	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
6617		1	A	1	649	341			N 1/2	1	35-35	A3	1.2	0.66-2.5	Flake Fragment	Quartzite	red		
6618		1	A	1	649	341			N 1/2	1	35-35	A3	4.9	2.5-5.0	Platform Bearing Flake	Quartzite	purple		
6619		1	A	1	649	341				2	35-41	A3	0.6	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
6620		1	A	1	649	341				2	35-41	A3	0.5	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6621		1	A	1	649	341	0.18	0.8	SE	3	43	A3	1.8	2.5-5.0	Platform Bearing Flake	Argillite	purple		
6622		1	A	1	649	341	0.02	0.77	SE	3	44	A3	4.2	2.5-5.0	Platform Bearing Flake	Quartzite	pink		cortex on platform
6623		1	A	1	649	341	0.02	0.71	SE	3	43	A3	2.4	2.5-5.0	Platform Bearing Flake	Argillite	purple		
6624		1	A	1	649	341	0.22	0.64	SE	3	44	A3	1.6	2.5-5.0	Platform Bearing Flake	Argillite	purple		
6625		1	A	1	649	341	0.03	0.39	SW	3	43	A3	1.7	2.5-5.0	Platform Bearing Flake	Quartzite	tan		
6626		1	A	1	649	341	0.06	0.12	SW	3	43	A3	3	2.5-5.0	Primary Decortication Flake	Quartzite	red		
6627		1	A	1	649	341	0.16	0.45	SW	3	43	A3	21.4	2.5-5.0	Platform Bearing Flake	Swan River Chert			
6628		1	A	1	649	341	0.61	0.15	NW	3	41	A3	31.1	>5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6629		1	A	1	649	341	0.6	0.1	NW	3	39	A3	8	2.5-5.0	Platform Bearing Flake	Swan River Chert			
6630		1	A	1	649	341	0.59	0.05	NW	3	40	A3	1.9	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6631		1	A	1	649	341	0.56	0.08	NW	3	40	A3	2.5	2.5-5.0	Block Shatter	Swan River Chert			
6632		1	A	1	649	341	0.01	0.27	SW	3	44	A3	1.3	0.66-2.5	Flake Fragment	Swan River Chert			
6633		1	A	1	649	341	0.17	0.07	SW	3	45	A3	3.3	2.5-5.0	Platform Bearing Flake	Swan River Chert			black line running through
6634		1	A	1	649	341	0.18	0.09	SW	3	43	A3	5.6	2.5-5.0	Flake Fragment	Swan River Chert			
6635		1	A	1	649	341	0.18	0.16	SW	3	46	A3	8.8	2.5-5.0	Flake Fragment	Quartzite	red		cortex on dorsal surface
6636		1	A	1	649	341	0.95	0.05	NW	3	40	A3	14.3	2.5-5.0	Flake Fragment	Swan River Chert			
6637		1	A	1	649	341				3	41-51	A3	3.9	2.5-5.0	Flake Fragment	Swan River Chert			
6638		1	A	1	649	341				3	41-51	A3	0.9	0.66-2.5	Platform Bearing Flake	Argillite	purple		
6639		1	A	1	649	341				3	41-51	A3	0.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6640		1	A	1	649	341				3	41-51	A3	0.3	0.66-2.5	Flake Fragment	Swan River Chert			
6641	6645	5	A	1	649	341				3	41-51	A3	11.9	0.66-2.5	Block Shatter	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6646	6647	2	A	1	649	341				3	41-51	A3	3	0.66-2.5	Platform Bearing Flake	Quartzite	red		cortex on platform
6648		1	A	1	649	341				3	41-51	A3	0.6	0.66-2.5	Flake Fragment	Quartzite	grey		
6649		1	A	1	649	341				3	41-51	A3	2.7	2.5-5.0	Flake Fragment	Quartzite	grey		
6650		1	A	1	649	341				3	41-51	A3	1.1	0.66-2.5	Platform Bearing Flake	Argillite	purple		
6651		1	A	1	649	341				3	41-51	A3	0.9	0.66-2.5	Flake Fragment	Argillite	purple		
6652		1	A	1	649	341				3	41-51	A3	0.7	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
6653		1	A	1	649	341				3	41-51	A3	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan		
6654		1	A	1	649	341				3	41-51	A3	1.1	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
6655	6656	2	A	1	649	341				3	41-51	A3	4	0.66-2.5	Flake Fragment	Quartzite	grey		
6657	6658	2	A	1	649	341				3	41-51	A3	1	0.66-2.5	Platform Bearing Flake	Quartzite	red		
6659		1	A	1	649	341				3	41-51	A3	0.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			black line running through
6660		1	A	1	649	341				3	41-51	A3	0.6	0.66-2.5	Flake Fragment	Quartz	white		
6661	6662	2	A	1	649	341				3	41-51	A3	0.9	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6663	6664	2	A	1	649	341				3	41-51	A3	2.7	0.66-2.5	Flake Fragment	Swan River Chert			
6665		1	A	1	649	342				1	41-41	A4	6.8	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6666		1	A	1	649	342				1	41-41	A4	4.2	2.5-5.0	Flake Fragment	Swan River Chert			
6667		1	A	1	649	342				1	41-41	A4	1	0.66-2.5	Platform Bearing Flake	Argillite	purple		
6668		1	A	1	649	342				1	41-41	A4	1	0.66-2.5	Platform Bearing Flake	Quartz	white		
6669		1	A	1	649	342				1	41-41	A4	2.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
6670		1	A	1	649	342				1	41-41	A4	0.8	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6671		1	A	1	649	342				1	41-41	A4	0.2	0.66-2.5	Flake Fragment	Swan River Chert			
6672		1	A	1	649	342	0.52	0.51	NE	3	39	A4	12.5	2.5-5.0	Secondary Decortication Flake	Quartzite	grey		
6673		1	A	1	649	342	0.26	0.41	SW	3	32	A4	9	2.5-5.0	Platform Bearing Flake	Quartzite	red		
6674		1	A	1	649	342	0.66	0.04	NW	3	37	A4	1.1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6675		1	A	1	649	342	0.5	0.4	SW	3	40	A4	12.6	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
6676		1	A	1	649	342	0.61	0.3	NW	3	39	A4	3.2	2.5-5.0	Primary Decortication Flake	Granite	red		
6677		1	A	1	649	342	0.43	0.38	SW	3	43	A4	35.3	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
6678		1	A	1	649	342				3	42-52	A4	13.9	2.5-5.0	Block Shatter	Swan River Chert			fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6679		1	A	1	649	342				3	42-52	A4	2.3	2.5-5.0	Primary Decortication Flake	Quartzite	tan		
6680		1	A	1	649	342				3	42-52	A4	1.7	2.5-5.0	Platform Bearing Flake	Swan River Chert			long narrow flake
6681		1	A	1	649	342				3	42-52	A4	0.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			black line running through
6682		1	A	1	649	342				3	42-52	A4	1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6683		1	A	1	649	342				3	42-52	A4	2.2	0.66-2.5	Flake Fragment	Swan River Chert			
6684		1	A	1	649	342				3	42-52	A4	0.9	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
6685		1	A	1	649	342				3	42-52	A4	4.4	2.5-5.0	Platform Bearing Flake	Quartzite	grey		remnant paleosol layer; cortex on platform
6686	6687	2	A	1	649	342				3	42-52	A4	1	0.66-2.5	Platform Bearing Flake	Quartzite	grey		remnant paleosol layer
6688	6690	3	A	1	649	342				3	42-52	A4	1.4	0.66-2.5	Platform Bearing Flake	Quartzite	red		remnant paleosol layer; cortex on platform
6691	6692	2	A	1	649	342				3	42-52	A4	1	0.66-2.5	Platform Bearing Flake	Swan River Chert			remnant paleosol layer

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6693		1	A	1	649	342				3	42-52	A4	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			remnant paleosol layer
6694		1	A	1	649	342				3	42-52	A4	0.4	0.66-2.5	Platform Bearing Flake	Quartz	white		
6695		1	A	1	649	342				3	42-52	A4	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
6696		1	A	1	649	342				3	42-52	A4	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6697		1	A	1	649	343				1	42-42	A4	1.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6698		1	A	1	649	343	0.83	0.57	NE	3	39	A4	1.9	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6699		1	A	1	649	343	0.83	0.57	NE	3	39	A4	0.1	0.66-2.5	Platform Bearing Flake	Quartz	clear		
6700		1	A	1	649	343				3	42-52	A4	3.7	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6701		1	A	1	649	343				3	42-52	A4	3.4	0.66-2.5	Block Shatter	Swan River Chert			
6702		1	A	1	649	343				3	42-52	A4	0.4	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6703	6713	11	A	1	649	337				2	35-45	A2	9	0.66-2.5	Flake Fragment	Swan River Chert			
6714	6715	2	A	1	649	337				2	35-45	A2	10.2	2.5-5.0	Platform Bearing Flake	Swan River Chert			
6716		1	A	1	649	337				2	35-45	A2	4.6	2.5-5.0	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6717		1	A	1	649	337				2	35-45	A2	1.6	0.66-2.5	Platform Bearing Flake	Quartzite	grey		cortex on platform
6718	6722	5	A	1	649	337				2	35-45	A2	2.7	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6723		1	A	1	649	338				1	32-32	A2	4	2.5-5.0	Platform Bearing Flake	Chert	mottled grey		
6724		1	A	1	649	338				1	32-32	A2	5.7	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
6725		1	A	1	649	338				1	32-32	A2	12.2	2.5-5.0	Platform Bearing Flake	Quartzite	brown		cortex on platform
6726	6727	2	A	1	649	338				1	32-32	A2	1.3	0.66-2.5	Platform Bearing Flake	Quartzite	grey		
6728		1	A	1	649	338	0.76	0.94	NE	2	36	A2	2.5	2.5-5.0	Retouched Flake	Swan River Chert			unifacial retouch along dorsal surface right lateral edge; decortication flake; Max L= 17.92mm, Max W= 27.02mm, Max T= 5.66mm
6729		1	A	1	649	338	0.12	0.37	SW	2	39	A2	4.8	2.5-5.0	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6730		1	A	1	649	338				2	32-42	A2	0.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6731		1	A	1	649	338				2	32-42	A2	1.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
6732		1	A	1	649	338				2	32-42	A2	1.3	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6733		1	A	1	649	338				3	42-52	A2	5.5	2.5-5.0	Platform Bearing Flake	Swan River Chert			
6734		1	A	1	649	339				1	35	A2	1.6	0.66-2.5	Primary Decortication Flake	Quartzite	tan		
6735		1	A	1	649	339	0.15	0.13	SW	2	34	A2	8.1	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
6736		1	A	1	649	339	0.03	0.7	SE	2	40	A2	2.9	2.5-5.0	Platform Bearing Flake	Swan River Chert			
6737		1	A	1	649	339	0.29	0.67	SE	2	8	A2	1.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6738		1	A	1	649	339	0.06	0.56	SE	2	44	A2	11.6	2.5-5.0	Flake Fragment	Swan River Chert			
6739		1	A	1	649	339				2	37-47	A2	8.2	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
6740		1	A	1	649	339				2	37-47	A2	10.8	2.5-5.0	Flake Fragment	Swan River Chert			
6741		1	A	1	649	339				2	37-47	A2	1.1	0.66-2.5	Flake Fragment	Argillite	purple		
6742		1	A	1	649	339				2	37-47	A2	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6743		1	A	1	649	339				2	37-47	A2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
6744		1	A	1	649	339				2	37-47	A2	0.4	0.66-2.5	Flake Fragment	Swan River Chert			
6745		1	A	1	649	339				2	37-47	A2	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan		cortex on platform
6746		1	A	1	649	340	0.49	0.88	SE	2	43	A2	1.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6747		1	A	1	649	340	0.1	0.41	SW	2	36	A2	7.6	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
6748		1	A	1	649	340	0.15	0.43	SW	2	38	A2	1.8	2.5-5.0	Platform Bearing Flake	Quartzite	red		cortex on platform
6749		1	A	1	649	340	0.2	0.43	SW	2	38	A2	3.5	2.5-5.0	Platform Bearing Flake	Quartzite	grey		
6750		1	A	1	649	340	0.2	0.55	SE	2	38	A2	11.5	2.5-5.0	Platform Bearing Flake	Swan River Chert			
6751		1	A	1	649	340	0.23	0.6	SE	2	40	A2	26.7	2.5-5.0	Flake Fragment	Coarse Grained Material	grey		
6752		1	A	1	649	340	0.2	0.85	SE	2	41	A2	10.3	2.5-5.0	Platform Bearing Flake	Quartzite	red		
6753		1	A	1	649	340	0.77	0.55	NE	2	37	A2	37.5	2.5-5.0	Flake Fragment	Quartzite	pink		cortex remaining on dorsal surface; refits to #6552

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6754		1	A	1	649	340	0.79	0.52	NE	2	37	A2	23.4	2.5-5.0	Flake Fragment	Quartzite	pink		cortex remaining on dorsal surface; refits to #6551
6755		1	A	1	649	340	0.3	0.61	SE	2	40	A2	1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6756		1	A	1	649	340	0.45	0.89	SE	2	40	A2	1	0.66-2.5	Platform Bearing Flake	Swan River Chert			
6757		1	A	1	649	340	0.15	0.77	SE	2	40	A2	3.2	2.5-5.0	Bipolar Flake	Swan River Chert			
6758		1	A	1	649	340	0.07	0.49	SW	2	38	A2	4.3	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
6759		1	A	1	649	340	0.07	0.52	SE	2	42	A2	5.9	2.5-5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
6760		1	A	1	649	340	0.12	0.57	SE	2	41	A2	6.3	2.5-5.0	Platform Bearing Flake	Coarse Grained Material	grey		
6761		1	A	1	649	340	0.13	0.54	SE	2	43	A2	4.5	2.5-5.0	Flake Fragment	Quartzite	grey		
6762		1	A	1	649	340	0.09	0.56	SE	2	44	A2	35.2	>5.0	Primary Decortication Flake	Quartzite	red grey		
6763		1	A	1	649	340	0.73	0.82	NE	2	45	A2	52.2	>5.0	Core Fragment	Quartz	white		MLD=56.78m m

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6764		1	A	1	649	340				2	39-49	A2	4.9	2.5-5.0	Platform Bearing Flake	Quartzite	grey		base at photo to send
6765		1	A	1	649	340				2	39-49	A2	2.1	2.5-5.0	Flake Fragment	Quartzite	grey		base at photo to send
6766		1	A	1	649	340				2	39-49	A2	0.2	0.66-2.5	Flake Fragment	Chert	mottled brown		base at photo to send; Montana chert
6767		1	A	1	649	340				2	39-49	A2	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chert	black		base at photo to send
6768	6769	2	A	1	649	340				2	39-49	A2	0.6	0.66-2.5	Platform Bearing Flake	Swan River Chert			base at photo to send
6770		1	A	1	649	340				2	39-49	A2	0.01	0-0.66	Microdebitage	Swan River Chert			base at photo to send
6771	6772	2	A	1	649	340				2	39-49	A2	1.7	0.66-2.5	Flake Fragment	Swan River Chert			base at photo to send
6773		1	A	1	649	340				2	39-49	A2	2.1	0.66-2.5	Platform Bearing Flake	Quartzite	grey		base at photo to send

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6774	6776	3	A	1	649	340				2	39-49	A2	1.8	0.66-2.5	Flake Fragment	Quartzite	grey		base at photo to send
6777		1	A	1	649	340				2	39-49	A2	0.8	0.66-2.5	Platform Bearing Flake	Quartzite	red		base at photo to send
6778		1	A	1	649	340				2	39-49	A2	0.1	0.66-2.5	Flake Fragment	Quartz	white		base at photo to send
6779		1	A	1	649	340				2	39-49	A2	0.5	0.66-2.5	Platform Bearing Flake	Granite	red		base at photo to send
6780		1	A	1	649	340				2	39-49	A2	1.5	0.66-2.5	Flake Fragment	Swan River Chert			below CM1
6781		1	A	1	649	340				2	39-49	A2	3.5	2.5-5.0	Secondary Decortication Flake	Quartzite	red		
6782		1	B	1	638	335				1	68-48	B2	2.6	2.5-5.0	Flake Fragment	Quartzite	grey		
6783		1	B	2	639	335				23	49-59	B12	4.5	2.5-5.0	Flake Fragment	Quartzite	tan		
6784		1	B	2	639	335				23	49-59	B12	3.3	0.66-2.5	Flake Fragment	Quartzite	red		
6785		1	B	2	639	335	0.93	0.8	NE	24	57	B13	3.3	2.5-5.0	Platform Bearing Flake	Chalcedony	brown	F7	KRF?

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6786		1	B	2	639	335				24	56-66	B13	2.4	2.5-5.0	Retouched Flake	Montana Chert	mottled brown		broken flake; unifacial retouch along dorsal surface left lateral edge; Max L n/a, Max W=23.60 mm, Max T= 3.44mm
6787		1	B	2	639	335				24	56-66	B13	0.2	0.66-2.5	Platform Bearing Flake	Chert	white		possibly Montana chert

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6788		1	B	2	639	335				24	56-66	B13	8	2.5-5.0	Retouched Flake	Petrified Wood			complete flake; unifacially retouched around right lateral edge and distal end, dorsal surface; flakes reach midline; some bifacial flaking distal end towards left lateral edge, steep working angle, maybe scraping use; Max L= 34.08mm, Max W= 21.76mm, Max T= 9.55mm

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6789		1	B	2	639	335				24	56-66	B13	0.5	0.66-2.5	Flake Fragment	Petrified Wood		F7	fine screen
6790		1	B	2	639	335				24	56-66	B13	0.4	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F7	fine screen; cortex n platform
6791		1	B	2	639	335				24	56-66	B13	0.2	0.66-2.5	Flake Fragment	Chalcedony	brown	F7	fine screen
6792	6800	9	B	2	639	335				24	56-66	B13	0.7	0.66-2.5	Retouch/ Resharpener Flake	Chert	white	F7	fine screen; possibly Montana chert
6801	6803	3	B	2	639	335				24	56-66	B13	0.3	0.66-2.5	Flake Fragment	Chert	white	F7	fine screen; possibly Montana chert
6804	6809	6	B	2	639	335				24	56-66	B13	0.1	0-0.66	Microdebitage	Chert	white	F7	fine screen; possibly Montana chert
6810		1	B	2	639	335				24	56-66	B13	0.1	0.66-2.5	Platform Bearing Flake	Coarse Grained Material	grey	F7	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6811		1	B	2	639	336	0.97	0.03	NW	23	56	B13	1.3	2.5-5.0	Projectile Point Preform	Chalcedony	brown		possibly Montana chert or KRF; flake point; minimally marginally bifacially retouched on both sides and base; triangular, no notches, preform?; Max L= 27.66mm, Max W= 18.71mm,Max T=3.13 mm
6812		1	B	2	639	336				23	49-59	B13	0.01	0.66-2.5	Flake Fragment	Chert	grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6813		1	B	2	639	336				23	49-59	B13	1.3	0.66-2.5	Projectile Point Preform	Chalcedony	mottled brown		possibly Montana or KRF; complete projectile point preform or biface; triangular shape, thinned, late stage; Max L= 24.92mm, Max W= 15.21mm, Max T=3.44 mm
6814		1	B	2	639	336				23	49-59	B13	0.2	0.66-2.5	Flake Fragment	Chert	mottled brown	F7	fine screen; possibly Montana chert
6815		1	B	2	639	336				23	49-59	B13	0.2	0.66-2.5	Platform Bearing Flake	Swan River Chert		F7	fine screen
6816		1	B	2	639	336				23	49-59	B13	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chert	white	F7	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6817		1	B	2	639	336				23	49-59	B13	0.01	0-0.66	Microdebitage	Chert	white	F7	fine screen
6818	6819	2	B	2	639	336				23	49-59	B13	0.1	0.66-2.5	Flake Fragment	Chert	mottled brown	F7	fine screen; possibly Montana chert
6820	6821	2	B	2	639	336				23	49-59	B13	0.1	0.66-2.5	Retouch/ Resharpener Flake	Chert	mottled brown	F7	fine screen; possibly Montana chert
6822	6824	3	B	2	639	336				23	49-59	B13	0.8	0.66-2.5	Flake Fragment	Swan River Chert		F7	fine screen
6825	6826	2	B	2	639	336				23	49-59	B13	0.01	0.66-2.5	Flake Fragment	Quartzite	red	F7	fine screen
6827	6829	3	B	2	639	336				23	49-59	B13	0.01	0-0.66	Microdebitage	Chert	grey	F7	fine screen
6830	6832	3	B	2	639	336				23	49-59	B13	0.1	0.66-2.5	Flake Fragment	Chert	grey	F7	fine screen
6833		1	B	2	639	336				23	49-59	B13	0.2	0.66-2.5	Flake Fragment	Chert	grey	F7	fine screen
6834		1	B	2	639	337				23	51-61	B14	0.1	0.66-2.5	Platform Bearing Flake	Chalcedony	tan		
6835		1	B	2	639	337				23	51-61	B14	0.5	0.66-2.5	Platform Bearing Flake	Granite	red black		
6836		1	B	2	640	335				23	44-54	B13	0.2	0.66-2.5	Bifacial Reduction Flake	Swan River Chert			
6837		1	B	2	640	335				23	44-54	B13	0.01	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert			
6838		1	B	2	640	335				23	44-54	B13	0.1	0.66-2.5	Flake Fragment	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6839		1	B	2	640	335	0.33	0.03	SW	24	63	B13	1.4	0.66-2.5	Flake Fragment	Chalcedony	grey		possibly Montana chert
6840		1	B	2	640	335	0.61	0.61	NE	24	58	B13	6.5	2.5-5.0	Flake Fragment	Quartzite	red	F7	cortex on dorsal surface
6841		1	B	2	640	335	0.64	0.65	NE	24	59	B13	0.6	0.66-2.5	Flake Fragment	Chalcedony	mottled brown	F7	possibly Montana chert
6842		1	B	2	640	335				24	54-64	B13	1.3	0.66-2.5	Retouched Flake	Montana Chert	mottled brown		outside F7; broken flake; unifacial retouch along dorsal surface right lateral edge; Max L n/a, Max W=17.65 mm, Max T= 2.36mm
6843		1	B	2	640	335				24	54-64	B13	0.5	0.66-2.5	Platform Bearing Flake	Chalcedony	tan		outside F7
6844		1	B	2	640	335				24	54-64	B13	0.5	0.66-2.5	Flake Fragment	Swan River Chert			outside F7

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6845		1	B	2	640	335				24	54-64	B13	0.1	0.66-2.5	Flake Fragment	Chalcedony	mottled tan	F7	fine screen
6846		1	B	2	640	335				24	54-64	B13	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	tan	F7	fine screen
6847	6852	6	B	2	640	335				24	54-64	B13	2.4	0.66-2.5	Flake Fragment	Petrified Wood/ Petrified Peat		F7	fine screen
6853		1	B	2	640	335				24	54-64	B13	1.3	0.66-2.5	Retouched Flake	Petrified Wood/ Petrified Peat		F7	fine screen; flake fragment; unifacial retouch along one end; metrics n/a
6854		1	B	2	640	335				24	54-64	B13	0.7	0.66-2.5	Retouched Flake	Petrified Wood/ Petrified Peat		F7	fine screen; flake fragment; unifacial retouch along one end; metrics n/a
6855		1	B	2	640	335				24	54-64	B13	0.5	0.66-2.5	Platform Bearing Flake	Swan River Chert		F7	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6856	6860	5	B	2	640	335				24	54-64	B13	0.4	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F7	fine screen
6861	6862	2	B	2	640	335				24	54-64	B13	0.01	0.66-2.5	Microdebitage	Swan River Chert		F7	fine screen
6863	6869	7	B	2	640	335				24	54-64	B13	0.4	0.66-2.5	Flake Fragment	Swan River Chert		F7	fine screen
6870		1	B	2	640	335				24	54-64	B13	1.2	2.5-5.0	Flake Fragment	Swan River Chert		F7	fine screen
6871	6890	20	B	2	640	335				24	54-64	B13	21.3	0.66-2.5	Block Shatter	Coarse Grained Material	grey	F7	fine screen
6891		1	B	2	640	335				24	54-64	B13	2.9	2.5-5.0	Flake Fragment	Quartzite	grey	F7	fine screen
6892	6895	4	B	2	640	335				24	54-64	B13	0.8	0.66-2.5	Platform Bearing Flake	Quartzite	red	F7	fine screen
6896	6901	6	B	2	640	335				24	54-64	B13	2.2	0.66-2.5	Flake Fragment	Quartzite	grey	F7	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6902		1	B	2	640	336	0.4	0.2	SW	23	58	B13	2.1	0.66-2.5	Biface	Petrified Wood			broken flake; bifacial retouch on three sides, tip missing; thinly flaked, late stage; Max L n/a, Max W=20.74 mm, Max T= 4.19mm
6903		1	B	2	640	336	0.35	0.71	SE	23	58	B13	30.5	0.66-2.5	Block Shatter	Quartzite	red		
6904		1	B	2	640	336	0.42	0.05	SW	23	59	B13	1.6	0.66-2.5	Bifacial Reduction Flake	Chert	mottled brown		possibly Montana Chert
6905		1	B	2	640	336	0.49	0.09	SW	23	58	B13	0.4	0.66-2.5	Flake Fragment	Chalcedony	mottled brown		
6906		1	B	2	640	336	0.1	0.08	SW	23	57	B13	2.4	2.5-5.0	Bifacial Reduction Flake	Swan River Chert			
6907		1	B	2	640	335				23	50-60	B13	0.8	0.66-2.5	Flake Fragment	Quartzite	red	F7	fine screen
6908		1	B	2	640	335				23	50-60	B13	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	tan	F7	fine screen
6909		1	B	2	640	336				23	50-60	B13	0.3	0.66-2.5	Platform Bearing Flake	Chalcedony	black		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6910		1	B	2	640	336				23	50-60	B13	1.7	0.66-2.5	Flake Fragment	Quartzite	red		
6911	6912	2	B	2	640	336				23	50-60	B13	8.9	0.66-2.5	Flake Fragment	Swan River Chert			
6913		1	B	2	640	336				23	50-60	B13	1.1	0.66-2.5	Flake Fragment	Swan River Chert			
6914		1	B	2	641	337				23	48-58	B16	3.1	0.66-2.5	Block Shatter	Chert	grey		
6915		1	C	2	643	341	0.77	0.89	NE	22	41	C2	4.2	2.5-5.0	Retouched Flake	Chert	brown		complete flake; unifacial retouch along left lateral edge, dorsal surface; Max L= 37.42mm, Max W=17.60 mm, Max T= 8.06mm
6916		1	C	2	643	341	0.64	0.66	NE	22	42	C2	1.4	2.5-5.0	Platform Bearing Flake	Chert	black		
6917		1	C	2	643	343				22	40-52	C1	0.9	0.66-2.5	Flake Fragment	Granite	grey		
6918		1	C	2	643	343				22	40-52	C1	0.6	0.66-2.5	Platform Bearing Flake	Quartzite	red grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6919		1	C	2	643	343	0.79	0.29	NW	22	44	C1	45.7	>5.0	Primary Decortication Flake	Quartzite	red	F5	
6920	6921	2	C	2	644	340				22	34-47	C2	0.4	0.66-2.5	Platform Bearing Flake	Chert	mottled grey		
6922		1	C	2	644	340				22	34-47	C2	0.01	0.66-2.5	Platform Bearing Flake	Chert	tan		
6923		1	C	2	644	341				22	38-46	C2	0.2	0.66-2.5	Retouch/ Resharpener Flake	Chert	mottled grey		
6924		1	C	2	644	341				22	38-46	C2	0.01	0-0.66	Microdebitage	Swan River Chert		F6	fine screen
6925		1	C	2	644	341				22	38-46	C2	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chert	grey	F6	fine screen
6926		1	C	2	644	341				22	38-46	C2	0.01	0.66-2.5	Bifacial Reduction Flake	Chalcedony	grey	F6	fine screen
6927		1	C	2	644	341				22	38-46	C2	0.01	0.66-2.5	Retouch/ Resharpener Flake	Siltstone	brown	F6	fine screen
6928		1	C	2	644	341				22	38-46	C2	0.2	0.66-2.5	Flake Fragment	Quartzite	red	F6	fine screen
6929	6930	2	C	2	644	341				22	38-46	C2	0.01	0.66-2.5	Flake Fragment	Swan River Chert		F6	fine screen
6931	6932	2	C	2	644	341				22	38-46	C2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Chert	grey	F6	fine screen
6933		1	C	2	644	341				22	38-46	C2	0.3	0.66-2.5	Flake Fragment	Quartzite	grey	F6	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6934		1	C	2	644	341				23	46-56	C2	0.01	0-0.66	Microdebitage	Chert	grey	F6	fine screen
6935	6940	6	C	2	644	341				23	46-56	C2	0.3	0.66-2.5	Retouch/ Resharpener Flake	Chert	grey	F6	fine screen
6941		1	C	2	644	341				23	46-56	C2	0.1	0.66-2.5	Platform Bearing Flake	Chert	grey	F6	fine screen
6942		1	C	2	644	341				23	46-56	C2	0.01	0.66-2.5	Flake Fragment	Chert	grey	F6	fine screen
6943	6946	4	C	2	644	341				23	46-56	C2	0.3	0.66-2.5	Retouch/ Resharpener Flake	Siltstone	brown	F6	fine screen
6947	6950	4	C	2	644	341				23	46-56	C2	0.3	0.66-2.5	Platform Bearing Flake	Siltstone	brown	F6	fine screen
6951	6952	2	C	2	644	341				23	46-56	C2	0.2	0.66-2.5	Flake Fragment	Chalcedony	tan	F6	fine screen
6953		1	C	2	644	341				23	46-56	C2	0.2	0.66-2.5	Flake Fragment	Chalcedony	mottled tan	F6	fine screen
6954		1	C	2	644	341				23	46-56	C2	0.1	0.66-2.5	Bifacial Reduction Flake	Chalcedony	mottled brown	F6	fine screen
6955	6957	3	C	2	644	341				23	46-56	C2	0.1	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	mottled brown	F6	fine screen
6958	6961	4	C	2	644	341				23	46-56	C2	0.4	0.66-2.5	Platform Bearing Flake	Chalcedony	mottled brown	F6	fine screen
6962	6964	3	C	2	644	341				23	46-56	C2	0.7	0.66-2.5	Flake Fragment	Quartzite	grey	F6	fine screen
6965		1	C	2	644	342				22	40-50	C1	0.01	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F6	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
6966		1	C	2	644	342				22	40-50	C1	0.1	0.66-2.5	Bifacial Reduction Flake	Chalcedony	grey	F6	fine screen
6967	6969	3	C	2	644	342				22	40-50	C1	0.3	0.66-2.5	Flake Fragment	Quartzite	grey	F6	fine screen
6970		1	C	2	644	343	0.04	0.13	SW	22	41	C1	77.8	>5.0	Flake Fragment	Quartzite	red	F5	cortex on dorsal surface; slightly blackened
6971		1	C	2	645	340				22	33-43	C4	0.3	0.66-2.5	Flake Fragment	Chalcedony	mottled brown		
6972	6973	2	C	2	645	340				22	33-43	C4	3.2	0.66-2.5	Block Shatter	Swan River Chert			
6974		1	C	2	645	340				22	33-43	C4	1.9	2.5-5.0	Flake Fragment	Swan River Chert			
6975		1	C	2	645	341	0.03	0.43	SW	22	38	C1/ C4	0.01	0.66-2.5	Platform Bearing Flake	Chalcedony	mottled brown	F6	
6976		1	C	2	645	341	0.53	0.4	NW	22	39	C1/ C4	0.3	0.66-2.5	Flake Fragment	Chalcedony	grey	F6	translucent with brownish patches
6977	6978	2	C	2	645	341				22	34-40	C1/ C4	1	0.66-2.5	Bifacial Reduction Flake	Chalcedony	mottled brown	F6	fine screen
6979	6988	10	C	2	645	341				22	34-40	C1/ C4	0.3	0-0.66	Microdebitage	Chalcedony	tan	F6	fine screen
6989	7017	29	C	2	645	341				22	34-40	C1/ C4	1.7	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	tan	F6	fine screen
7018	7023	6	C	2	645	341				22	34-40	C1/ C4	0.2	0.66-2.5	Flake Fragment	Chalcedony	tan	F6	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7024		1	C	2	645	341				22	34-40	C1/ C4	0.2	0.66-2.5	Platform Bearing Flake	Swan River Chert		F6	fine screen
7025	7030	6	C	2	645	341				22	34-40	C1/ C4	0.5	0.66-2.5	Retouch/ Resharpener Flake	Swan River Chert		F6	fine screen
7031		1	C	2	645	341				22	34-40	C1/ C4	0.01	0.66-2.5	Flake Fragment	Swan River Chert		F6	fine screen
7032	7034	3	C	2	645	341				22	34-40	C1/ C4	0.1	0-0.66	Microdebitage	Quartzite	red	F6	fine screen
7035	7036	2	C	2	645	341				22	34-40	C1/ C4	0.2	0.66-2.5	Platform Bearing Flake	Quartzite	red	F6	fine screen
7037	7040	4	C	2	645	341				22	34-40	C1/ C4	0.6	0.66-2.5	Flake Fragment	Quartzite	red	F6	fine screen
7041	7042	2	C	2	645	341				22	34-40	C1/ C4	0.1	0.66-2.5	Flake Fragment	Chert	grey	F6	fine screen
7043		1	C	2	645	341				22	34-40	C1/ C4	0.01	0-0.66	Microdebitage	Siltstone	black	F6	fine screen
7044		1	C	2	645	341				22	34-44	C4	0.2	0.66-2.5	Flake Fragment	Quartzite	grey		outside F6; fine screen
7045	7047	3	C	2	645	341				22	34-44	C4	0.2	0.66-2.5	Bifacial Reduction Flake	Chalcedony	tan		outside F6; fine screen
7048		1	C	2	645	341				22	34-44	C4	0.01	0-0.66	Microdebitage	Swan River Chert			outside F6; fine screen
7049	7057	9	C	2	645	341				22	34-44	C4	0.2	0-0.66	Microdebitage	Chalcedony	tan		outside F6; fine screen
7058	7070	13	C	2	645	341				22	34-44	C4	0.7	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony			outside F6; fine screen
7071	7074	5	C	2	645	341				22	34-44	C4	0.2	0.66-2.5	Flake Fragment	Chalcedony	tan		outside F6; fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7075	7079	4	C	2	645	341				22	34-44	C4	0.2	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	brown		outside F6; fine screen
7080		1	C	2	645	341				22	34-44	C4	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	grey		outside F6; fine screen
7081	7082	2	C	2	645	341				23	44-54	C4	0.1	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	tan	F6	fine screen
7083		1	C	2	645	341				23	44-54	C4	0.01	0-0.66	Microdebitage	Chalcedony	grey	F6	fine screen
7084		1	C	2	645	341				23	44-54	C4	0.01	0.66-2.5	Flake Fragment	Quartzite	grey	F6	fine screen
7085		1	C	2	645	342	0.38	0.62	SE	22	44	C3	0.8	0.66-2.5	Bifacial Reduction Flake	Chalcedony	mottled brown		
7086		1	C	2	645	342				22	34-44	C3	0.2	0.66-2.5	Flake Fragment	Chalcedony	tan		
7087		1	C	2	645	342				22	34-44	C3	0.5	0.66-2.5	Platform Bearing Flake	Granite	red black		
7088		1	C	2	645	342	0.03	0.21	SW	22	38	C1/ C4	2.5	2.5-5.0	Bifacial Reduction Flake	Chalcedony	mottled brown	F6	
7089	7090	2	C	2	645	342				22	34-37	C1/ C4	1.4	0.66-2.5	Flake Fragment	Quartzite	grey	F6	fine screen
7091	7093	3	C	2	645	342				22	34-37	C1/ C4	1.1	0.66-2.5	Bifacial Reduction Flake	Chalcedony	mottled brown	F6	fine screen
7094	7095	2	C	2	645	342				22	34-37	C1/ C4	0.6	0.66-2.5	Flake Fragment	Chalcedony	mottled brown	F6	fine screen
7096	7101	6	C	2	645	342				22	34-37	C1/ C4	0.3	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	mottled brown	F6	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7102	7105	4	C	2	645	342				22	34-37	C1/ C4	0.1	0-0.66	Microdebitage	Chalcedony	mottled brown	F6	fine screen
7106	7110	5	C	2	645	342				22	34-37	C1/ C4	0.2	0.66-2.5	Flake Fragment	Chalcedony	mottled brown	F6	fine screen
7111	7112	2	C	2	645	342				22	34-37	C1/ C4	0.1	0.66-2.5	Flake Fragment	Quartzite	grey	F6	fine screen
7113	7115	3	C	2	645	342				22	34-37	C1/ C4	0.2	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	tan	F6	fine screen
7116	7118	3	C	2	645	342				22	34-37	C1/ C4	0.2	0-0.66	Microdebitage	Quartzite	grey	F6	fine screen
7119		1	C	2	645	342				22	34-37	C1/ C4	1.2	0.66-2.5	Secondary Decortication Flake	Quartzite	red	F6	fine screen
7120	7122	3	C	2	645	342				22	34-37	C1/ C4	1.1	0.66-2.5	Flake Fragment	Quartzite	grey	F6	fine screen
7123		1	C	2	645	342				22	34-37	C1/ C4	0.01	0.66-2.5	Flake Fragment	Swan River Chert		F6	fine screen
7124		1	C	2	645	342				23	44-54	C4	0.3	0.66-2.5	Bifacial Reduction Flake	Chalcedony	tan		
7125		1	C	2	646	340				22	30-41	C4	0.2	0.66-2.5	Bifacial Reduction Flake	Chalcedony	brown		
7126		1	C	2	646	341	0.37	0.32	SW	22	37	C4	0.01	0.66-2.5	Platform Bearing Flake	Swan River Chert			
7127	7128	2	C	2	646	341				22	33-43	C4	0.1	0.66-2.5	Flake Fragment	Chalcedony	tan		likely same material as chalcedony with tan/white below

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7129	7132	4	C	2	646	341				22	33-43	C4	0.1	0-0.66	Microdebitage	Chalcedony	tan		likely same material as chalcedony with tan/white below
7133	7141	9	C	2	646	341				22	33-43	C4	0.4	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	tan		likely same material as chalcedony with tan/white below
7142		1	C	2	646	341				22	33-43	C4	0.01	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	red		
7143		1	C	2	646	341				22	33-43	C4	0.6	2.5-5.0	Retouched Flake	Chalcedony	mottled brown		flake fragment; minimal marginal unifacial retouch along lateral edge, dorsal surface; metrics n/a
7144		1	C	2	646	341				22	33-43	C4	0.2	0.66-2.5	Bifacial Reduction Flake	Chalcedony	tan white		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7145	7146	2	C	2	646	341				22	33-43	C4	0.1	0.66-2.5	Platform Bearing Flake	Chalcedony	tan white		
7147	7173	27	C	2	646	341				22	33-43	C4	0.5	0.66-2.5	Microdebitage	Chalcedony	tan white		
7174	7188	15	C	2	646	341				22	33-43	C4	0.9	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	tan white		
7189	7198	10	C	2	646	341				22	33-43	C4	0.5	0.66-2.5	Flake Fragment	Chalcedony	tan white		
7199		1	C	2	646	341				23	43-53	C4	2.5	2.5-5.0	Bifacial Reduction Flake	Chalcedony	mottled brown		
7200		1	C	2	646	341				23	43-53	C4	0.3	0.66-2.5	Platform Bearing Flake	Chalcedony	mottled brown		
7201		1	C	2	646	341				23	43-53	C4	0.2	0.66-2.5	Platform Bearing Flake	Chalcedony	tan		
7202		1	C	2	646	341				23	43-53	C4	0.1	0.66-2.5	Flake Fragment	Chalcedony	tan		
7203	7204	2	C	2	646	341				23	43-53	C4	0.01	0-0.66	Microdebitage	Swan River Chert			
7205		1	C	2	646	342				22	38-48	C3	1.1	0.66-2.5	Platform Bearing Flake	Chalcedony	mottled brown		large patch of white
7206	7207	2	C	2	646	342				22	38-48	C3	0.3	0.66-2.5	Flake Fragment	Chalcedony	tan		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7208		1	C	2	646	342				22	38-48	C3	0.4	0.66-2.5	Retouched Flake	Chalcedony	tan		flake fragment; minimal marginal unifacial retouch along lateral edge near platform, dorsal surface; metrics n/a

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7209		1	C	2	646	342	0.43	0.66	SE	23	48	C3	1.5	2.5-5.0	Retouched Flake	Chalcedony	brown		KRF?; broken flake; unifacial retouch on dorsal surface, both lateral edges; marginal, minimal; use wear; distal end broken; Max L n/a, Max W=21.72mm, Max T=3.06 mm
7210		1	C	2	646	342	0.1	0.91	SE	23	49	C3	0.2	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	tan		
7211		1	C	2	644	343	0.85	0.18	NW	22	35	C1	4.2	2.5-5.0	Primary Decortication Flake	Quartzite	red		
7212		1	C	2	644	343				22	42-52	C1	0.01	0-0.66	Microdebitage	Quartzite	grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7213		1	C	2	645	342				22	34-44	C3	53.1	>5.0	Primary Decortication Flake	Quartzite	black		
7214		1	A	1	649	343				3	42-52	A4	0.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
7215		1	A	1	648	338	0.42	0.67	SE	2	44	A2	1.2	0.66-2.5	Perforator	Chert	grey	F2	complete; triangular, tip angled; one side excurvate, one side sort of straight, skewed left; base straight. Max L= 25.40mm, Max W (blade)= 13.78mm, Max T= 4.05mm

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7216		1	A	1	648	338	0.23	0.28	SW	3	47	A2	0.6	0.66-2.5	Projectile Point	Swan River Chert		F2	complete triangular, side notched; sides excurvate; tip angular; base subconcave; tip broken but present; Max L= 22.04mm, Max W (blade)= 10.62mm, Max T= 3.02mm
7217		1	A	1	648	340	0.53	0.5	NW	2	42	A7	0.6	0.66-2.5	Projectile Point	Chert	grey		fragment; possibly triangular, tip angular; finely thinned; metrics n/a

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7218		1	A	1	648	342				1	44-44	A6	0.6	0.66-2.5	Projectile Point	Quartzite	grey		base and part of body; side notched, sides appear excurve; base may have been straight, chipped; possibly ground; Max Ln/a, Max W (base)= 15.02mm, Max T= 2.58mm

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7219		1	B	2	640	335				24	54-64	B13	0.4	0.66-2.5	Projectile Point	Chalcedony	brown	F7	fragment; flake point, marginal flaking on ventral surface, flaked across dorsal surface; tip missing, base broken through notches; excurvate sides; Max W= 12.19mm
7220		1	B	2	640	335				24	54-64	B13	0.5	2.5-5.0	Flake Fragment	Sandstone	brown	F7	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7221		1	B	2	640	335				24	54-64	B13	0.7	0.66-2.5	Projectile Point	Chalcedony	brown		outside F7; complete point, angular tip, side straight converging at tip; side notched; base subconcave; Max L= 20.68mm, Max W(shoulder)= 12.46mm, Max T= 3.15mm

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7222		1	B	2	640	335				24	54-64	B13	0.5	0.66-2.5	Projectile Point	Banded Siltstone	grey		outside F7; complete point side notched; tip, shoulders and base rounded; base subconvex and ground; Max L= 13.80mm, Max W(base)=13.20mm, Max T=3.02mm
7223		1	B	2	640	335				24	54-64	B13	0.4	0.66-2.5	Projectile Point	Swan River Chert			outside F7; fragment; broken diagonally mid body, tip angular one side is excurvate; metrics n/a

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7224		1	B	2	640	336				23	50-60	B13	5.2	2.5-5.0	Projectile Point	Chert	brown		complete point; sides excurvate; tip angular; side notched; base straight, ground; Max L= 39.64mm, Max W(blade)=18.81mm,Max T= 5.53mm

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7225		1	C	2	645	343			S	22	36-46	C3	0.5	0.66-2.5	Projectile Point	Chalcedony	brown		S1/2, likely SW; patinated, possibly KRF; broken point; tip and part of body missing; stemmed? Max L n/a, Max W(shoulder)= 13.98mm, Max T= 2.97mm
7226		1	A	1	647	336	0.96	0.59	NE	1	39	A8	14.8	2.5-5.0	Platform Bearing Flake	Chert	grey		cortex on platform

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7227		1	A	1	647	337	0.94	0.39	NW	3	39	A8	103.3	>5.0	Retouched Flake	Quartzite	tan		primary decortication flake; unifacial and bifacial flaking around edge; Max L= 61.99mm, Max W=61.16 mm, Max T=22.78mm
7228		1	A	1	647	337	0.96	0.15	NW	3	43	A8	54.2	2.5-5.0	Block Shatter	Swan River Chert			
7229		1	A	1	647	339	0.73	0.77	NE	2	39	A7	6.3	2.5-5.0	Block Shatter	Swan River Chert			
7230		1	A	1	647	339	0.84	0.61	NE	2	42	A7	11.6	2.5-5.0	Block Shatter	Swan River Chert			
7231		1	A	1	647	339	0.9	0.5	NW	2	41	A7	13.3	0.66-2.5	Block Shatter	Swan River Chert			
7232		1	A	1	647	339	0.63	0.81	NE	2	39	A7	13.3	2.5-5.0	Block Shatter	Swan River Chert			
7233		1	A	1	647	339	0.88	0.24	NW	2	44	A7	23.6	2.5-5.0	Block Shatter	Swan River Chert			
7234		1	A	1	647	339	0.98	0.48	NW	2	41	A7	6.7	2.5-5.0	Block Shatter	Swan River Chert			

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7235		1	A	1	647	339	0.81	0.54	NE	2	43	A7	11.2	2.5-5.0	Block Shatter	Swan River Chert			
7236		1	A	1	647	339	0.91	0.95	NE	2	44	A7	58.4	>5.0	Block Shatter	Swan River Chert			
7237		1	A	1	647	339	0.69	0.37	NW	2	40	A7	6.3	2.5-5.0	Platform Bearing Flake	Quartzite	tan		cortex on platform
7238		1	A	1	647	339				2	46-47	A7	7	2.5-5.0	Flake Fragment	Quartzite	red		pedestals; cortex on dorsal surface
7239	7241	3	A	1	647	339				2	46-47	A7	1.2	0.66-2.5	Block Shatter	Granite	grey		pedestals
7242	7249	8	A	1	647	339				2	46-47	A7	16.7	0.66-2.5	Block Shatter	Swan River Chert			pedestals
7250		1	A	1	647	339				2	46-47	A7	5.1	2.5-5.0	Block Shatter	Swan River Chert			
7251	7258	8	A	1	647	339				2	46-47	A7	21.9	0.66-2.5	Block Shatter	Swan River Chert			
7259		1	A	1	647	339				2	46-47	A7	7	0.66-2.5	Block Shatter	Quartzite	tan		
7260		1	A	1	647	339				2	46-47	A7	2.5	0.66-2.5	Block Shatter	Quartzite	red		
7261		1	A	1	647	340	0.86	0.08	NW	2	39	A7	69.3	>5.0	Block Shatter	Swan River Chert			
7262		1	A	1	647	340				2	38-48	A7	4.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
7263		1	A	1	647	340				2	38-48	A7	5.3	2.5-5.0	Flake Fragment	Quartzite	grey		
7264		1	A	1	647	340				2	38-48	A7	6.8	2.5-5.0	Block Shatter	Quartzite	pink		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7265		1	A	1	647	340				2	38-48	A7	10.3	2.5-5.0	Block Shatter	Swan River Chert			
7266		1	A	1	647	341				1	36-42	A7	27.3	2.5-5.0	Block Shatter	Swan River Chert			
7267		1	A	1	647	341				1	36-42	A7	1.2	0.66-2.5	Block Shatter	Swan River Chert			
7268		1	A	1	647	341				1	36-42	A7	29.9	2.5-5.0	Platform Bearing Flake	Quartzite	tan		platform on cortex
7269	7270	2	A	1	647	341				2	48-58	A6	10.1	0.66-2.5	Block Shatter	Swan River Chert		F1	
7271		1	A	1	647	341				2	42-52	A6	7.7	2.5-5.0	Block Shatter	Swan River Chert			
7272	7275	4	A	1	647	341				2	42-52	A6	7.7	0.66-2.5	Block Shatter	Swan River Chert			
7276		1	A	1	647	342				2	45-47	A6	1.4	0.66-2.5	Platform Bearing Flake	Chalcedony	grey		
7277		1	A	1	647	343				2	43-53	A5	10.2	2.5-5.0	Platform Bearing Flake	Quartzite	tan		platform on cortex
7278		1	A	1	648	338	0.84	0.94	NE	2	42	A2	13.8	2.5-5.0	Block Shatter	Swan River Chert			outside hearth
7279	7285	7	A	1	648	338				2	32-43	A2	8.2	0.66-2.5	Block Shatter	Swan River Chert			
7286		1	A	1	648	338	0.55	0.54	NE	2	44	A2	18	2.5-5.0	Block Shatter	Swan River Chert		F2	
7287		1	A	1	648	338	0.33	0.98	SE	2	40	A2	32.5	2.5-5.0	Block Shatter	Swan River Chert		F2	
7288	7289	2	A	1	648	338	0.17	0.97	SE	2	40	A2	37.7	2.5-5.0	Block Shatter	Swan River Chert		F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7290		1	A	1	648	338	0.43	0.65	SE	2	42	A2	4	0.66-2.5	Block Shatter	Swan River Chert		F2	
7291		1	A	1	648	338	0.49	0.81	SE	2	42	A2	27.6	2.5-5.0	Block Shatter	Swan River Chert		F2	
7292	7305	14	A	1	648	338				2	32-43	A2	25	0.66-2.5	Block Shatter	Swan River Chert			
7306		1	A	1	648	338	0.54	0.41	NW	3	46	A2	32.5	2.5-5.0	Block Shatter	Swan River Chert		F2	
7307		1	A	1	648	338	0.54	0.29	NW	3	53	A2	80.8	2.5-5.0	Block Shatter	Swan River Chert		F2	
7308		1	A	1	648	338				3	43-53	A2	0.8	0.66-2.5	Block Shatter	Swan River Chert		F4	fine screen
7309		1	A	1	648	338				3	43-53	A2	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chalcedony	mottled brown	F4	fine screen; Montana?
7310	7312	3	A	1	648	338				3	43-53	A2	0.01	0.66-2.5	Flake Fragment	Swan River Chert		F4	fine screen
7313	7314	2	A	1	648	338				3	43-53	A2	0.01	0.66-2.5	Retouch/ Resharpener Flake	Chert	grey	F4	fine screen
7315	7316	2	A	1	648	338				3	43-53	A2	0.2	0.66-2.5	Retouch/ Resharpener Flake	Quartzite	grey	F4	fine screen
7317	7321	5	A	1	648	338				3	43-53	A2	0.3	0.66-2.5	Flake Fragment	Quartzite	grey	F4	fine screen
7322	7324	3	A	1	648	338				3	43-53	A2	17	2.5-5.0	Block Shatter	Swan River Chert		F2	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7325	7330	6	A	1	648	338				3	43-53	A2	7.4	0.66-2.5	Block Shatter	Swan River Chert		F2	
7331		1	A	1	648	338				4	53-64	A2	8.4	2.5-5.0	Block Shatter	Swan River Chert		F4	
7332		1	A	1	648	338				4	53-64	A2	0.3	0.66-2.5	Platform Bearing Flake	Quartzite	red	F4	fine screen
7333		1	A	1	648	338				4	53-64	A2	0.6	0.66-2.5	Platform Bearing Flake	Quartzite	grey	F4	fine screen
7334		1	A	1	648	338				4	53-64	A2	0.2	0.66-2.5	Bifacial Reduction Flake	Chalcedony	grey	F4	fine screen
7335	7337	3	A	1	648	338				4	53-64	A2	0.9	0.66-2.5	Flake Fragment	Quartzite	grey	F4	fine screen
7338		1	A	1	648	338				4	53-64	A2	0.5	0.66-2.5	Flake Fragment	Swan River Chert		F4	fine screen
7339		1	A	1	648	338				5	64-73	A2	3.8	2.5-5.0	Platform Bearing Flake	Quartzite	red	F4	fine screen
7340		1	A	1	648	338				5	64-73	A2	1.8	2.5-5.0	Secondary Decortication Flake	Quartzite	red	F4	fine screen
7341		1	A	1	648	338				5	64-73	A2	4	2.5-5.0	Platform Bearing Flake	Quartzite	tan	F4	fine screen; cortex on platform
7342		1	A	1	648	338				5	64-73	A2	0.8	0.66-2.5	Secondary Decortication Flake	Quartzite	grey	F4	fine screen
7343		1	A	1	648	338				5	64-73	A2	3.6	0.66-2.5	Platform Bearing Flake	Quartzite	grey	F4	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7344	7345	2	A	1	648	338				5	64-73	A2	2.1	0.66-2.5	Platform Bearing Flake	Quartzite	red	F4	fine screen
7346		1	A	1	648	338				5	64-73	A2	0.2	0.66-2.5	Platform Bearing Flake	Quartzite	tan	F4	fine screen; cortex on platform
7347		1	A	1	648	338				5	64-73	A2	0.1	0.66-2.5	Platform Bearing Flake	Quartzite	grey	F4	fine screen; cortex on platform
7348		1	A	1	648	338				5	64-73	A2	0.2	0.66-2.5	Flake Fragment	Swan River Chert		F4	fine screen
7349		1	A	1	648	338				6	73-84	A2	14.2	0.66-2.5	Core Fragment	Quartzite	grey	F4	fine screen; MLD=35.7mm
7350		1	A	1	648	338				6	73-84	A2	2.4	0.66-2.5	Platform Bearing Flake	Quartzite	grey	F4	fine screen
7351		1	A	1	648	338				6	73-84	A2	0.9	0.66-2.5	Flake Fragment	Quartzite	red	F4	fine screen
7352	7353	1	A	1	648	338				6	73-84	A2	1.3	0.66-2.5	Flake Fragment	Quartzite	grey	F4	fine screen
7354	7402	See Faunal Catalogue																	
7403		1	A	1	648	341	0.82	0.54	NE	2	46	A6	86.9	>5.0	Platform Bearing Flake	Quartzite	grey		cortex on platform
7404		1	A	1	648	341	0.33	0.41	SW	2	48	A6	42.9	>5.0	Platform Bearing Flake	Swan River Chert			
7405		1	A	1	648	341	0.72	0.01	NW	2	46	A6	19.6	2.5-5.0	Platform Bearing Flake	Chert	grey		
7406		1	A	1	648	341	0.14	0.66	SE	2	52	A6	86.9	>5.0	Flake Fragment	Quartzite	grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

Lithic Artifact Catalogue

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Cat No Start	Cat No End	Qty	Way point/ Shovel Test/ Block	CU	Unit N	Unit E	In Situ N	In Situ E	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Artifact Type	Material Type	Colour	Feature	Comments
7407		1	A	1	648	341	0.06	0.92	SE	2	50	A6	57.2	>5.0	Secondary Decortication Flake	Quartzite	grey		
7408		1	A	1	648	341	0.8	0.51	NE	2	46	A6	70.4	>5.0	Block Shatter	Swan River Chert			
7409		1	A	1	648	341	0.15	0.06	SW	2	47	A6	12.8	2.5-5.0	Platform Bearing Flake	Quartzite	red tan		cortex on platform
7410		1	A	1	648	343				1	45-55	A5	23.7	2.5-5.0	Block Shatter	Swan River Chert			
7411	7435	25	MH_CF1								n/a		137.4	2.5-5.0	Block Shatter	Swan River Chert			
7436		1	MH_CF1								n/a		66.9	>5.0	Block Shatter	Swan River Chert			
7437		1	A	1	648	340				2	38-48	A7	3.2	0.66-2.5	Platform Bearing Flake	Swan River Chert			
7438		1	A	1	648	340				2	38-48	A7	0.6	0.66-2.5	Biface Fragment	Swan River Chert			fragment; tip of late stage biface, possibly point preform; metrics n/a
7439		1	A	1	648	340				2	38-48	A7	1.5	0.66-2.5	Flake Fragment	Swan River Chert			
7440		1	A	1	648	340				2	38-48	A7	0.3	0.66-2.5	Platform Bearing Flake	Quartz	grey		

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
MH-BH1		3								420		611.4	5-10	Water	Quartzite	reddened
MH-BH1		1								420		38.1	0-5	Water	Quartzite	reddened
MH-BH1		1								420		480.3	10-15	Heated Cobble	Hard Cobble	slightly reddened; some blackened patches
MH-BH1		1								420		996.2	15-20	Bedding	Sandstone	
MH-BH4		1								400		1270.9	10-15	Water	Quartzite	exterior reddened; two spall refit
MH-CF2		3								n/a		71.8	0-5	Water	Quartzite	
JR-1		1								2.5		8.7	0-5	Water	Quartzite	
MH_CF8		1								250- 300		292.2	5-10	Water	Quartzite	two pieces refit
MH_CF1		15								n/a		295.1	0-5	Water	Quartzite	some slightly reddened
MH_CF1		5								n/a		362.8	5-10	Water	Quartzite	some surface cracks; some slightly reddened
MH_CF1		1								n/a		28	0-5	Water	Undifferentiated Coarse Grained Material	
MH_CF1		1								n/a		117	5-10	Water	Undifferentiated Coarse Grained Material	reddened
MH_CF1		3								n/a		249.9	5-10	Water	Granite	reddish w/gold sparkles

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
MH_CF1		1								n/a		16.4	0-5	Water	Granite	reddish w/gold sparkles
MH_CF1		1								n/a		68.5	5-10	Water	Granite	orange w/black
MH_CF1		3								n/a		46.2	0-5	Water	Granite	orange w/black
MH_CF1		1								n/a		66.7	0-5	Water	Granite	predominantly black
MH_CF1		2								n/a		18.8	0-5	Indeterminate	Quartzite	well used, decomposing
A	1	1	647	336	0.98	0.68		NE	1	42	A8	36.6	0-5	Water	Quartzite	2 pieces refit
A	1	1	647	336	0.29	0.25		SW	1	42	A8	175.5	5-10	Water	Quartzite	
A	1	1	647	336	0.6	0.18		NW	2	43	A8	533.8	5-10	Water	Quartzite	bifacial tool; cobble
A	1	1	647	336	0.65	0.5		NW	2	39	A8	131.4	5-10	Water	Quartzite	
A	2	1	647	336	0.64	0.34		NW	2	50	A8	181.9	5-10	Water	Quartzite	
A		2	647	336					2	38-48	A8	75.3	0-5	Water	Granite	
A		1	647	337	0.95	0.07		NW	3	42	A8	106.7	5-10	Water	Quartzite	
A		1	647	337	0.92	0.16		NW	3	43	A8	124.8	5-10	Water	Quartzite	
A		3	647	337					3	36-46	A8	15.7	0-5	Water	Quartzite	
A		9	647	337			F2		4	46-56	A8	7.7	0-5	Water	Quartzite	fine screen
A		1	647	337					4	46-56	A8	1.4	0-5	Water	Quartzite	
A		1	647	338	0.23	0.46		SW	1	46	A7	80.3	5-10	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	1	647	338	0.74	0.28	F2	NW	3	44	A7	21.7	5-10	Water	Undifferentiated Coarse Grained Material	ochre
A	1	1	647	338	0.92	0.33	F2	NW	3	45	A7	32	5-10	Water	Quartzite	slightly blackened
A	1	1	647	338	0.85	0.48	F2	NW	3	42	A7	7.6	0-5	Water	Quartzite	slightly blackened
A	1	1	647	338	0.78	0.55	F2	NE	3	45	A7	49.5	0-5	Water	Quartzite	
A	1	1	647	338	0.9	0.11	F2	NW	3	49	A7	8	0-5	Water	Quartzite	
A	1	1	647	338	0.64	0.5	F2	NW	3	46	A7	331	5-10	Water	Quartzite	
A	1	1	647	338	0.97	0.03	F2	NW	3	42	A7	31.4	0-5	Water	Quartzite	
A	1	1	647	338	0.65	0.57	F2	NE	3	45	A7	288.3	5-10	Water	Quartzite	
A	1	1	647	338	0.85	0.69	F2	NE	3	43	A7	59	5-10	Water	Granite	
A	1	1	647	338	0.8	0.28	F2	NW	3	44	A7	14.9	0-5	Water	Quartzite	
A	1	1	647	338	0.53	0.03	F2	NW	3	43	A7	1426.8	15-20	Heated Cobble	Hard Cobble	hearth stone
A		2	647	339					1	46-46	A7	1.7	0-5	Water	Quartzite	
A		1	647	339	0.74	0.66		NE	2	43	A7	23	0-5	Indeterminate	Granite	above CU1
A	1	1	647	339	0.85	0.27		NW	2	43	A7	66.2	5-10	Water	Quartzite	
A	1	1	647	339	0.85	0.42		NW	2	41	A7	33.4	0-5	Water	Quartzite	
A	1	1	647	339	0.99	0.57		NE	2	41	A7	21.3	0-5	Water	Quartzite	slightly blackened
A		1	647	339	0.84	0.75		NE	3	52	A7	47.8	5-10	Water	Quartzite	
A		1	647	340	0.56	0.54		NE	2	46	A7	428.8	5-10	Water	Quartzite	
A		1	647	340	0.87	0.6		NE	2	35	A7	37.7	0-5	Water	Quartzite	2 pieces refit

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A		1	647	340	0.46	0.27		SW	2	40	A7	23.9	0-5	Water	Quartzite	
A		1	647	340	0.42	0.49		SW	2	40	A7	105.1	5-10	Water	Granite	decomposing
A		1	647	340					2	38-48	A7	3.6	0-5	Water	Granite	
A		1	647	340					23	71-81	A14	363.4	5-10	Water	Quartzite	
A		1	647	340					23	71-81	A14	362.8	5-10	Water	Granite	slightly blackened
A		3	647	341					1	36-42	A6	48.4	0-5	Water	Quartzite	
A	1	1	647	341	0.83	0.06	F1	NW	2	45	A6	71.3	0-5	Water	Granite	
A	1	1	647	341	0.97	0.93	F1	NE	2	47	A6	37.7	0-5	Water	Quartzite	2 pieces refit; blackened
A	1	2	647	341			F1		2	48-58	A6	2.2	0-5	Water	Granite	
A	1	2	647	341			F1		2	48-58	A6	12.5	0-5	Water	Quartzite	
A	1	1	647	341					2	42-52	A6	6.1	0-5	Water	Undifferentiated Coarse Grained Material	
A	1	1	647	341					2	42-52	A6	0.4	0-5	Water	Granite	
A	1	6	647	341					2	42-52	A6	27	0-5	Water	Quartzite	
A	1	3	647	341					2	42-52	A6	2.5	0-5	Water	Granite	
A	1	1	647	342	0.68	0.9		NE	2	50	A6	82.9	5-10	Water	Quartzite	
A	1	1	647	342	0.61	0.03		NW	2	48	A6	51.6	5-10	Water	Quartzite	
A	1	10	647	342					2	47-57	A6	28.8	0-5	Water	Quartzite	
A	1	8	647	342					2	47-57	A6	9	0-5	Water	Granite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A		1	647	343					1	43-43	A5	4	0-5	Water	Undifferentiated Coarse Grained Material	
A		1	647	343					1	43-43	A5	6.5	0-5	Water	Granite	
A	1	1	647	343	0.41	0.71		SE	2	46	A5	6.5	0-5	Water	Undifferentiated Coarse Grained Material	
A	1	1	647	343	0.34	0.72		SE	2	47	A5	24.1	0-5	Water	Quartzite	
A	1	1	647	343	0.28	0.6		SE	2	45	A5	16	0-5	Water	Quartzite	
A	1	1	647	343	0.39	0.71		SE	2	46	A5	30.5	0-5	Water	Quartzite	
A	1	2	647	343	0.04	0.35		SW	2	52	A5	8.8	0-5	Water	Granite	
A	1	10	647	343					2	43-53	A5	51.8	0-5	Water	Granite	
A	1	9	647	343					2	43-53	A5	69.9	0-5	Water	Quartzite	
A	1	1	648	336	0.28	0.66		SE	2	39	A1	331.6	5-10	Water	Granite	
A	1	1	648	336	0.88	0.18		NW	2	37	A1	13.1	0-5	Water	Quartzite	
A	1	1	648	336	0.82	0.66		NE	2	42	A1	18.2	0-5	Water	Quartzite	
A	1	6	648	336					2	31-41	A1	18.6	0-5	Water	Quartzite	
A	1	1	648	336	0.04	0.11		SW	3	45	A1	130.4	5-10	Water	Quartzite	
A		1	648	336					3	41-52	A1	9.2	0-5	Water	Quartzite	
A	1	1	648	337	0.02	0.43		SW	2	43	A2	1035.5	10-15	Heated Cobble	Hard Cobble	some blackening
A	1	1	648	337	0.11	0.38		SW	2	45	A2	2041	10-15	Heated Cobble	Hard Cobble	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	3	648	337					2	34-44	A2	19.1	0-5	Water	Quartzite	
A	1	1	648	337	0.98	0.65		NE	3	45	A2	24.6	0-5	Water	Quartzite	some blackening
A		3	648	337					3	44-54	A2	13.4	0-5	Water	Quartzite	
A		1	648	337					3	44-54	A2	0.9	0-5	Water	Granite	
A	1	1	648	337	0.03	0.87	F2	SE	3	46	A2	32.2	0-5	Water	Quartzite	some blackening
A	1	1	648	337	0.08	0.83	F2	SE	3	50	A2	31.1	0-5	Water	Quartzite	
A		2	648	337			F2		3	44-54	A2	7.5	0-5	Water	Quartzite	
A	1	1	648	337	0.14	0.79	F3	SE	4	55	A2	25.7	0-5	Water	Quartzite	
A		1	648	337	0.09	0.77	F3	SE	4	52	A2	5.2	0-5	Water	Quartzite	in post hole
A		5	648	337			F3		4	51-61	A2	16.8	0-5	Water	Granite	fine screen
A		3	648	337			F3		4	51-61	A2	5.8	0-5	Water	Quartzite	fine screen
A		2	648	337			F3		5	61-71	A2	33.9	0-5	Water	Quartzite	fine screen
A		4	648	337			F3		6	71-81	A2	19.5	0-5	Water	Granite	fine screen
A	1	1	648	338	0.56	1		NE	2	44	A2	216.3	5-10	Water	Quartzite	outside hearth
A	1	1	648	338	0.56	0.92		NE	2	42	A2	54.5	5-10	Water	Quartzite	outside hearth
A	1	1	648	338	0.61	0.96		NE	2	42	A2	261.2	5-10	Water	Quartzite	outside hearth
A	1	1	648	338	0.82	0.97		NE	2	42	A2	30.5	5-10	Water	Undifferentiated Coarse Grained Material	outside hearth; 2 piece refit
A	1	1	648	338	0.71	0.97		NE	2	43	A2	14.6	5-10	Water	Quartzite	outside hearth
A	1	1	648	338	0.93	0.95		NE	2	42	A2	10.3	5-10	Water	Undifferentiated Coarse Grained Material	outside hearth

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	1	648	338					2	32-43	A2	8.5	0-5	Water	Granite	outside hearth
A	1	3	648	338					2	32-43	A2	4.4	0-5	Water	Quartzite	outside hearth
A	1	1	648	338	0.57	0.46	F2	NW	2	45	A2	1326.4	10-15	Heated Cobble	Hard Cobble	hearth rock
A	1	1	648	338	0.35	0.62	F2	SE	2	45	A2	2948	15-20	Heated Cobble	Hard Cobble	hearth rock
A	1	1	648	338	0.34	0.79	F2	SE	2	43	A2	25.8	0-5	Water	Quartzite	
A	1	1	648	338	0.72	0.46	F2	NW	2	41	A2	3.1	0-5	Water	Undifferentiated Coarse Grained Material	
A	1	1	648	338	0.06	0.36	F2	SW	2	43	A2	7.9	0-5	Water	Quartzite	
A	1	1	648	338	0.17	0.97	F2	SE	2	40	A2	8.5	0-5	Water	Quartzite	decomposing
A	1	1	648	338	0.38	0.9	F2	SE	2	41	A2	138.6	5-10	Water	Quartzite	decomposing
A	1	1	648	338	0.17	0.88	F2	SE	2	40	A2	45	5-10	Water	Quartzite	
A	1	1	648	338	0.36	0.93	F2	SE	2	41	A2	46	5-10	Water	Quartzite	
A	1	1	648	338	0.44	0.7	F2	SE	2	42	A2	54.1	5-10	Water	Quartzite	
A	1	1	648	338	0.5	0.7	F2	SE	2	42	A2	10.6	0-5	Water	Undifferentiated Coarse Grained Material	
A	1	1	648	338	0.24	0.4	F2	SW	2	44	A2	34.9	5-10	Water	Quartzite	
A	1	1	648	338	0.02	0.73	F2	SE	2	41	A2	8	0-5	Water	Quartzite	some blackening
A	1	1	648	338	0.6	0.79	F2	NE	2	44	A2	71.9	5-10	Water	Quartzite	
A	1	1	648	338	0.51	0.79	F2	NE	2	42	A2	1078.7	10-15	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	1	648	338			F2		2	32-43	A2	3.8	0-5	Water	Quartzite	
A	1	1	648	338	0.07	0.08	F2	SW	3	45	A2	3175	15-20	Heated Cobble	Hard Cobble	hearth rock
A	1	1	648	338	0.01	0.2	F2	SW	3	46	A2	8165	>20	Heated Cobble	Hard Cobble	hearth rock
A	1	1	648	338	0.78	0.29	F2	NW	3	45	A2	634.8	10-15	Water	Quartzite	hearth rock
A	1	1	648	338	0.63	0.38	F2	NW	3	48	A2	4989	15-20	Heated Cobble	Hard Cobble	hearth rock
A	1	1	648	338	0.69	0.16	F2	NW	3	44	A2	2041	15-20	Heated Cobble	Hard Cobble	hearth rock
A	1	1	648	338	0.41	0.36	F2	SW	3	41	A2	3175	15-20	Heated Cobble	Hard Cobble	hearth rock
A	1	1	648	338	0.49	0.27	F2	SW	3	50	A2	30.7	0-5	Water	Quartzite	
A	1	1	648	338	0.75	0.26	F2	NW	3	42	A2	9.9	0-5	Water	Quartzite	
A	1	1	648	338	0.25	0.42	F2	SW	3	45	A2	29.7	5-10	Water	Quartzite	
A	1	1	648	338	0.41	0.28	F2	SW	3	45	A2	42.6	5-10	Water	Quartzite	
A	1	1	648	338	0.5	0.27	F2	SW	3	51	A2	47.7	5-10	Water	Quartzite	2 pieces refit
A	1	1	648	338	0.3	0.38	F2	SW	3	45	A2	115.4	5-10	Water	Quartzite	
A	1	1	648	338	0.46	0.1	F2	SW	3	51	A2	24.1	0-5	Water	Undifferentiated Coarse Grained Material	
A	1	1	648	338	0.23	0.23	F2	SW	3	44	A2	10	0-5	Water	Quartzite	
A	1	1	648	338	0.61	0.28	F2	NW	3	42	A2	18.8	0-5	Water	Quartzite	
A	1	1	648	338	0.28	0.41	F2	SW	3	44	A2	11.4	5-10	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	1	648	338	0.48	0.48	F2	SW	3	46	A2	40.9	0-5	Water	Quartzite	
A	1	1	648	338	0.94	0.15	F2	NW	3	44	A2	23.2	0-5	Water	Quartzite	
A	1	1	648	338	0.51	0.11	F2	NW	3	46	A2	10.8	0-5	Water	Undifferentiated Coarse Grained Material	
A	1	1	648	338	0.32	0.05	F2	SW	3	45	A2	111.3	5-10	Water	Quartzite	
A	1	1	648	338	0.38	0.23	F2	SW	3	53	A2	90.2	0-5	Water	Quartzite	
A	1	1	648	338	0.15	0.08	F2	SW	3	44	A2	126.6	5-10	Water	Granite	
A	1	1	648	338	0.5	0.24	F2	SW	3	45	A2	406.8	5-10	Water	Quartzite	some surface cracks
A	1	1	648	338	0.22	0.48	F2	SW	3	46	A2	123.7	5-10	Water	Granite	
A	1	1	648	338	0.46	0.26	F2	SW	3	46	A2	23.8	0-5	Water	Quartzite	
A		4	648	338			F4		3	43-53	A2	2.2	0-5	Water	Quartzite	fine screen
A		3	648	338			F4		3	43-53	A2	2.5	0-5	Water	Granite	decomposing; fine screen
A	1	6	648	338			F2		3	43-53	A2	2.7	0-5	Water	Granite	
A	1	10	648	338			F2		3	43-53	A2	62.9	0-5	Water	Quartzite	
A		3	648	339					1	37-37	A7	7.7	0-5	Water	Quartzite	
A	1	1	648	339	0.29	0.5		SW	2	38	A7	18.1	0-5	Water	Quartzite	
A	1	1	648	339	0.06	0.68		SE	2	41	A7	103.7	5-10	Water	Quartzite	
A	1	1	648	339	0.11	0.45		SW	2	38	A7	13.3	0-5	Water	Quartzite	
A	1	1	648	339	0.02	0.48		SW	2	41	A7	7.4	0-5	Water	Quartzite	
A	1	1	648	339	0.28	0.24		SW	2	40	A7	30.6	0-5	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	1	648	339	0.24	0.82		SE	2	39	A7	20.9	0-5	Water	Quartzite	
A	1	1	648	339	0.82	0.56		NE	2	38	A7	145	5-10	Water	Quartzite	
A	1	1	648	339	0.1	0.69		SE	2	40	A7	13.9	0-5	Water	Quartzite	
A	1	1	648	339	0.02	0.93		SE	2	41	A7	453.6	10-15	Water	Quartzite	
A	1	1	648	339	0.26	0.33		SW	2	40	A7	17	0-5	Water	Quartzite	
A	1	1	648	339	0.24	0.86		SE	2	41	A7	38.5	0-5	Water	Quartzite	
A	1	1	648	339	0.16	0.73		SE	2	41	A7	73.2	5-10	Water	Quartzite	
A	1	1	648	339	0.67	0.63		NE	2	36	A7	98.4	5-10	Water	Quartzite	
A	1	1	648	339	0.75	0.16		NW	2	35	A7	109.2	5-10	Water	Quartzite	
A	1	1	648	339	0.1	0.96		SE	2	39	A7	23.8	0-5	Water	Quartzite	
A	1	1	648	339	0.21	0.75		SE	2	43	A7	30.7	0-5	Water	Quartzite	
A	1	1	648	339	0.29	0.41		SW	2	39	A7	8	0-5	Water	Quartzite	
A	1	1	648	339	0.06	0.49		SW	2	42	A7	27.7	0-5	Water	Quartzite	
A	1	1	648	339	0.22	0.44		SW	2	39	A7	24.3	0-5	Water	Quartzite	
A	1	9	648	339					2	37-47	A7	2.9	0-5	Water	Quartzite	
A	1	28	648	339					2	37-47	A7	103.4	0-5	Water	Quartzite	
A	1	1	648	340					1	34-38	A7	33.4	0-5	Water	Undifferentiated Coarse Grained Material	
A	1	1	648	340	0.47	0.23		SW	2	42	A7	21.5	0-5	Water	Quartzite	
A	1	1	648	340	0.8	0.26		NW	2	41	A7	12.3	0-5	Water	Quartzite	
A	1	1	648	340	0.87	0.91		NE	2	36	A7	52.1	0-5	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	1	648	340	0.12	0.45		SW	2	35	A7	37.1	0-5	Water	Quartzite	
A	1	1	648	340	0.99	0.55		NE	2	35	A7	46.1	0-5	Water	Quartzite	
A	1	1	648	340	0.5	0.35		SW	2	40	A7	20.1	0-5	Water	Quartzite	
A	1	1	648	340	0.41	0.73		SE	2	41	A7	14.1	0-5	Water	Quartzite	
A	1	1	648	340	0.51	0.96		NE	2	45	A7	19.9	0-5	Water	Quartzite	
A	1	1	648	340	0.49	0.63		SE	2	40	A7	7.98	0-5	Water	Quartzite	
A	1	1	648	340	0.71	0.51		NE	2	42	A7	22.3	0-5	Water	Quartzite	
A	1	1	648	340	0.32	0.38		SW	2	37	A7	43.2	0-5	Water	Quartzite	
A	1	1	648	340	0.9	0.85		NE	2	37	A7	37.7	0-5	Water	Quartzite	
A	1	1	648	340	0.28	0.27		SW	2	35	A7	22.2	0-5	Water	Quartzite	
A	1	1	648	340	0.51	0.68		NE	2	42	A7	27.2	0-5	Water	Quartzite	
A	1	1	648	340	0.51	0.92		NE	2	38	A7	22.1	0-5	Water	Quartzite	
A	1	1	648	340	0.42	0.22		SW	2	30	A7	9.4	0-5	Water	Quartzite	
A	1	1	648	340	0.55	0.97		NE	2	41	A7	14.5	0-5	Water	Quartzite	
A	1	1	648	340	0.01	0.18		SW	2	43	A7	68.7	0-5	Water	Quartzite	
A	1	1	648	340	0.46	0.41		SW	2	42	A7	16.7	0-5	Water	Quartzite	
A	1	1	648	340	0.18	0.3		SW	2	27	A7	38.2	0-5	Water	Quartzite	
A	1	1	648	340	0.49	0.17		SW	2	38	A7	56.2	0-5	Water	Quartzite	
A	1	1	648	340	0.33	0.38		SW	2	40	A7	45	0-5	Water	Quartzite	
A	1	1	648	340	0.15	0.5		SW	2	34	A7	234.6	5-10	Water	Quartzite	
A	1	1	648	340	0.28	0.46		SW	2	41	A7	66.3	5-10	Water	Quartzite	
A	1	1	648	340	0.77	0.95		NE	2	37	A7	23.2	0-5	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	1	648	340	0.62	0.02		NW	2	43	A7	37.4	0-5	Water	Quartzite	
A	1	1	648	340	0.26	0.78		SE	2	44	A7	21	0-5	Water	Quartzite	
A		52	648	340					2	38-48	A7	190.6	0-5	Water	Quartzite	
A		2	648	341					1	45-45	A6	5.8	0-5	Water	Quartzite	
A	1	1	648	341	0.98	0.93		NE	2	43	A6	31.9	5-10	Water	Quartzite	some calcined bone
A	1	1	648	341	1	0.88		NE	2	42	A6	29.8	0-5	Water	Quartzite	
A	1	1	648	341	0.75	0.04		NW	2	42	A6	16.3	0-5	Water	Quartzite	2 pieces refit
A	1	1	648	341	0.8	0.34		NW	2	43	A6	46.2	0-5	Water	Quartzite	
A	1	1	648	341	0.54	0.55		NE	2	47	A6	112.3	5-10	Water	Granite	
A	1	1	648	341	0.79	0.24		NW	2	45	A6	88.5	5-10	Water	Quartzite	
A	1	1	648	341	0.7	0.84		NE	2	47	A6	14.8	0-5	Water	Quartzite	
A	1	1	648	341	0.12	0.96		SE	2	46	A6	11.5	0-5	Water	Quartzite	
A	1	1	648	341	0.9	0.08		NW	2	43	A6	310.7	10-15	Water	Quartzite	
A	1	1	648	341	0.7	0.31		NW	2	46	A6	24.4	5-10	Water	Quartzite	
A	1	1	648	341	0.77	0.71		NE	2	44	A6	8.9	0-5	Water	Quartzite	
A	1	1	648	341	0.54	0.01		NW	2	45	A6	24	0-5	Water	Quartzite	
A	1	1	648	341	0.44	0.31		SW	2	47	A6	37.5	0-5	Water	Quartzite	
A	1	1	648	341	0.62	0.13		NW	2	44	A6	62.6	5-10	Water	Quartzite	
A	1	1	648	341	0.02	0.9		SE	2	45	A6	256.9	5-10	Water	Quartzite	
A	1	1	648	341	0.62	0.3		NW	2	43	A6	6.1	0-5	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A		3	648	341	0.95	0.95		NE	2	42-52	A6	12.7	0-5	Water	Quartzite	fine screen area, NE 10x10x10
A	1	53	648	341					2	45-55	A6	81.2	0-5	Water	Granite	
A	1	86	648	341					2	45-55	A6	232.6	0-5	Water	Quartzite	
A		4	648	342					1	44-44	A6	23.8	0-5	Water	Quartzite	
A	1	1	648	342	0.95	0.51		NE	2	42	A6	59.7	5-10	Water	Quartzite	
A	1	1	648	342	0.41	0.6		SE	2	49	A6	23.1	0-5	Water	Quartzite	
A	1	1	648	342	0.5	0.71		SE	2	50	A6	28.6	0-5	Water	Quartzite	
A	1	1	648	342	0.73	0.3		NW	2	49	A6	8.4	0-5	Water	Quartzite	
A	1	1	648	342	0.98	0.17		NW	2	44	A6	11.9	0-5	Water	Quartzite	
A	1	1	648	342	0.68	0.22		NW	2	45	A6	7.2	0-5	Water	Quartzite	
A	1	1	648	342	0.26	0.61		SE	2	48	A6	17.9	0-5	Water	Quartzite	
A	1	1	648	342	0.71	0.62		NE	2	47	A6	38.3	0-5	Water	Granite	
A	1	1	648	342	0.5	0.87		SE	2	50	A6	25.8	5-10	Water	Quartzite	
A	1	1	648	342	0.97	0.36		NW	2	42	A6	18.5	0-5	Water	Quartzite	
A	1	1	648	342	0.13	0.72		SE	2	52	A6	25.9	0-5	Water	Quartzite	
A	1	1	648	342	0.41	0.41		SW	2	52	A6	48.2	0-5	Water	Quartzite	
A	1	1	648	342	0.85	0.84		NE	2	47	A6	53.9	0-5	Water	Quartzite	
A	1	1	648	342	0.17	0.6		SE	2	51	A6	12.2	0-5	Water	Quartzite	
A	1	1	648	342	0.82	0.05		NW	2	46	A6	29.7	5-10	Water	Quartzite	
A	1	1	648	342	0.9	0.24		NW	2	42	A6	24.8	0-5	Water	Quartzite	
A	1	2	648	342				NE	2	44-46	A6	20.1	0-5	Water	Quartzite	fine screen

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	1	648	342					2	44-54	A6	11.1	0-5	Spall	Quartzite	
A	1	132	648	342					2	44-54	A6	508.8	0-5	Water	Quartzite	
A		1	648	342	0.98	0.55		NE	3	61	A6	183.2	5-10	Water	Quartzite	surface cracked
A		1	648	343	0.43	0.26		SW	2	51	A5	19.7	5-10	Water	Quartzite	2 pieces refit
A		1	648	343	0.48	0.02		SW	2	48	A5	10.4	0-5	Water	Quartzite	
A		1	648	343	0.06	0.69		SE	2	48	A5	3.1	0-5	Water	Quartzite	
A		1	648	343	0.69	0.35		NW	2	48	A5	22.8	0-5	Water	Quartzite	
A		14	648	343					2	45-5	A5	72	0-5	Water	Quartzite	
A		1	649	336					1	33-34	A1	5.7	0-5	Water	Quartzite	
A		1	649	336					1	33-34	A1	3.8	0-5	Water	Granite	
A		1	649	338					1	32-32	A2	0.6	0-5	Water	Granite	
A	1	4	649	339					1	35-37	A2	60.4	0-5	Water	Quartzite	
A	1	1	649	339	0.22	0.56		SE	2	38	A2	77.1	5-10	Water	Quartzite	
A	1	1	649	339	0.33	0.29		SW	2	37	A2	3.6	0-5	Water	Quartzite	
A	1	1	649	339	0.32	0.24		SW	2	38	A2	5.8	0-5	Water	Quartzite	
A	1	1	649	339	0.24	0.34		SW	2	36	A2	23.4	0-5	Water	Quartzite	
A	1	1	649	339	0.33	0.3		SW	2	37	A2	5.8	0-5	Water	Quartzite	
A	1	1	649	339	0.25	0.28		SW	2	37	A2	8	0-5	Water	Quartzite	
A	1	1	649	339	0.3	0.28		SW	2	37	A2	36.9	0-5	Water	Quartzite	
A	1	1	649	339					2	37-47	A2	13.9	0-5	Water	Quartzite	
A	1	1	649	340	0.1	0.49		SW	2	40	A3	8.9	0-5	Water	Granite	
A	1	1	649	340	0.24	0.77		SE	2	42	A3	7.5	0-5	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A	1	1	649	340	0.32	0.85		SE	2	41	A3	10.7	0-5	Water	Quartzite	
A	1	1	649	340	0.05	0.85		SE	2	42	A3	6.6	0-5	Water	Quartzite	
A	1	1	649	340	0.28	0.79		SE	2	42	A3	39	0-5	Water	Quartzite	
A	1	1	649	340	0.72	0.89		NE	2	43	A3	60.8	5-10	Water	Quartzite	
A	1	1	649	340	0.22	0.66		SE	2	40	A3	40.4	5-10	Water	Quartzite	
A	1	1	649	340	0.47	0.63		SE	2	39	A3	73.7	5-10	Water	Quartzite	
A	1	1	649	340	0.73	0.49		NW	2	40	A3	1533.5	10-15	Water	Granite	
A	1	1	649	340	0.06	0.43		SW	2	38	A3	14.3	0-5	Water	Quartzite	
A	1	1	649	340	0.11	0.75		SE	2	43	A3	45	0-5	Water	Quartzite	
A	1	7	649	340					2	39-49	A3	18.6	0-5	Water	Quartzite	
A	1	15	649	340					2	39-49	A3	78.1	0-5	Water	Quartzite	
A	1	1	649	340					2	39-49	A3	0.6	0-5	Water	Granite	
A		1	649	341				N 1/2	1	35-35	A3	4	0-5	Water	Quartzite	
A	1	2	649	341					2	35-41	A3	17.4	0-5	Water	Quartzite	
A	1	6	649	341	0.03	0.54		SE	3	43	A3	71.5	0-5	Water	Quartzite	FBR concentration
A	1	1	649	341	0.36	0.35		SW	3	41	A3	400.8	5-10	Water	Quartzite	surface cracked
A	1	1	649	341	0.14	0.41		SW	3	43	A3	25.5	0-5	Water	Quartzite	
A	1	1	649	341	0.05	0.15		SW	3	48	A3	94.5	0-5	Water	Granite	
A	1	1	649	341	0.12	0.44		SW	3	43	A3	32.5	0-5	Water	Quartzite	
A	1	1	649	341	0.52	0.17		NW	3	42	A3	77.7	0-5	Water	Quartzite	
A	1	1	649	341	0.5	0.33		SW	3	42	A3	125.9	5-10	Water	Quartzite	
A	1	1	649	341					3	41-43	A3	3.4	0-5	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
A		1	649	342					2	41-42	A4	8.5	0-5	Water	Quartzite	
A	1	1	649	342	0.04	0.28		SW	3	39	A4	26.7	5-10	Water	Quartzite	
A	1	1	649	342	0.72	0.5		NW	3	41	A4	57.5	5-10	Water	Quartzite	
A	1	1	649	342	0.26	0.28		SW	3	38	A4	14	0-5	Water	Quartzite	
A		4	649	342					3	42-52	A4	25.8	0-5	Water	Quartzite	
A		2	649	342					3	42-52	A4	21	0-5	Water	Granite	
A		46	649	342					3	42-52	A4	179.1	0-5	Water	Quartzite	
A	1	1	649	343	0.63	0.36		NW	3	38	A4	4.4	0-5	Water	Quartzite	
A	1	1	649	343	0.17	0.72		SE	3	38	A4	52.6	5-10	Spall	Quartzite	
A		1	648	337	0.22	0.96		SE	3	47	A2	3855	15-20	Unmodified Cobble	Hard Cobble	
MH_CF18		1								3		118.3	5-10	Water	Quartzite	
C		1	642	343	0.87	0.17		NW	23	50	C1	55.1	0-5	Water	Quartzite	slightly reddened
C		1	643	341					21	30-35	C2	26.9	0-5	Water	Quartzite	part of MH_BH1 in unit
C		1	643	341	0.63	0.13		NW	22	40	C2	42.4	0-5	Water	Quartzite	
C		1	643	341	0.28	0.86		SE	23	47	C2	284.6	5-10	Water	Granite	
C		1	643	342	0.78	0.02		NW	22	44	C1	98.4	5-10	Water	Quartzite	outside feature
C		1	643	342	0.51	0.12		NW	22	47	C1	132.9	5-10	Water	Quartzite	outside feature
C		1	643	342	0.64	0.52		NE	22	45	C1	304	5-10	Water	Quartzite	outside feature
C		1	643	342					22	41-51	C1	24.8	0-5	Heated Cobble	Granite	outside feature

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
C		4	643	342					22	41-51	C1	80	0-5	Water	Quartzite	outside feature; maybe from F5 but screened w/rest of level
C		1	643	342	0.2	0.03		SW	22	47	C1	1187.7	>20	Slab	Sandstone	outside feature
C		1	643	342	0.65	0.42		NW	22	44	C1	1173.5	>20	Slab	Sandstone	outside feature
C		1	643	342	0.47	0.91	F5	SE	22	45	C1	174.1	5-10	Water	Quartzite	
C		1	643	342	0.29	0.66	F5	SE	22	50	C1	582.7	5-10	Water	Quartzite	
C		1	643	342	0.95	0.93	F5	NE	22	45	C1	103.3	5-10	Heated Cobble	Hard Cobble	
C		1	643	342	0.47	0.82	F5	SE	22	47	C1	202.6	5-10	Water	Granite	
C		1	643	342	0.52	0.78	F5	NE	22	48	C1	335.5	5-10	Water	Quartzite	
C		1	643	342	0.69	0.98	F5	NE	22	44	C1	108	5-10	Water	Quartzite	
C		1	643	342	0.71	0.9	F5	NE	22	45	C1	453.7	5-10	Water	Granite	
C		1	643	342	0.55	0.94	F5	NE	22	45	C1	170.5	5-10	Water	Granite	
C		1	643	342	0.99	0.93	F5	NE	22	44	C1	300.4	10-15	Water	Quartzite	
C		1	643	342	0.48	0.71	F5	SE	22	47	C1	152.4	5-10	Water	Quartzite	
C		1	643	342	0.91	0.96	F5	NE	22	45	C1	46.4	0-5	Water	Quartzite	some surface blackening
C		1	643	342	0.46	0.96	F5	SE	22	46	C1	491.3	5-10	Water	Granite	
C		1	643	342	0.88	0.8	F5	NE	22	42	C1	72.1	5-10	Water	Quartzite	
C		1	643	342	0.42	0.77	F5	SE	22	49	C1	699.5	5-10	Heated Cobble	Hard Cobble	reddened; surface cracks

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
C		1	643	342	0.86	0.91	F5	NE	22	45	C1	534.5	10-15	Heated Cobble	Hard Cobble	reddened; some surface blackening
C		1	643	342	0.97	0.99	F5	NE	22	44	C1	190.7	5-10	Indeterminate	Granite	decomposing, broken down into crumbs
C		1	643	342	0.53	0.87	F5	NE	22	45	C1	327.7	5-10	Water	Quartzite	reddened; some surface blackening
C		1	643	342	0.79	0.9	F5	NE	22	45	C1	696.9	10-15	Water	Hard Cobble	reddened; some surface blackening
C		1	643	342			F5		22	n/a	C1	103.9	5-10	Indeterminate	Sandstone	worn
C		1	643	342			F5		22	n/a	C1	10	0-5	Water	Quartzite	
C		1	643	343	0.67	0.13	F5	NW	22	46	C1	373.8	5-10	Water	Granite	
C		1	643	343	0.76	0.18	F5	NW	22	47	C1	502.2	5-10	Indeterminate	Granite	decomposing, broken down into crumbs
C		1	643	343	0.71	0.08	F5	NW	22	45	C1	781.2	5-10	Heated Cobble	Hard Cobble	reddened; surface cracks; some blackened areas
C		1	643	343	0.92	0.2	F5	NW	22	45	C1	275.4	5-10	Heated Cobble	Granite	beginning to decompose
C		1	643	343	0.84	0.26	F5	NW	22	45	C1	311.1	5-10	Water	Quartzite	some blackened areas; reddened
C		1	643	343	0.82	0.06	F5	NW	22	47	C1	746.9	5-10	Water	Quartzite	split into three, all refit

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
C		1	643	343	0.92	0.13		NW	22	46	C1	316.6	5-10	Indeterminate	Granite	decomposing, broken down into crumbs
C		1	643	343	0.34	0.5	F5	SW	22	n/a	C1	116.8	5-10	Water	Quartzite	reddened; some surface blackening
C		1	643	343	0.61	0.15	F5	NW	22	45	C1	277.1	5-10	Water	Quartzite	
C		1	643	343	0.57	0.41	F5	NW	22	47	C1	48.3	0-5	Water	Quartzite	
C		1	643	343	0.65	0.03	F5	NW	22	45	C1	195.6	5-10	Water	Quartzite	
C		1	643	343	0.72	0.02	F5	NW	22	45	C1	573.3	5-10	Indeterminate	Quartzite	shattered in place
C		1	643	343	0.72	0.02	F5	NW	22	45	C1	3	0-5	Indeterminate	Granite	decomposing
C		1	643	343	0.83	0.83		NE	22	46	C1	87.6	5-10	Water	Quartzite	
C		1	643	343	0.77	0.82		NE	22	46	C1	74.9	5-10	Water	Granite	
C		1	643	343	0.86	0.48		NW	22	46	C1	75.3	5-10	Water	Quartzite	
C		1	643	343	0.24	0.61		SE	23	51	C1	35.5	0-5	Water	Quartzite	
C		2	644	341					22	38-46	C2	3.4	0-5	Water	Granite	
C		1	644	341			F6		22	38-46	C2	16.7	0-5	Water	Quartzite	fine screen
C		7	644	341			F6		22 or 23	40-43	C2	2.9	0-5	Water	Quartzite	fine screen; contains STJR3
C		1	644	342			F5		22	40-50	C1	19	5-10	Water	Quartzite	contains STJR3
C		5	644	342			F5		22	40-50	C1	36.5	0-5	Water	Quartzite	contains STJR3
C		6	644	342			F6		22	40-50	C1	5	0-5	Water	Quartzite	fine screen
C		1	644	342	0.09	0.88	F5	SE	22	40	C1	72.1	5-10	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
C		1	644	342	0.02	0.87	F5	SE	22	43	C1	107.9	5-10	Water	Granite	in 2 pieces refit; reddened; some surface blackening
C		1	644	342	0.13	0.8	F5	SE	22	42	C1	99.8	5-10	Water	Quartzite	
C		1	644	342	0.04	0.03	F5	SW	22	41	C1	72.1	5-10	Water	Quartzite	in 4 pieces refit
C		1	644	342	0.1	0.05	F5	SW	22	41	C1	70.7	5-10	Water	Quartzite	
C		1	644	342	0.1	0.05	F5	SW	22	41	C1	141.3	5-10	Indeterminate	Granite	decomposing, broken down into crumbs
C		1	644	343	0.1	0.06	F5	SW	22	41	C1	526.9	5-10	Water	Quartzite	
C		1	644	343					21	42-42	C1	94.2	5-10	Water	Quartzite	outside F5
C		1	644	343					21	42-42	C1	45	0-5	Water	Quartzite	outside F5
C		1	644	343	0.31	0.41		SW	22	41	C1	24.6	0-5	Water	Quartzite	outside F5
C		1	644	343	0.25	0.46		SW	22	42	C1	264.9	5-10	Heated Cobble	Hard Cobble	surface blackening; outside F5
C		1	644	343	0.84	0.5		NW	22	41	C1	81.7	5-10	Water	Quartzite	outside F5
C		1	644	343	0.25	0.4		SW	22	42	C1	48.1	5-10	Water	Quartzite	outside F5
C		1	644	343	0.77	0.56		NE	22	41	C1	116.8	5-10	Water	Granite	outside F5
C		1	644	343	0.08	0.78		SE	22	41	C1	52.6	0-5	Water	Quartzite	outside F5
C		1	644	343	0.98	0.47		NW	22	42	C1	171	5-10	Water	Quartzite	outside F5
C		1	644	343	0.28	0.54		SE	22	42	C1	183	5-10	Water	Quartzite	outside F5
C		1	644	343	0.99	0.38		NW	22	41	C1	126.5	5-10	Water	Quartzite	outside F5

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
C		1	644	343	0.66	0.98		NE	22	40	C1	407.1	5-10	Water	Quartzite	outside F5
C		1	644	343	0.72	0.65		NE	22	44	C1	368.8	5-10	Heated Cobble	Hard Cobble	outside F5
C		1	644	343	0.42	0.33		SW	22	40	C1	256.1	5-10	Water	Granite	surface blackening; outside F5
C		1	644	343	0.95	0.05		NW	22	38	C1	998.7	>20	Slab	Sandstone	outside F5
C		1	644	343					22	42-42	C1	10.1	0-5	Water	Quartzite	outside F5
C		1	644	343	0.89	0.63		NE	23	44	C1	335.9	10-15	Heated Cobble	Hard Cobble	
C		1	644	343	0.88	0.71		NE	23	43	C1	182.3	5-10	Water	Quartzite	some surface blackening
C		1	644	343	0.95	0.69		NE	23	47	C1	350.4	5-10	Water	Quartzite	
C		1	644	343	0.85	0.86		NE	23	49	C1	438.6	5-10	Water	Quartzite	surface blackening
C		1	644	343	0.95	0.58		NE	23	44	C1	246.4	15-20	Water	Quartzite	
C		1	645	340					22	33-43	C4	52.8	5-10	Water	Quartzite	
C		1	645	340					22	33-43	C4	3.8	0-5	Water	Quartzite	
C		1	645	341	0.16	0.74	F6	SE	22	41	C1/C4	406.9	5-10	Water	Quartzite	some surface blackening
C		1	645	341	0.31	0.3	F6	SW	22	42	C1/C4	1160	10-15	Heated Cobble	Hard Cobble	reddened
C		1	645	341	0.66	0.25	F6	NW	22	42	C1/C4	70.8	5-10	Water	Quartzite	
C		1	645	341	0.2	0.88	F6	SE	22	41	C1/C4	72.2	5-10	Water	Quartzite	
C		1	645	341	0.85	0.48	F6	NW	22	44	C1/C4	45.5	5-10	Water	Quartzite	surface blackening

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
C		1	645	341	0.33	0.88	F6	SE	22	43	C1/C4	38.4	0-5	Water	Quartzite	
C		1	645	341	0.29	0.4	F6	SW	22	40	C1/C4	219.4	5-10	Water	Quartzite	
C		1	645	341	0.43	0.37	F6	SW	22	40	C1/C4	63.8	5-10	Water	Quartzite	
C		7	645	341			F6		22	34-40	C1/C4	41.8	0-5	Water	Quartzite	
C		1	645	342	0.17	0.87		SE	22	44	C4	230.1	5-10	Water	Quartzite	outside F6
C		1	645	342	0.25	0.43		SW	22	42	C4	149.7	5-10	Water	Granite	outside F6; two pieces refit
C		1	645	342	0.3	0.72		SE	22	42	C4	23.4	0-5	Indeterminate	Granite	outside F6; decomposing, in two pieces
C		1	645	342	0.3	0.72		SE	22	42	C4	15.9	0-5	Water	Quartzite	outside F6
C		1	645	342	0.24	0.68		SE	22	43	C4	247.6	5-10	Water	Quartzite	outside F6; some blackening on surface
C		1	645	342	0.16	0.75		SE	22	43	C4	95.7	5-10	Water	Quartzite	outside F6
C		1	645	342	0.36	0.8		SE	22	43	C4	311.5	5-10	Water	Quartzite	outside F6;blackened on exterior, some charcoal on interior
C		1	645	342	0.1	0.82		SE	22	44	C4	753.9	10-15	Slab	Sandstone	outside F6
C		1	645	342	0.41	0.96		SE	22	44	C4	717.1	10-15	Water	Granite	outside F6; blackening and ochre on exterior

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
C		1	645	342					22	34-44	C4	24.2	5-10	Water	Quartzite	outside F6
C		1	645	342					22	34-44	C4	5.8	0-5	Water	Quartzite	outside F6
C		1	645	342	0.08	0.28	F6	SW	22	38	C4	63.6	0-5	Water	Granite	
C		1	645	342	0.02	0.18	F6	SW	22	39	C4	17.1	0-5	Water	Quartzite	
C		1	645	342			F6		22	34-37	C4	31	0-5	Water	Quartzite	
C		1	645	342					22	34-44	C4	5	0-5	Water	Quartzite	outside F6
C		1	645	342					22	34-44	C4	18.7	0-5	Water	Undifferentiated Coarse Grained Material	outside F6
C		1	645	342	0.55	0.87		NE	22	45	C4	4762	>20	Slab	Sandstone	outside F6
C		1	645	342	0.7	0.85		NE	23	47	C4	384	5-10	Water	Granite	some blackening on surface
C		1	645	342	0.17	0.79		SE	23	47	C4	135.2	5-10	Water	Quartzite	
C		1	645	342	0.6	0.6		NE	23	47	C4	455.8	5-10	Water	Quartzite	some blackening on surface
C		1	645	343	0.33	0.26		SW	22	46	C3	134.1	5-10	Water	Quartzite	
C		1	645	343	0.1	0.61		SE	22	46	C3	25.3	0-5	Water	Quartzite	
C		1	645	343	0.07	0.6		SE	22	46	C3	88	5-10	Water	Quartzite	some blackening on surface
C		1	645	343	0.02	0.49		SW	22	44	C3	36.1	0-5	Water	Quartzite	
C		1	645	343					22	36-45	C3	8.3	0-5	Water	Quartzite	
C		1	645	343	0.95	0.59		NE	23	54	C3	466.5	5-10	Heated Cobble	Hard Cobble	surface blackening

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
C		1	646	340	0.34	0.79		SE	22	40	C4	605.1	5-10	Heated Cobble	Hard Cobble	some surface blackening
B		1	638	336	0.35	0.84		SE	23	56	B14	157.7	5-10	Water	Quartzite	
B		1	638	336	0.96	0.92		NE	23	55	B14	152.7	5-10	Water	Quartzite	
B		1	638	336	0.46	0.34		SW	23	61	B14	1009.7	10-15	Heated Cobble	Hard Cobble	some surface blackening
B		1	638	337	0.08	0.74		SE	23	52	B14	1060.7	15-20	Unmodified Cobble	Hard Cobble	
B		1	639	334	0.99	0.81		NE	24	66	B11	46.3	5-10	Water	Quartzite	
B		1	639	335	0.79	0.92		NE	23	60	B12	10	0-5	Water	Quartzite	
B		2	639	335					23	49-59	B12	20.2	0-5	Water	Quartzite	
B		1	639	335	0.98	0.84	F7	NE	24	58	B13	48.2	0-5	Water	Quartzite	
B		1	639	335	0.92	0.41	F7	NW	24	62	B13	41.7	5-10	Water	Quartzite	
B		1	639	335	0.92	0.97	F7	NE	24	57	B13	25.2	0-5	Water	Quartzite	
B		12	639	335			F7		24	56-66	B13	47.04	0-5	Water	Quartzite	fine screen
B		4	639	335					24	56-66	B13	7.7	0-5	Water	Quartzite	
B		1	639	336	0.73	0.82		NE	23	55	B13	67.2	5-10	Water	Granite	
B		1	639	336	0.44	0.97		SE	23	54	B13	190.1	5-10	Water	Quartzite	
B		1	639	336	0.7	0.47		NW	23	57	B13	16.2	0-5	Water	Quartzite	
B		1	639	336	0.53	0.95		NE	23	53	B13	64.3	0-5	Water	Quartzite	
B		1	639	336	0.75	0.09		NW	23	60	B13	106.9	5-10	Water	Quartzite	
B		1	639	336	0.28	0.94		SE	23	52	B13	250.9	5-10	Water	Granite	
B		1	639	336	0.33	0.4		SW	23	56	B13	87.3	5-10	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
B		1	639	336	0.82	0.14		NW	23	59	B13	53.3	0-5	Water	Quartzite	
B		1	639	336	0.35	0.94		SE	23	52	B13	86.2	5-10	Water	Granite	
B		9	639	336					23	49-59	B13	68.2	0-5	Water	Quartzite	
B		1	639	336					23	49-59	B13	0.2	0-5	Water	Granite	
B		1	639	336					23	49-59	B13	1.5	0-5	Water	Quartzite	
B		13	639	336			F7		23	49-59	B13	17.3	0-5	Water	Quartzite	fine screen
B		1	639	337	0.47	0.03		SW	23	53	B14	491.1	10-15	Water	Granite	
B		1	639	337	0.7	0.04		NW	23	55	B14	43.6	5-10	Water	Quartzite	
B		1	639	337	0.75	0.04		NW	23	54	B14	141.1	5-10	Water	Quartzite	
B		1	639	337	0.34	0.01		SW	23	52	B14	150.1	5-10	Water	Quartzite	
B		1	639	337	0.33	0.09		SW	23	51	B14	324.6	5-10	Water	Granite	
B		1	639	337	0.51	0.18		NW	23	52	B14	394.5	5-10	Unmodified Cobble	Hard Cobble	
B		3	639	337					23	51-61	B14	37.9	0-5	Water	Quartzite	
B		1	639	337					23	51-61	B14	2.4	0-5	Water	Granite	
B		1	640	334					24	40-52	B11	13.2	0-5	Water	Granite	
B		1	640	335	0.27	0.92	F7	SE	23	57	B13	2.4	0-5	Water	Quartzite	
B		1	640	335					23	44-54	B13	5	0-5	Water	Quartzite	unclear if in feature or not
B		1	640	335	0.12	0.73	F7	SE	24	57	B13	7.2	0-5	Spall	Quartzite	
B		1	640	335	0.83	0.19		NW	24	60	B13	12.3	0-5	Water	Quartzite	
B		1	640	335	0.61	0.45	F7	NW	24	60	B13	35.8	0-5	Spall	Granite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
B		1	640	335	0.61	0.9	F7	NE	24	59	B13	8.5	0-5	Spall	Quartzite	
B		1	640	335	0.23	0.47	F7	SW	24	57	B13	26.6	0-5	Spall	Quartzite	in two pieces refit
B		1	640	335	0.37	0.37	F7	SW	24	59	B13	45.4	5-10	Water	Quartzite	
B		1	640	335	0.13	0.86	F7	SE	24	59	0.91	56.5	0-5	Water	Quartzite	
B		1	640	335	0.21	0.91	F7	SE	24	59	B13	12	0-5	Water	Undifferentiated Coarse Grained Material	
B		1	640	335	0.86	0.85	F7	NE	24	58	B13	23.2	0-5	Water	Undifferentiated Coarse Grained Material	
B		1	640	335	0.31	0.98	F7	SE	24	58	B13	9.7	0-5	Water	Quartzite	
B		1	640	335	0.52	0.75	F7	NE	24	59	B13	7	0-5	Water	Quartzite	
B		1	640	335	0.32	0.97	F7	SE	24	59	B13	7.7	0-5	Water	Quartzite	
B		1	640	335	0.08	0.69	F7	SE	24	60	B13	949.9	10-15	Heated Cobble	Hard Cobble	
B		1	640	335	0.5	0.53	F7	SE	24	60	B13	29.5	5-10	Spall	Quartzite	
B		1	640	335	0.7	0.88	F7	NE	24	59	B13	10.1	0-5	Water	Undifferentiated Coarse Grained Material	
B		1	640	335	0.42	0.97	F7	SE	24	61	B13	37.4	5-10	Water	Quartzite	
B		1	640	335	0.5	0.92	F7	SE	24	60	B13	15	0-5	Spall	Quartzite	
B		1	640	335	0.03	0.25		SW	24	59	B13	116.1	5-10	Water	Quartzite	
B		1	640	335	0.45	0.49	F7	SW	24	58	B13	63.8	0-5	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
B		6	640	335			F7		24	54-64	B13	34.5	0-5	Water	Undifferentiated Coarse Grained Material	
B		9	640	335			F7		24	54-64	B13	33.4	0-5	Water	Quartzite	
B		5	640	335			F7		24	54-64	B13	6.1	0-5	Water	Granite	
B		5	640	335					24	54-64	B13	5.2	0-5	Water	Granite	outside F7
B		1	640	335					24	54-64	B13	10.9	0-5	Water	Undifferentiated Coarse Grained Material	outside F7
B		5	640	335					24	54-64	B13	22.9	0-5	Water	Quartzite	outside F7
B		1	640	336	0.9	1		NE	23	57	B13	823	10-15	Heated Cobble	Hard Cobble	surface blackened
B		1	640	336	0.32	0.85		SE	23	57	B13	133.1	5-10	Water	Quartzite	
B		1	640	336	0	0.92		SE	23	56	B13	48.4	0-5	Water	Quartzite	
B		1	640	336	0.51	0.49		NW	23	58	B13	12.9	0-5	Water	Quartzite	
B		1	640	336	0.51	0.17		NW	23	58	B13	17.5	0-5	Water	Quartzite	
B		1	640	336	0.7	0.18		NW	23	57	B13	19.6	0-5	Water	Quartzite	
B		1	640	336	0.74	0.99		NE	23	57	B13	105.7	5-10	Water	Quartzite	
B		1	640	336	0.62	0.96		NE	23	61	B13	63.7	5-10	Water	Quartzite	
B		1	640	336	0.26	0.84		SE	23	58	B13	761.1	10-15	Heated Cobble	Hard Cobble	surface blackened
B		1	640	336	0.3	0.1		SW	23	58	B13	23.9	0-5	Water	Quartzite	
B		1	640	336	0.28	0.21		SW	23	57	B13	15.1	0-5	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
B		1	640	336	0.7	0.94		NE	23	60	B13	67.7	5-10	Water	Quartzite	
B		9	640	336					23	50-60	B13	70.8	0-5	Water	Quartzite	
B		2	640	336					24	60-70	B13	5.2	0-5	Water	Quartzite	
B		1	640	337	0.45	0.27		SW	23	59	B13	1134.2	10-15	Heated Cobble	Hard Cobble	surface blackened
B		1	640	337	0.04	0.34		SW	23	55	B13	192.9	5-10	Water	Quartzite	
B		1	640	337	0.71	0.02		NW	23	58	B13	57.2	5-10	Water	Quartzite	
B		1	640	337	0.47	0.57		SE	23	50	B13	29.9	0-5	Water	Quartzite	
B		1	640	337	0.3	0.22		SW	23	58	B13	229.5	5-10	Water	Quartzite	
B		1	640	337	0.33	0.12		SW	23	57	B13	85.6	5-10	Water	Quartzite	
B		1	640	337	0.65	0.05		NW	23	58	B13	41.9	0-5	Water	Quartzite	
B		1	640	337	0.35	0.18		SW	23	58	B13	69	0-5	Water	Quartzite	
B		1	640	337	0.77	0.04		NW	23	58	B13	140.8	5-10	Water	Quartzite	
B		1	640	337	0.52	0.43		NW	23	59	B13	41	0-5	Water	Quartzite	
B		1	640	337	0.22	0.75		SE	23	60	B13	466.5	5-10	Heated Cobble	Hard Cobble	slightly reddened
B		1	640	337	0.32	0.33		SW	23	58	B13	580.6	10-15	Water	Quartzite	
B		1	640	337	0.72	0.37		NW	23	59	B13	849.1	10-15	Heated Cobble	Hard Cobble	slightly reddened
B		8	640	337					23	50-60	B13	206.7	0-5	Water	Quartzite	
B		2	640	337					24	60-70	B13	214	5-10	Water	Quartzite	one slightly blackened
B		1	641	334					22	23-33	B16	19	0-5	Water	Quartzite	

Alberta Arts, Culture and Status of Women

Historic Resources Management Branch

FBR

Permit: 23-101

Site: EaOq-82

Project: Medicine Hat Water Treatment Plant Residuals Management Facility

Way point/ Shovel Test/ Block	CU	Qty	Unit N	Unit E	In situ N	In situ E	Feature	Quad	Lv	Depth (cm BS/ cm BD)	Datum	Wgt (g)	Size (cm)	Fracture Type	Material	Comments
B		1	641	336	0.07	0.9		SE	23	52	B16	26.6	0-5	Water	Quartzite	
B		1	641	336	0.12	0.91		SE	23	53	B16	43.9	0-5	Water	Quartzite	
B		1	641	336	0.82	0.48		NW	23	51	B16	20.2	0-5	Water	Quartzite	
B		1	641	336	0.15	0.72		SE	23	52	B16	60.9	5-10	Water	Quartzite	
B		1	641	336	0.71	0.16		NW	23	51	B16	78.1	5-10	Water	Quartzite	
B		1	641	336	0.4	0.38		SW	23	54	B16	999.6	15-20	Unmodified Cobble	Hard Cobble	
B		1	641	336					23	46-56	B16	2.2	0-5	Water	Quartzite	

Appendix E RADIOCARBON DATING RESULTS



Beta Analytic[®]
TESTING LABORATORY

Beta Analytic, Inc.
4985 SW 74th Court
Miami, FL 33155 USA
Tel: 305-667-5167
Fax: 305-663-0964
info@betalabservices.com

ISO/IEC 17025:2017-Accredited Testing Laboratory

December 19, 2023

Mr. Joshua Read
Stantec Consulting Ltd.
130 - 2886 Sunbridge Way NE
Calgary, T1Y 7H9
Canada

RE: Radiocarbon Dating Results

Dear Mr. Read,

Enclosed are the radiocarbon dating results for four samples recently sent to us. As usual, the method of analysis is listed on the report with the results and calibration data is provided where applicable. The Conventional Radiocarbon Ages have all been corrected for total fractionation effects and where applicable, calibration was performed using 2020 calibration databases (cited on the graph pages).

The web directory containing the table of results and PDF download also contains pictures, a cvs spreadsheet download option and a quality assurance report containing expected vs. measured values for 3-5 working standards analyzed simultaneously with your samples.

Reported results are accredited to ISO/IEC 17025:2017 Testing Accreditation PJLA #59423 standards and all chemistry was performed here in our laboratory and counted in our own accelerators here. Since Beta is not a teaching laboratory, only graduates trained to strict protocols of the ISO/IEC 17025:2017 Testing Accreditation PJLA #59423 program participated in the analyses.

As always Conventional Radiocarbon Ages and sigmas are rounded to the nearest 10 years per the conventions of the 1977 International Radiocarbon Conference. When counting statistics produce sigmas lower than +/- 30 years, a conservative +/- 30 BP is cited for the result unless otherwise requested. The reported d13C values were measured separately in an IRMS (isotope ratio mass spectrometer). They are NOT the AMS d13C which would include fractionation effects from natural, chemistry and AMS induced sources.

When interpreting the results, please consider any communications you may have had with us regarding the samples.

The cost of analysis was previously invoiced. As always, if you have any questions or would like to discuss the results, don't hesitate to contact us.

Sincerely,



Digital signature on file

Ronald E. Hatfield President



ISO/IEC 17025:2017-Accredited Testing Laboratory

REPORT OF RADIOCARBON DATING ANALYSES

Joshua Read

Report Date: December 19, 2023

Stantec Consulting Ltd.

Material Received: December 01, 2023

Laboratory Number	Sample Code Number	Conventional Radiocarbon Age (BP) or Percent Modern Carbon (pMC) & Stable Isotopes

Beta - 682220

EaOq-82: 179

1520 +/- 30 BP

IRMS $\delta^{13}\text{C}$: -19.0 o/oo

IRMS $\delta^{15}\text{N}$: +7.3 o/oo

(77.8%)	530 - 608 cal AD	(1420 - 1342 cal BP)
(7.5%)	475 - 502 cal AD	(1475 - 1448 cal BP)
(6.5%)	436 - 464 cal AD	(1514 - 1486 cal BP)
(2.4%)	622 - 638 cal AD	(1328 - 1312 cal BP)
(1.3%)	507 - 517 cal AD	(1443 - 1433 cal BP)

Submitter Material: Bone (Non-heated)

Pretreatment: (bone collagen) collagen extraction; with alkali

Analyzed Material: Bone collagen

Analysis Service: AMS-Standard delivery

Percent Modern Carbon: 82.76 +/- 0.31 pMC

Fraction Modern Carbon: 0.8276 +/- 0.0031

D14C: -172.40 +/- 3.09 o/oo

$\Delta^{14}\text{C}$: -179.67 +/- 3.09 o/oo (1950:2023)

Measured Radiocarbon Age: (without d13C correction): 1420 +/- 30 BP

Calibration: BetaCal4.20: HPD method: INTCAL20

Carbon/Nitrogen: CN : 3.2 %C: 34.18 %N: 12.37

Results are ISO/IEC-17025:2017 accredited. No sub-contracting or student labor was used in the analyses. All work was done at Beta in 4 in-house NEC accelerator mass spectrometers and 4 Thermo IRMSs. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), is corrected for total isotopic fraction and was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP), "present" = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 95% the ^{14}C signature of NIST SRM-4990C (oxalic acid). Quoted errors are 1 sigma counting statistics. Calculated sigmas less than 30 BP on the Conventional Radiocarbon Age are conservatively rounded up to 30. d13C values are on the material itself (not the AMS d13C). d13C and d15N values are relative to VPDB. References for calendar calibrations are cited at the bottom of calibration graph pages.



ISO/IEC 17025:2017-Accredited Testing Laboratory

REPORT OF RADIOCARBON DATING ANALYSES

Joshua Read

Report Date: December 19, 2023

Stantec Consulting Ltd.

Material Received: December 01, 2023

Laboratory Number	Sample Code Number	Conventional Radiocarbon Age (BP) or Percent Modern Carbon (pMC) & Stable Isotopes

Beta - 682221

EaOq-82: 6017

1560 +/- 30 BP

IRMS $\delta^{13}\text{C}$: -18.7 o/oo

IRMS $\delta^{15}\text{N}$: +9.4 o/oo

(95.4%)

425 - 575 cal AD

(1525 - 1375 cal BP)

Submitter Material: Bone (Non-heated)

Pretreatment: (bone collagen) collagen extraction; with alkali

Analyzed Material: Bone collagen

Analysis Service: AMS-Standard delivery

Percent Modern Carbon: 82.35 +/- 0.31 pMC

Fraction Modern Carbon: 0.8235 +/- 0.0031

D14C: -176.51 +/- 3.08 o/oo

$\Delta^{14}\text{C}$: -183.75 +/- 3.08 o/oo (1950:2023)

Measured Radiocarbon Age: (without $\delta^{13}\text{C}$ correction): 1460 +/- 30 BP

Calibration: BetaCal4.20: HPD method: INTCAL20

Carbon/Nitrogen: CN : 3.2 %C: 37.44 %N: 13.66

Results are ISO/IEC-17025:2017 accredited. No sub-contracting or student labor was used in the analyses. All work was done at Beta in 4 in-house NEC accelerator mass spectrometers and 4 Thermo IRMSs. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), is corrected for total isotopic fraction and was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP), "present" = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 95% the ^{14}C signature of NIST SRM-4990C (oxalic acid). Quoted errors are 1 sigma counting statistics. Calculated sigmas less than 30 BP on the Conventional Radiocarbon Age are conservatively rounded up to 30. $\delta^{13}\text{C}$ values are on the material itself (not the AMS $\delta^{13}\text{C}$). $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values are relative to VPDB. References for calendar calibrations are cited at the bottom of calibration graph pages.



ISO/IEC 17025:2017-Accredited Testing Laboratory

REPORT OF RADIOCARBON DATING ANALYSES

Joshua Read

Report Date: December 19, 2023

Stantec Consulting Ltd.

Material Received: December 01, 2023

Laboratory Number	Sample Code Number	Conventional Radiocarbon Age (BP) or Percent Modern Carbon (pMC) & Stable Isotopes

Beta - 682222

EaOq-82: 1215

1240 +/- 30 BP

IRMS $\delta^{13}\text{C}$: -18.9 o/oo

IRMS $\delta^{15}\text{N}$: +7.9 o/oo

(55.8%)

758 - 880 cal AD

(1192 - 1070 cal BP)

(39.6%)

679 - 746 cal AD

(1271 - 1204 cal BP)

Submitter Material: Bone (Non-heated)

Pretreatment: (bone collagen) collagen extraction; with alkali

Analyzed Material: Bone collagen

Analysis Service: AMS-Standard delivery

Percent Modern Carbon: 85.70 +/- 0.32 pMC

Fraction Modern Carbon: 0.8570 +/- 0.0032

D14C: -143.04 +/- 3.20 o/oo

$\Delta^{14}\text{C}$: -150.57 +/- 3.20 o/oo (1950:2023)

Measured Radiocarbon Age: (without d13C correction): 1140 +/- 30 BP

Calibration: BetaCal4.20: HPD method: INTCAL20

Carbon/Nitrogen: CN : 3.3 %C: 36.18 %N: 12.86

Results are ISO/IEC-17025:2017 accredited. No sub-contracting or student labor was used in the analyses. All work was done at Beta in 4 in-house NEC accelerator mass spectrometers and 4 Thermo IRMSs. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), is corrected for total isotopic fraction and was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP), "present" = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 95% the ^{14}C signature of NIST SRM-4990C (oxalic acid). Quoted errors are 1 sigma counting statistics. Calculated sigmas less than 30 BP on the Conventional Radiocarbon Age are conservatively rounded up to 30. d13C values are on the material itself (not the AMS d13C). d13C and d15N values are relative to VPDB. References for calendar calibrations are cited at the bottom of calibration graph pages.



ISO/IEC 17025:2017-Accredited Testing Laboratory

REPORT OF RADIOCARBON DATING ANALYSES

Joshua Read

Report Date: December 19, 2023

Stantec Consulting Ltd.

Material Received: December 01, 2023

Laboratory Number	Sample Code Number	Conventional Radiocarbon Age (BP) or Percent Modern Carbon (pMC) & Stable Isotopes

Beta - 682223

EaOq-82: 2305

1250 +/- 30 BP

IRMS $\delta^{13}\text{C}$: -18.4 o/oo

IRMS $\delta^{15}\text{N}$: +8.0 o/oo

(60.3%)

673 - 778 cal AD

(1277 - 1172 cal BP)

(26.4%)

785 - 838 cal AD

(1165 - 1112 cal BP)

(8.7%)

844 - 878 cal AD

(1106 - 1072 cal BP)

Submitter Material: Bone (Non-heated)

Pretreatment: (bone collagen) collagen extraction; with alkali

Analyzed Material: Bone collagen

Analysis Service: AMS-Standard delivery

Percent Modern Carbon: 85.59 +/- 0.32 pMC

Fraction Modern Carbon: 0.8559 +/- 0.0032

D14C: -144.11 +/- 3.20 o/oo

$\Delta^{14}\text{C}$: -151.63 +/- 3.20 o/oo (1950:2023)

Measured Radiocarbon Age: (without d13C correction): 1140 +/- 30 BP

Calibration: BetaCal4.20: HPD method: INTCAL20

Carbon/Nitrogen: CN : 3.2 %C: 40.40 %N: 14.64

Results are ISO/IEC-17025:2017 accredited. No sub-contracting or student labor was used in the analyses. All work was done at Beta in 4 in-house NEC accelerator mass spectrometers and 4 Thermo IRMSs. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), is corrected for total isotopic fraction and was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP), "present" = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 95% the ^{14}C signature of NIST SRM-4990C (oxalic acid). Quoted errors are 1 sigma counting statistics. Calculated sigmas less than 30 BP on the Conventional Radiocarbon Age are conservatively rounded up to 30. d13C values are on the material itself (not the AMS d13C). d13C and d15N values are relative to VPDB. References for calendar calibrations are cited at the bottom of calibration graph pages.

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): INTCAL20)

(Variables: $\delta^{13}\text{C} = -19.0$ o/oo)

Laboratory number **Beta-682220**

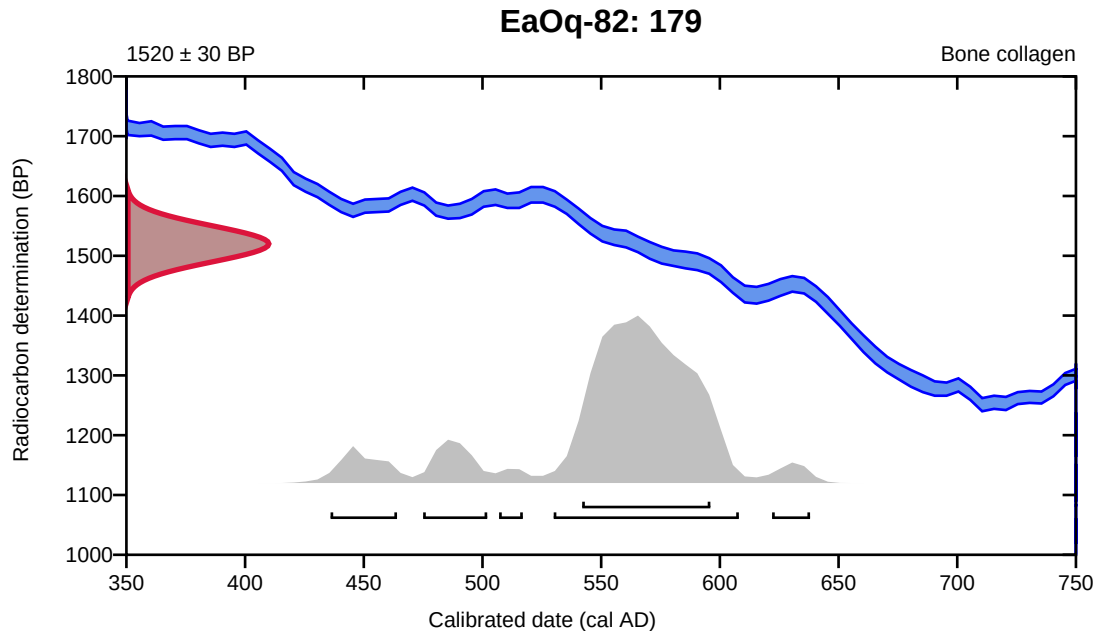
Conventional radiocarbon age **1520 $\pm$ 30 BP**

95.4% probability

(77.8%)	530 - 608 cal AD	(1420 - 1342 cal BP)
(7.5%)	475 - 502 cal AD	(1475 - 1448 cal BP)
(6.5%)	436 - 464 cal AD	(1514 - 1486 cal BP)
(2.4%)	622 - 638 cal AD	(1328 - 1312 cal BP)
(1.3%)	507 - 517 cal AD	(1443 - 1433 cal BP)

68.2% probability

(68.2%)	542 - 596 cal AD	(1408 - 1354 cal BP)



Database used
INTCAL20

References

References to Probability Method

Bronk Ramsey, C. (2009). Bayesian analysis of radiocarbon dates. Radiocarbon, 51(1), 337-360.

References to Database INTCAL20

Reimer, et al., 2020, Radiocarbon 62(4):725-757.

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): INTCAL20)

(Variables: $\delta^{13}\text{C} = -18.7$ o/oo)

Laboratory number **Beta-682221**

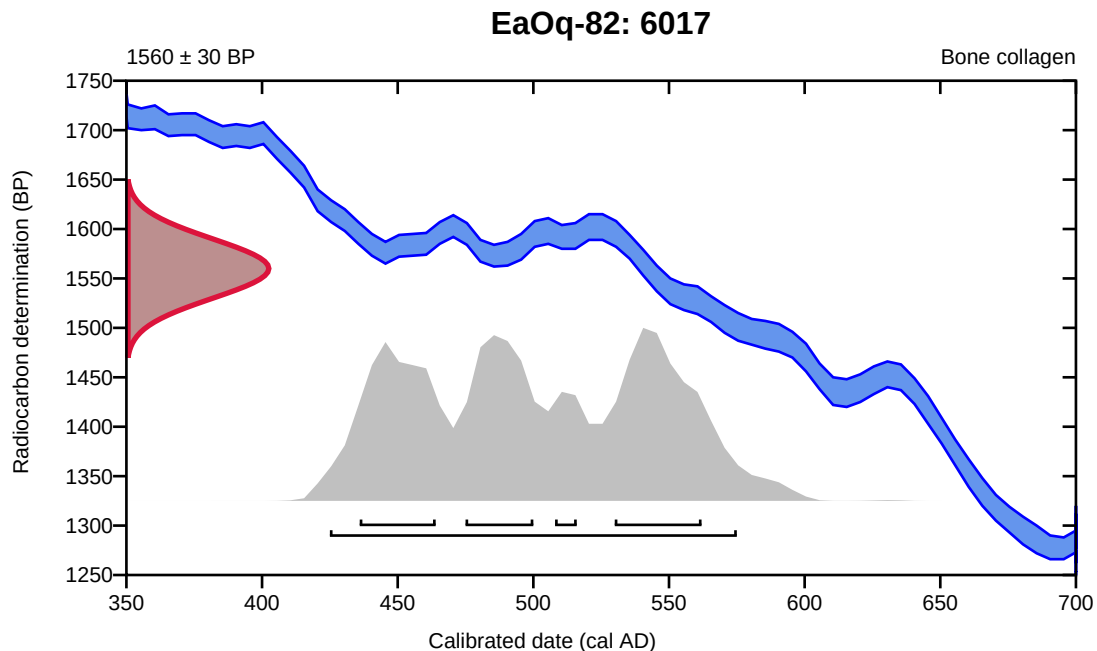
Conventional radiocarbon age **1560 $\pm$ 30 BP**

95.4% probability

(95.4%) 425 - 575 cal AD (1525 - 1375 cal BP)

68.2% probability

(23.4%)	530 - 562 cal AD	(1420 - 1388 cal BP)
(20.8%)	436 - 464 cal AD	(1514 - 1486 cal BP)
(19.2%)	475 - 500 cal AD	(1475 - 1450 cal BP)
(4.8%)	508 - 516 cal AD	(1442 - 1434 cal BP)



Database used
INTCAL20

References

References to Probability Method

Bronk Ramsey, C. (2009). Bayesian analysis of radiocarbon dates. Radiocarbon, 51(1), 337-360.

References to Database INTCAL20

Reimer, et al., 2020, Radiocarbon 62(4):725-757.

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): INTCAL20)

(Variables: $\delta^{13}\text{C} = -18.9$ o/oo)

Laboratory number **Beta-682222**

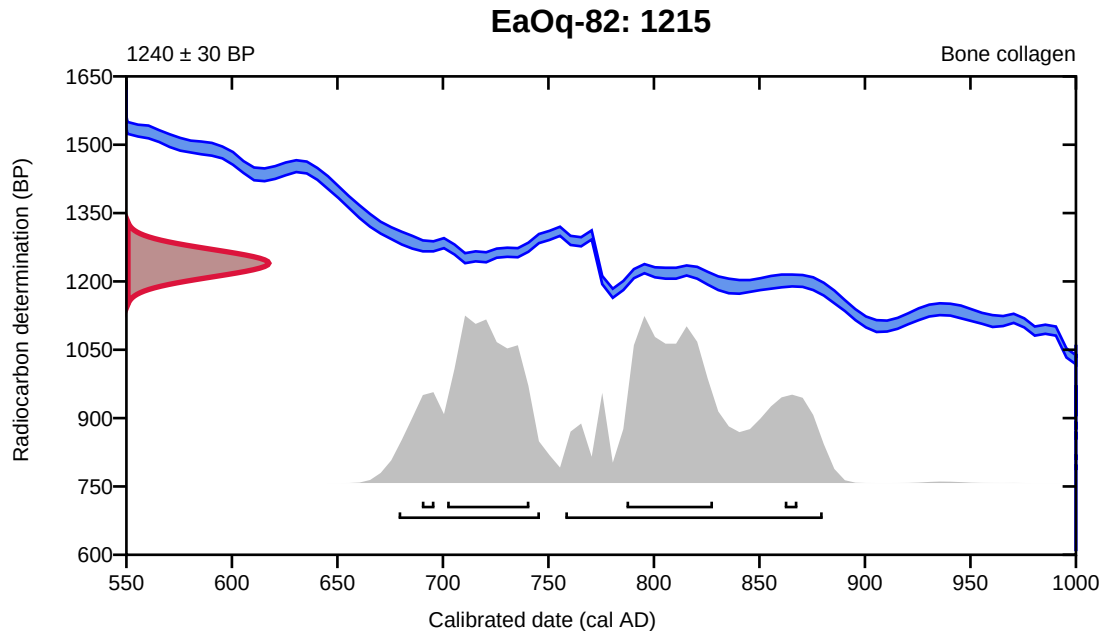
Conventional radiocarbon age **1240 $\pm$ 30 BP**

95.4% probability

(55.8%)	758 - 880 cal AD	(1192 - 1070 cal BP)
(39.6%)	679 - 746 cal AD	(1271 - 1204 cal BP)

68.2% probability

(31.4%)	787 - 828 cal AD	(1163 - 1122 cal BP)
(30.4%)	702 - 741 cal AD	(1248 - 1209 cal BP)
(3.2%)	690 - 696 cal AD	(1260 - 1254 cal BP)
(3.2%)	862 - 868 cal AD	(1088 - 1082 cal BP)



Database used
INTCAL20

References

References to Probability Method

Bronk Ramsey, C. (2009). Bayesian analysis of radiocarbon dates. Radiocarbon, 51(1), 337-360.

References to Database INTCAL20

Reimer, et al., 2020, Radiocarbon 62(4):725-757.

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): INTCAL20)

(Variables: $\delta^{13}\text{C} = -18.4$ o/oo)

Laboratory number **Beta-682223**

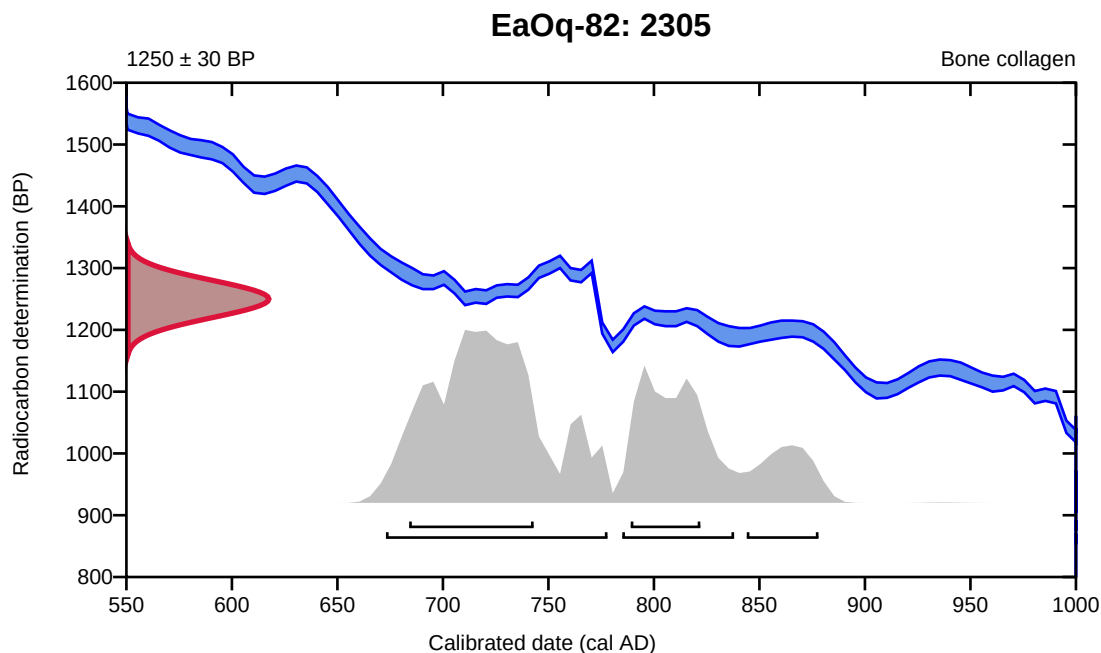
Conventional radiocarbon age **1250 $\pm$ 30 BP**

95.4% probability

(60.3%)	673 - 778 cal AD	(1277 - 1172 cal BP)
(26.4%)	785 - 838 cal AD	(1165 - 1112 cal BP)
(8.7%)	844 - 878 cal AD	(1106 - 1072 cal BP)

68.2% probability

(46.9%)	684 - 743 cal AD	(1266 - 1207 cal BP)
(21.3%)	789 - 822 cal AD	(1161 - 1128 cal BP)



Database used
INTCAL20

References

References to Probability Method

Bronk Ramsey, C. (2009). Bayesian analysis of radiocarbon dates. *Radiocarbon*, 51(1), 337-360.

References to Database INTCAL20

Reimer, et al., 2020, *Radiocarbon* 62(4):725-757.



Beta Analytic[®]
TESTING LABORATORY

Beta Analytic, Inc.
4985 SW 74th Court
Miami, FL 33155 USA
Tel: 305-667-5167
Fax: 305-663-0964
info@betalabservices.com

ISO/IEC 17025:2017-Accredited Testing Laboratory

Quality Assurance Report

This report provides the results of reference materials used to validate radiocarbon analyses prior to reporting. Known-value reference materials were analyzed quasi-simultaneously with the unknowns. Results are reported as expected values vs measured values. Reported values are calculated relative to NIST SRM-4990C and corrected for isotopic fractionation. Results are reported using the direct analytical measure percent modern carbon (pMC) with one relative standard deviation. Agreement between expected and measured values is taken as being within 2 sigma agreement (error x 2) to account for total laboratory error.

Report Date: January 08, 2024
Submitter: Mr. Joshua Read

QA MEASUREMENTS

Reference 1

Expected Value: 0.44 +/- 0.04 pMC

Measured Value: 0.44 +/- 0.04 pMC

Agreement: Accepted

Reference 2

Expected Value: 129.41 +/- 0.06 pMC

Measured Value: 129.40 +/- 0.37 pMC

Agreement: Accepted

Reference 3

Expected Value: 96.69 +/- 0.50 pMC

Measured Value: 96.34 +/- 0.29 pMC

Agreement: Accepted

COMMENT: All measurements passed acceptance tests.

Validation:


Digital signature on file

Date: January 08, 2024