

ARCHAEOLOGICAL
SURVEY
OF
ALBERTA

ARCHAEOLOGY
IN
ALBERTA
1976

Occasional Paper
No. 4
1977

J. Michael Quigg



Alberta

CULTURE
Historical Resources

ARCHAEOLOGY IN ALBERTA, 1976

compiled by
J. Michael Quigg

Archaeological Survey of Alberta
Occasional Paper No. 4

Prepared by:
Archaeological Survey
of Alberta

Published by:
Alberta Culture
Historical Resources Division

OCCASIONAL PAPERS

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Objectives

These Occasional Papers are designed to permit the rapid dissemination of information resulting from Historical Resources' programmes. They are intended primarily for interested specialists, rather than as popular publications for general readers. In the interests of making information available quickly to these specialists, normal production procedures have been abbreviated.

ABSTRACT

In the year of 1976, the Archaeological Survey of Alberta initiated and administered a total of 14 archaeological field investigations throughout the province. These projects constituted conservation operations necessitated by proposed government projects prior to development (7), problem - oriented research aimed at resolving basic questions concerning Alberta's prehistory (6), and detailed recording of a fragile site type (1). These projects plus one instituted by the Provincial Museum are presented in summary form.

TABLE OF CONTENTS

Abstract.....	ii
Tables.....	iv
Figures.....	iv
Archaeological Survey of Alberta Field Activities, 1976 W. J. Byrne.....	1
Archaeological Survey of Northern Alberta John W. Pollock.....	9
A Synopsis of the Boreal Highways Archaeological Survey 1976 Cort Sims.....	17
Archaeological Reconnaissance - Alberta Transportation Highway Construction Program: Transitional Parkland and Southern Boreal Forest Regions E. J. McCullough and B. O. K. Reeves Lifeways of Canada Limited.....	21
Grande Cache - Grande Prairie Preliminary Archaeological Assessment, 1976 Don S. Slater.....	27
Excavations at Wentzel Lake Gerry Conaty.....	31
The Excavation of HkPa-4, Birch Mountains, Alberta John Ives.....	37
The 1976 Plains Highway Survey Project John H. Brumley.....	45
1976 Field Investigations in the Neutral Hills Regions J. Michael Quigg.....	54
Salvage Archaeology Along Highway 41 near New Brigiden John H. Brumley.....	74
Excavations at Site FfPe-5 John H. Brumley.....	78
Archaeological Excavations in the Buffalo Lake Regions Maurice F. V. Doll.....	80
Red Deer Study, Phase 2 Gary Adams.....	84
Archaeological Salvage Investigations; Alberta Highways and Transportation Construction Projects: Crowsnest Pass Maple Leaf/Bellevue Area E. M. Calder, T. Smith and B. Beaver Lifeways of Canada Limited.....	88
Medicine Wheel Survey Keary Walde.....	93
Bibliography.....	100

LIST OF TABLES

1. 1976 Projects/Permits issued by the Archaeological Survey of Alberta.....	6
2. Summary of the 1976 Plains Highway Survey Project.....	49
3. Site Frequency Distribution.....	57
4. Lithic types and frequencies.....	59

LIST OF FIGURES

1. Archaeological Investigations, 1976.....	5
2. Location of Sites within Survey Area.....	10
3. Artifacts from the Clearwater River Drainage System.....	15
4. Artifacts from Boreal Highway Project.....	20
5. Campsite EgPt-10 in Bow Valley.....	25
6. Campsite FhQg-3 at junction of Highway 40 and 47.....	25
7. Campsite RIPu-1 along Highway 43:18.....	26
8. GgPu-1 in burrow pit.....	26
9. Survey Region Project 76 - 60.....	30
10. Aerial view of IfPo-1.....	34
11. Series of 1 x 1 m units.....	34
12. Profile of west wall of unit A.....	35
13. Artifacts from IfPo-1.....	36
14. Map of Excavations of HkPa-4.....	42
15. Excavation in progress.....	43
16. Dense concentration of large flakes.....	43
17. Finished artifacts recovered during 1975.....	44
18. Diagnostic artifacts recovered from HkPa-4.....	44
19. Locations of Plains highway survey.....	51
20. Tipi Ring site situated along the Red Deer River Valley.....	52
21. Tipi Ring site along Bow River near Caresland.....	52
22. View of EiPb-5, a tipi ring, cairn, and buried campsite.....	53
23. Rectangular shaped stone cairn at EiPb-5.....	53
24. Neutral Hills Survey region - 1976.....	55
25. Lazy Dog Tipi Ring - FbOr-57.....	61
26. FbOr-57, air photo showing rings and cairns.....	63

27.	Fb0r-57, indicating the two excavated rings.....	63
28.	Profile and plan of tipi ring No. 2.....	64
29.	Profile and plan of tipi ring No. 4.....	65
30.	Artifacts from the Lazy Dog Tipi Ring Site.....	67
31.	Fb0v-1, a bison kill located on small slump block.....	69
32.	Profile of Fb0v-1.....	69
33.	Artifacts from the campsite at Fb0v-1.....	73
34.	General view of excavation in progress at site Ek0p-10.....	76
35.	Small stone cairn excavated at site Fk0p-10.....	76
36.	View of excavations at site Ek0o-3.....	77
37.	View of Ek0p-9.....	77
38.	General view of the northeastern shore of Buffalo Lake.....	82
39.	General view of stratigraphy in unit ON 10W.....	82
40.	Detail of bottom segment of unit ON 10W.....	83
41.	Artifacts from the Red Deer River study.....	87
42.	Maple Leaf/Bellevue Area - DjPo-9.....	91
43.	Site DjPo-9, Test 3 area along excavation.....	91
44.	Site DjPo-48. Excavation area view north.....	92
45.	Site DjPo-46. Buried tipi ring <u>ca.</u> 3000 years old.....	92
46.	Plan of Suitor Site No. 2, Medicine Wheels.....	97
47.	Detail of Wheel No. 1.....	98
48.	Detail of Wheel No. 2.....	99

ARCHAEOLOGICAL SURVEY OF ALBERTA FIELD ACTIVITIES: 1976

W. J. Byrne

In 1976 the Archaeological Survey of Alberta, a Branch of the Historical Resources Division, Alberta Culture, completed its second full season as the established provincial agency with responsibility for the conduct of archaeological investigations necessitated by government programmes. The genesis and early history of this Branch was reviewed in the first Occasional Paper of the Archaeological Survey of Alberta (Quigg and Byrne 1976), and the programmes and priorities outlined in the earlier article (Byrne 1976: 1-7) currently remain essentially unchanged. However, the pursuit of these various responsibilities by the Survey in the past year has resulted in a number of interesting and important developments, not only with regard to the range and nature of field investigations but also in the organization and administration of archaeology in the province.

With respect to the latter, probably the greatest single development has been the growing acceptance of the policy that certain kinds of development projects must be preceded as a matter of course by archaeological impact assessment and mitigation studies. This principle has been implemented through the cooperation of a number of government departments and agencies which are responsible for the conduct of government projects or the licensing of private programmes. Probably the most striking example of this acceptance is the fact that the Energy Resources Conservation Board--which is responsible for the issuance of all development permits for energy production, transmission and consumption--has issued a Directive which states that all future applications for an ERCB permit for major developments must be accompanied by a completed archaeological impact assessment report. Furthermore, the ERCB has also indicated its willingness to make any measures necessary for the protection of historical resources a condition of the issuance of specific development permits.

In practice, the realization of this principle may be seen in that of the 81 archaeological research permits issued in 1976 (Table 1), over two thirds of them were for investigations conducted specifically to locate materials which might be affected by a proposed development

or to investigate previously located specific sites to be destroyed by ground surface disturbance in conjunction with a planned project. Furthermore, of these "demand" archaeological investigations, only 14 were conducted in conjunction with federal, provincial or municipal government projects, while all the rest were undertaken by private industry on behalf of their own developments.

Of the various provincial government projects which required archaeological work, all of the highways archaeological conservation investigations were done under contract through the Archaeological Survey of Alberta, and summaries of the final reports on each of these projects are included in this publication. Surveys were continued on all major proposed highway projects for which construction is imminent, as well as on a number of projects which are still in the preliminary planning stage. Of the latter, probably the most interesting--from a resource management perspective--was the initial survey of the Grande Prairie/Grande Cache region by Don Slater, which was unique for Alberta in that this project was designed to provide information which could be used in the formation of guidelines for the selection of the basic highway corridor location in that area, instead of attempting to locate sites on a previously identified right-of-way. As for the remaining highway survey projects, John Brumley was responsible for investigations in the southern or plains area of the province, while Brian Reeves and Lifeways of Canada surveyed highway projects in central and northwestern Alberta, and Cort Sims investigated in the northeast.

In addition to the survey work, a number of excavations were undertaken at threatened localities identified in the course of highway survey operations in 1975. John Brumley worked in the southern and eastern part of the province on a series of small sites to be destroyed by secondary highway construction, with a particular view to revealing the significance of the oft-reported "small surface scatter" sites to determine if sites of this sort justified test excavations when they were located on proposed highway rights-of-way, or whether they can be safely disregarded in future projects. In addition, Brian Reeves continued his lengthy and successful investigation of archaeological sites

in the Crowsnest Pass which are rapidly being destroyed by the rebuilding of Highway 3 through that area.

As for the remaining projects for which reports appear in this publication, three were undertaken under contract to the Archaeological Survey of Alberta. The first of these was a somewhat unusual project by Ken Wong and Doug Barnett, reported here by K. Walde, which involved the preparation of detailed feature maps of all of the known "medicine wheel" sites currently recorded in the Alberta provincial site files. This project had two main purposes, one being the accurate mapping of all of these sites in their present state because of the on-going and increasing disturbance of the sites by curiosity seekers, and the other being the accumulation of specific records on the orientation of the various sites as an aid to investigators of the possible astronomical implications of such constructions. As for the other two contract projects, those by Jack Ives and Gerry Conaty, both comprised intensive excavation of lake-side campsites in northern Alberta, and as such constitute major contributions to the knowledge of this sparsely investigated region.

The last three projects dealt with in this review were undertaken by staff members of the Historical Resources Division of Alberta Culture, Maurice Doll of the Provincial Museum and John Pollock and J. M. Quigg of the Archaeological Survey of Alberta. Mr. Doll was continuing an extensive investigation of prehistoric and protohistoric occupations in the Buffalo Lake area of central Alberta, a project which has occupied him for the past several years. Both Mr. Quigg and Mr. Pollock, however, were engaged in regional studies which combined a considerable amount of survey and test excavation work. Mr. Quigg continued his investigation of the lower Battle River settlement pattern with work both in the main valley and to the south, while Mr. Pollock divided his efforts between the Clearwater River region and the Peerless-Graham Lake vicinity.

In summary, the projects undertaken in 1976 by or under the auspices of the Archaeological Survey of Alberta, and the continuing work by the Provincial Museum at Buffalo Lake, resulted in investigations of varying intensity being conducted in all parts of the province, with the possible exception of the far northwest (Figure 1). While the analyses

from all of these projects is by no means complete, the evidence from these investigations plus that of some of the industry-sponsored projects is revealing some interesting trends in Alberta archaeology. One of these is that, contrary to some earlier interpretations (Wright 1975; Byrne 1975), the influence of Plains culture in the Boreal Forest area of Alberta may be somewhat weaker than was previously suspected, particularly in the later parts of the sequence. To be sure there are definite plains-oriented traits apparent in the complexes, with projectile points being one area of similarity, but it would seem that the interpretation of the evidence should see the northern manifestations as essentially sub-arctic cultures with some borrowed plains attributes, rather than vice versa.

Another emerging trend concerns the significance of tipi ring sites, that southern Alberta cultural phenomenon of epidemic occurrence. In the past there has been a very marked tendency to denigrate the utility of such sites in the investigation of Plains prehistory, for somehow the impression had been gained and diffused that such sites always contained little in the way of artifacts or faunal remains and consequently they could only be used in particular types of settlement pattern studies. In the past couple of seasons, however, this assessment has proven to be totally false, for concentrated investigations at a number of tipi ring sites has revealed that while some sites are almost totally devoid of items of archaeological interest other than the rings themselves, others are as rich in artifacts and associated cultural manifestations as the best of the traditional buried campsites. Furthermore, a surprising number of the tipi ring sites investigated to date have yielded artifacts of considerable antiquity, with several appearing to represent Pelican Lake occupations and at least one seeming to date from the Oxbow phase.

Figure 1: Archaeological Investigations, 1976

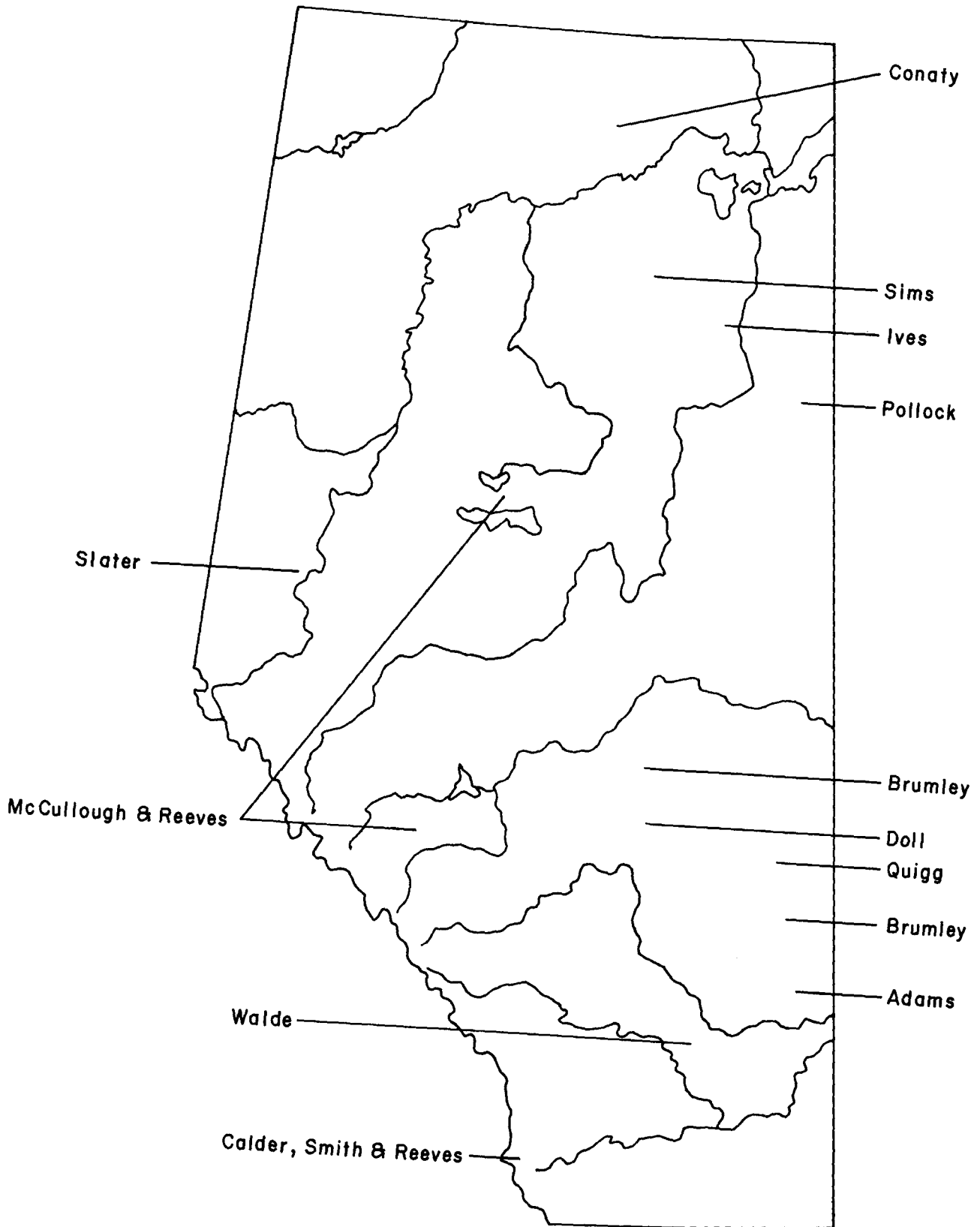


TABLE 1 1976 PROJECTS/PERMITS ISSUED
BY THE ARCHAEOLOGICAL SURVEY OF ALBERTA

PROJECT #	ARCHAEOLOGIST	PROJECT
76-1	Quigg, Michael	Rat Creek Dump - Edmonton
76-2	Burns, James	Eagle Cave (DjPp-47)
76-3	Lifeways of Canada Ltd.	Dome Petroleum Pipeline
76-4	ARESCO ltd.	Artist View Estates Survey
76-5	Sims, Cort	Athabasca River Survey
76-6	Sims, Cort	Gardiner Lake Narrows (HjPd-1)
76-7	ARESCO Ltd.	Diamond Shamrock Plantsite
76-8	ARESCO Ltd.	Dow Chemical Plant Site
76-9	Sims, Cort	Highway Survey - Boreal
76-10	Hickey, Cliff	Excavations at (HkPa-4)
76-11	Tuck, James A.	Excavations at (IfPo-1)
76-12	Wilson, Michael	Edworthy Park - Collection
76-13	Brumley, John	Highway Survey - Plains
76-14	Kidd, Robert S.	General Dewberry Area
76-15	Kidd, Robert S.	General N. E. Buffalo Lake Area
76-16	ARESCO Ltd.	The Fort Calgary Site (EgPm-5)
76-17	Losey, Timothy	Fort Victoria
76-18	Adams, Gary	Cancelled
76-19	Lifeways of Canada Ltd.	Hwys. Survey in Transitional Zone
76-20	Lifeways of Canada Ltd.	Highway Reconnaissance - Boreal
76-21	Brumley, John	Excavations at Site (FfPe-5)
76-22	Brumley, John	Excavations on Highway 41:12
76-23	Lifewyas of Canada	Excavations on Highway 3
76-24	Lifeways of Canada Ltd.	Highways Conservation 2:02
76-25	Quigg, Michael	Neutral Hills & Ribstone Creek
76-26	Lifeways of Canada Ltd.	Fish Creek Provincial Park
76-27	Adams, Gary	Excavations - Lower Red Deer River
76-28	Ferguson, Theresa	Hay-Zama Survey
76-29	Keyser, James D.	Writing on Stone Provincial Park
76-30	Lifeways of Canada Ltd.	Dome Petroleum Ltd. - Survey
76-31	Lifeways of Canada Ltd.	Alberta Gas Ethylene - Survey
76-32	Lifeways of Canada Ltd	Excavation - Alberta Gas Ethylene

PROJECT #	ARCHAEOLOGIST	PROJECT
76-33	Lifeways of Canada Ltd.	BP Canada Ltd. Leases 61, 62, 64
76-34	Lifeways of Canada Ltd.	CanPac - Calgary Power
76-35	Barnett, Doug & Wong, Ken	Medicine Wheel Mapping Program
76-36	Lifeways of Canada Ltd.	Tent Mountain Property
76-37	Lifeways of Canada Ltd.	Medicine Hat Area
76-38	Brumley, John	EaOp-11
76-39	ARESCO Ltd	Burnsmead Development
76-40	Pollock, John	Clearwater River-Gordon Lake
76-41	ARESCO Ltd.	Proposed Shell Gas Plant
76-42	ARESCO Ltd.	Proposed AGTL Edson & Foothills
76-43	Reeves, B. O. K. (U of C)	Crowsnest Pass Excavation
76-44	Reeves, B. O. K. (U of C)	Milk River Canyon - Survey
76-45	Reeves, B. O. K. (U of C)	Crowsnest Pass & Daisy Creek
76-46	Losey, Timothy	Water Pipeline & Reservior Proj.
76-47	Stalker, Archibald	Southern & Central Alberta
76-48	Burns, James	January Cave (EbPp-63)
76-49	Lifeways of Canada Ltd.	Ghost River - Bow River
76-50	Brumley, John	Survey - Alberta Eastern Gas
76-51	ARESCO Ltd.	Bassano and Brooks
76-52	Lifeways of Canada Ltd.	Bow Island Area - Survey
76-53	Lifeways of Canada Ltd.	Cardinal River Coal Co. - Survey
76-54	Losey, Timothy	Dome Petroleum Ethane Plant
76-55	ARESCO Ltd.	Kananaskis Provincial Park
76-56	Sims, Cort	Excavations - Peerless/Graham Lake
76-57	Calder, James	Archaeological Assessment
76-58	Pollock, John	Assessment Lac La Biche
76-59	Pollock, John	Settlement Pattern & Info
76-60	Pollock, John/Slater, Don	Grand Cache/Grande Prairie Area
76-61	ARESCO Ltd.	Wabamun Lake
76-62	Reeves, B. O. K.	Excavations - Coal Valley
76-63	ARESCO Ltd.	Assessment - Edson
76-64	ARESCO Ltd.	Inventory & Assessment
76-65	Reeves, B. O. K.	Dome Petroleum Ethane Pipeline
76-66	Reeves, B. O. K.	Canmore Corridor
76-67	Reeves, B. O. K.	Inventory, Nose Creek/Spyhill

PROJECT #	ARCHAEOLOGIST	PROJECT
76-68	Pollock, John	Assess. Jasper - Hinton Airport
76-69	Korvemaker	Removal of Stones for Ft. Fork
76-70	Rogers, James	Calgary, Nu-West
76-71	Forbis, R. G.	Locate of Potholes in Tipi Rings
76-72	Lifeways of Canada Ltd.	Highway Assessment
76-73	Lifeways of Canada Ltd.	Inventory - Ft. Sask. to Border
76-74	ARESCO Ltd.	Assessment - Vermilion
76-75	ARESCO Ltd.	Inv. & Assess Capital City Park
76-76	Lifeways of Canada Ltd.	Assessment of Calgary Power, Edson
76-77	Lifeways of Canada Ltd.	Assessment for Pipelines
76-78	Lifeways of Canada Ltd.	Assessment for Calgary Power
76-79	Lifeways of Canada Ltd.	Shell Canada
76-80	John Brumley	Alberta Eastern Gas Ltd.
76-81	John Brumley	M-P Petroleum Ltd.

ARCHAEOLOGICAL SURVEY OF NORTHEASTERN ALBERTA

John W. Pollock

Project 76 - 40

INTRODUCTION

This project was initiated in order to obtain settlement distribution patterns and information to assist in formulating a regional chronology.

To this end far ranging preliminary surveys combined with test excavations of selected components, commenced during the summer of 1976 on the Clearwater River Drainage Basin, northeastern Alberta. The Clearwater River originates in Saskatchewan flowing west into Alberta where it empties into the Athabasca River at Fort McMurray (Fig. 2).

Some 30 sites were located under research permit 76-40. These consisted of 11 sites on the Clearwater River containing seven prehistoric and seven historic components. To the south on a major Clearwater tributary, the Christina River, two headwaters lakes were examined. Seventeen sites were recorded on Gypsy Lake comprising seven prehistoric and twelve historic components (all historic components relate to native peoples or fur trade activities). Finally two prehistoric sites were recorded on Gregoire Lake while a third located by Mr. Cort Sims in 1975 was re-examined and a large surface collection made (Sims 1975:20).

Controlled test excavations were conducted at the Gros Roche site (HeOn-1) and the Limestone site (HdOr-1) on the Clearwater River. At Gypsy Lake initial excavations were conducted at the Densmore site (HcOn-3).

ETHNOLOGICAL PERSPECTIVE

Early in the fieldwork it became apparent that although this area is presently inhabited by the Cree and Chipewyan (Canada 1970:26-7) there was no apparent evidence for any prehistoric Cree occupation, influence or contact in the prehistoric archaeological assemblages.

Two, there is little evidence for prehistoric Chipewyan residency in the area and available data suggests a late (circa 1800) entry into Alberta by these people (Alberta 1971: map 3). Indeed, there seems

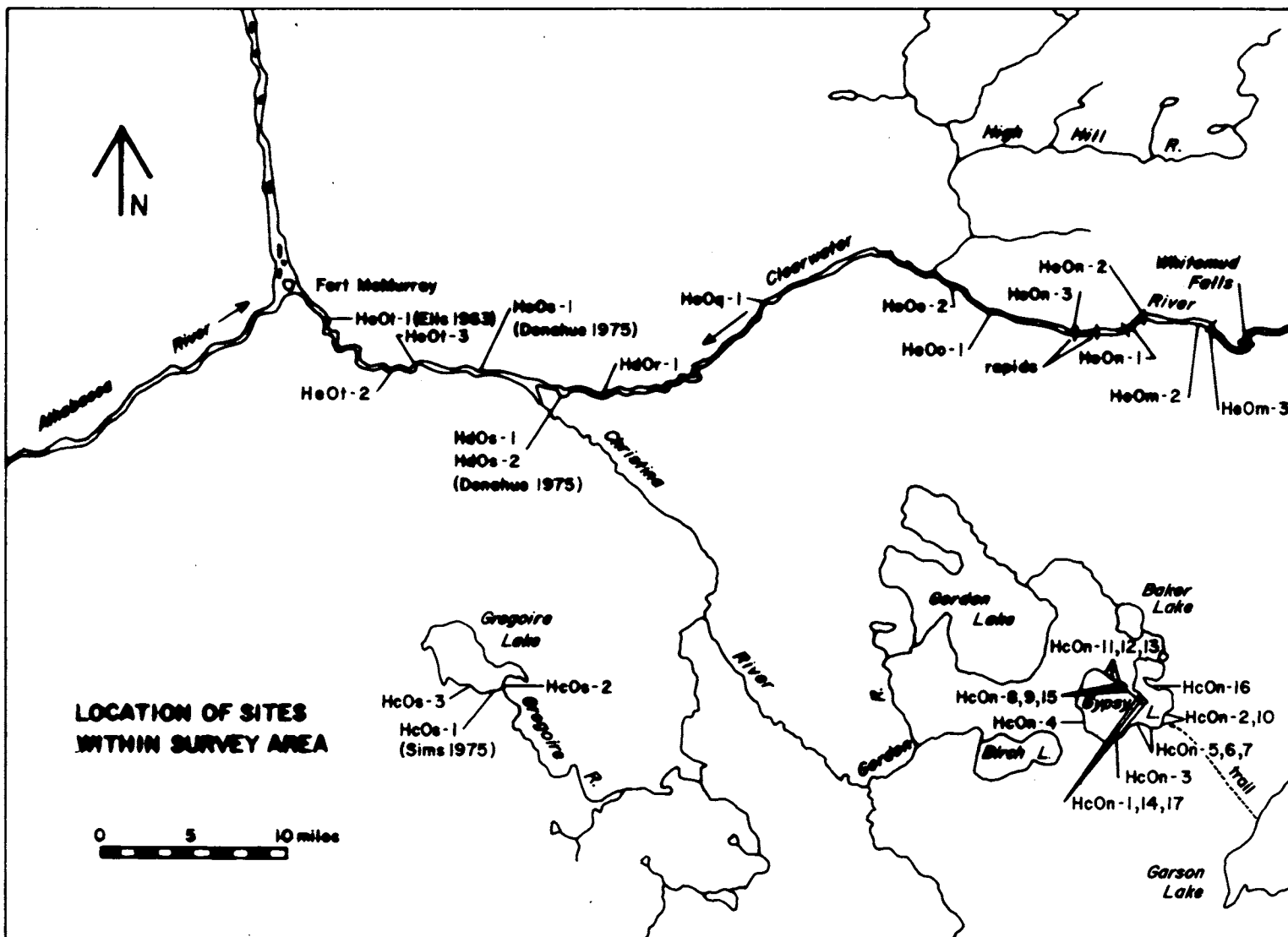


Figure 2

a possibility that this area during late prehistoric and proto-historic times was occupied by the Athapaskan-speaking Beaver Indians. As Alexander Mackenzie explained in 1793:

When the country (Lake Athabasca area) was formerly invaded by the Knisteneaus (Cree), they found the Beaver Indians inhabiting the land about Portage La Loche (on the Clearwater River near the Alberta provincial boundary); and the adjoining tribe were those whom they called slaves. They drove both these tribes before them... (Alexander Mackenzie 1793, in the Quaife 1931:5, 6).

Today the Beaver Indians are only found near the westerly portions of the Peace River. None reside today in the area under investigation. Many writers have attributed the displacement of these people to the fact that the Cree possessed superior weapons in the form of European flintlock muskets obtained at Fort Churchill on Hudson's Bay (Goddard 1916:209-10). Mackenzie mentions that the Beaver Indians only obtained arms in the year 1782 (Quaife 1931:37).

During the survey a significant number of artifacts were recovered which showed some relationships to the archaeological tool kits of the Northern Plains. Thus it would also seem plausible that this area was inhabited prehistorically by the parkland and plains orientated Sarsi (Osgood 1936:16).

In summary, it appears unlikely that the present inhabitants of the area, Cree and Chipewyan were living there prehistorically. Instead the prehistoric archaeological materials located may relate to either the Beaver or Sarsi. The fact that neither of these latter groups now reside in the region promises to create some difficulty in utilizing the direct historical approach for northeastern Alberta.

SETTLEMENT PATTERNS

On the Clearwater River a significant number of sites (63.6%) were located on limestone outcrops usually covered with a thin mantle of sand (1 m or less). Archaeological sites on these outcrops were situated above the floodplain of the river. The limestone outcrops themselves are resistant to the normal high rate of erosion and lateral movement of the river channel. The remaining sites (36.6%) were situated on high sand terraces above the floodplain of the river. No sites were located on the floodplain proper except for modern encampments. No doubt the

floodplain was utilized (perhaps extensively) for settlement but these are now either eroded or buried beneath a great depth of silt and clay. Former sites on sand or gravel bars would have been annually destroyed by the spring floods.

On Gypsy and Gregoire Lakes a tendency for sites to be located on sand terraces one to ten metres above lake level was noted, although sites did occur in almost any situation that provided a well drained area suitable for camping. Most sites were located within a few metres of water. Tributary stream banks were found to produce sites within short distances of large water bodies.

Generally from preliminary observations it would appear that one micro-environmental factor alone (e.g. a good fishing station) is not sufficient to produce an unusually rich and excavatable site in north-eastern Alberta. Instead, in order to produce a significant, perhaps stratified site, variables such as those given in the following example are required:

- a. Presence of a major headwaters lake;
- b. a single navigable outlet stream;
- c. location of a portage around a rapid or falls just before entering the lake;
- d. a high sand terrace at the lakeward end of the portage.

Thus a combination of factors are at work in the above situation. First there would be a good fishing situation below the rapids especially during spring Esox lucius (Jackfish) and Catostomus commersonii (Sucker) spawning runs. The portage would concentrate people and movement along the only transportation corridor in and out of the area. Occupation on this portage due to the excellent campsite on the high sand terrace may have been extended during spring break-up when river but not lake travel was feasible. Similarly during the fall the portage site may have been used just before freeze-up as a staging area for late fall movement on the yet unfrozen outlet stream.

Thus when many variables concerning micro-environment, transportation and weather are found to coalesce one should expect large, relatively rich and multi-component sites. In fact the exact situation described

above was formerly present at the Hc0s-1 site on Gregoire Lake. Unfortunately this rich, multi-component site has been destroyed by road construction.

MATERIAL CULTURE

It is the initial impression of the writer that Athapaskan material culture, especially the stylistic-technological prehistoric lithic industry is markedly different from other Boreal Forest cultures, especially the Northern Algonquians to the east. In comparison to many eastern Algonquian sites (Pollock 1975, Pollock & Noble 1975) the sites were found to be somewhat less productive in terms of diagnostic artifacts and density of artifacts particularly around features such as hearths.

The Athapaskan sites contained a paucity of fire cracked rocks and a complete lack of ceramics in comparison to the copious fire cracked rock and the numerically small but usually present ceramics on most Northern Algonquian sites.

Preliminary analysis of artifacts recovered during the Clearwater Drainage Basin survey indicates a mixture of Northern Plains and Boreal Forest cultural elements.

Some of the specimens illustrated in Fig. 3 relate to various Northern Plains assemblages such as Oxbow Complex (Fig. 3:1), Besant (Fig. 3:2, 3), and Avonlea (Fig. 3:5). It is interesting to note that the Besant points are manufactured from Beaver Creek quartzite (Synchrude 1974:46-48). The small side-notched point (Fig. 3:4) may relate to a late Taltheilei Shale Tradition complex as well as a whole series of other complexes. Of note are the bipolar split pebbles (Fig. 3:13, 14) commonly found in many Northern Plains sites (Quigg 1974:79). These may prove to be a diagnostic item for some cultural phases. Large "bust off" tools often with a cortex platform (Fig. 3:15, 16) were common items recovered. Other items located were scrapers (Fig. 3:8, 9, 10), bifaces (Fig. 3:6, 7, 11) and a utilized flake (Fig. 3:12).

I would agree with Donahue (1976b:45) that this zone contained a mixture of Northern Plains and Boreal Culture elements. Only by resolving hypotheses such as those suggested in the concluding section of this

paper will such problems of cultural origins be resolved.

SUBSISTENCE

Sufficient faunal materials for analysis were collected during the survey; however at the time of writing no faunal report was yet available.

Within the area one major subsistence variable stands out in Boreal Forest archaeology as being unique to the general region. This is the presence of wood buffalo (Bison bison athabasca). Although none live on the Clearwater River today there seems little doubt that "in former times these hills (of the Clearwater River) were covered with herds of buffalos" (John Maclean 1833, in Wallace 1932:136).

Other early explorers such as Philip Turnor in 1790 mentioned "plenty of buffalo, moose, bear and geese" on the Clearwater system (Tyrell 1934: 383). George Simpson in 1821, while camped at the junction of the Christina and Clearwater Rivers mentions that he "saw a great many buffalo and deer (moose?)" (E. E. Rich 1938:344). Thus, some evidence is available that wood bison formerly inhabited the Clearwater Drainage Basin in significant numbers co-existing with another large cervid, namely moose (Alces alces).

SUMMARY REMARKS

After comparing the materials from the Clearwater River drainage basin with other artifacts excavated and collected by Cort Sims, Paul Donahue and Gerry Conaty in northcentral and northeastern Alberta (personal communication), it seems that the Clearwater River area may be on or near the boundary between Northern Plains and Boreal Forest cultures; or it may simply represent the northern boundary of the Transition zone.

A great deal of further work will be required to ascertain if the Parkland and adjacent Boreal Forest zone (north to the Clearwater River) represents a time/space continuum of decreasing Plains influence/increasing Boreal influence as you move from south to north. The possibility also exists that this Transition zone is in fact a separate culture area archaeologically discrete from both the adjacent Northern Plains and Boreal Forest culture areas.

To this end the writer would like to present two contrary hypotheses

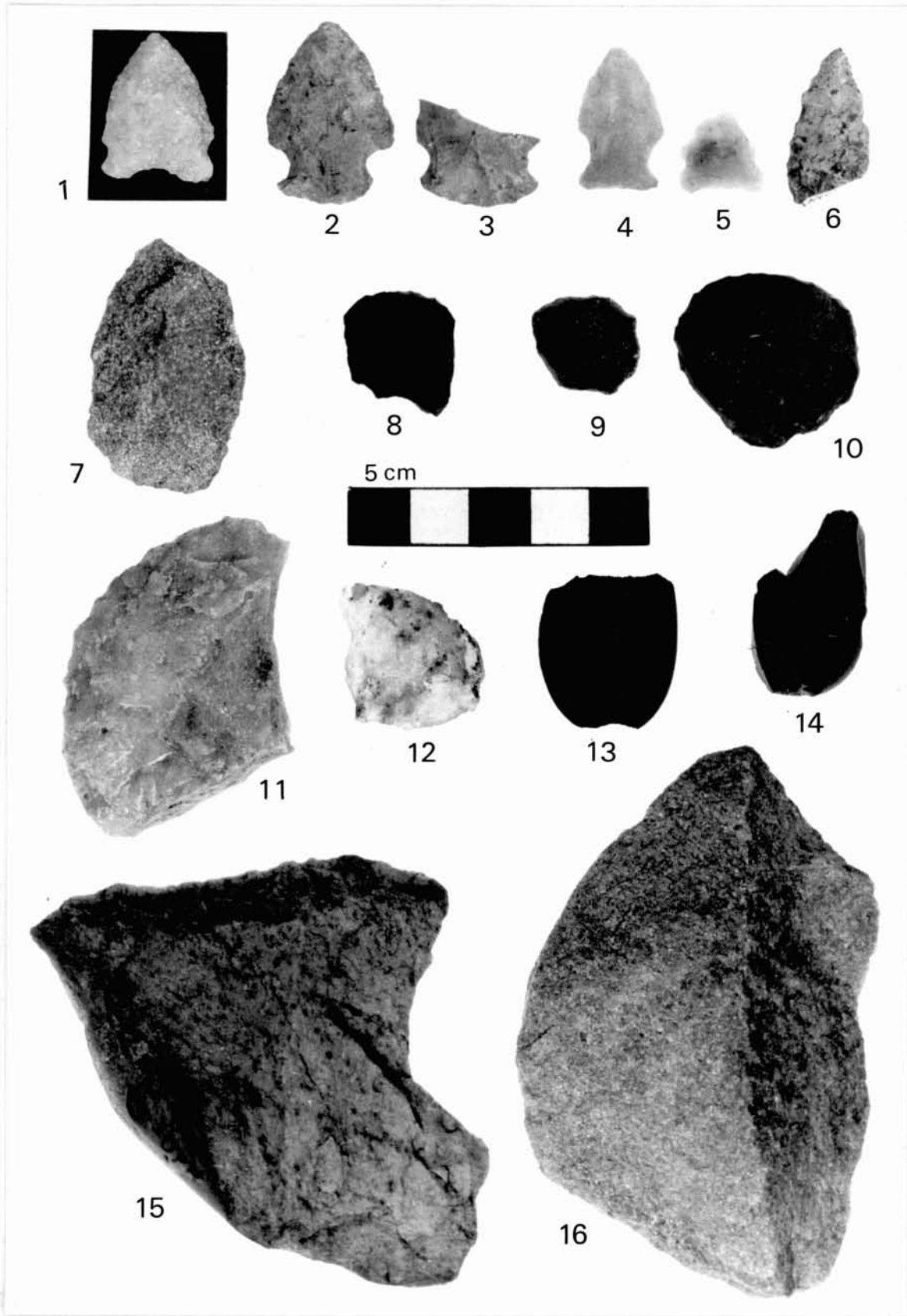


Figure 3: Artifacts from the Clearwater River Drainage System.

for further testing:

1. The prehistoric Indians of the Transition zone in northeastern Alberta are the product of Boreal Forest cultural traditions based on wood bison hunting. Heavy influences from Northern Plains cultures are present due to common exploitation of Bison bison athabasca (wood bison).
2. The prehistoric Indians of the Transition zone in northern Alberta are the culmination of Northern Plains cultural traditions based on wood bison hunting. Heavy influences from Boreal cultures are evident due to living in a Boreal environment.

In order to resolve the above hypotheses more will be required than cultural-chronological sequences based on projectile points and a few radiocarbon dates. Good settlement pattern data, within site features, subsistence and regional distribution data (lithic materials, etc.) will be required. Not to be forgotten are archival, ethnohistorical and ethnological data which may allow for application of the direct historical approach in this region of Alberta.

With several researchers now working in northeastern Alberta, regional chronologies and cultural development data should be forthcoming within the next few years.

A SYNOPSIS OF THE BOREAL HIGHWAYS
ARCHAEOLOGICAL SURVEY 1976

Cort Sims
Project 76 - 9

INTRODUCTION

This is a summary of the field work conducted in connection with five highway projects in northern Alberta. These projects include; the crossing of the Smoky River by Highway 34 east of Grande Prairie (Project 34:04), the junction of Highways 43 and 34 at Valleyview (Project 43:06/34:06 and 08), the access road to the Mitsue Industrial Park from Highway 2 southeast of Slave Lake (Project AR 186), the 26 mile connecting link between the Red Earth and Tall Cree Roads along the Wabasca River (Project SR967:12) and finally a section of road beside the Mildred Lake airstrip north of Fort McMurray (Project SR963:12).

Each project was studied with the use of topographic maps and aerial photo mosaics before field work began. Those areas adjacent to the rights-of-way believed to have archaeological potential were identified and scheduled for inspection. Subsequently a foot traverse of each vicinity of each project was undertaken.

RESULTS

The total mileage covered in all the projects totalled 39.16 miles. The field work was conducted during the first two weeks in May and the last two weeks in June. Twelve archaeological sites were located during the survey.

One archaeological site was found on Project 34:04, the Smoky River Crossing. This site (GhQn-1) consisted of several artifacts (including one flake scraper fragment) lying in disturbed provenience along Highway 34 about 1 mile west of the Smoky River. The limited extent of this site suggests it was occupied for a very limited period.

The survey of the Valleyview junction of Highways 43 and 34 produced somewhat better results. Two sites were located in conjunction with this project. One site (GgQh-1) was located on the edge of Highway 34 in front of the Valleyview Hospital. A test excavation failed to

uncover any cultural material other than 5 flakes found on the surface.

About one fourth mile southeast of Highway 34 a site (GgQh-2) was located around the Valleyview Municipal Watertank. This site is just east of GgQh-1. The site appears to command a strategic hill which overlooks both the Sturgeon Creek Valley and the Little Smoky River Valley. While the collection obtained by the surveyors was not large, it is felt that this area is a very large archaeological site. Much of the site has unfortunately been disturbed by plowing. No indication of the age or the cultural affiliation of the site was discovered at the site.

The Mitsue Industrial Park Road southeast of the town of Slave Lake was found to have been routed through a particularly swampy Black Spruce Muskeg community and the areas that could be surveyed (those areas not under water) revealed nothing of historical or archaeological interest.

The Red Earth to Tall Cree Road (Highway 967), revealed nine archaeological sites. All of these sites were small surface scatters with little information content. None was stratified and no bone or charcoal was encountered. A possible hafted drill provided the only artifact with any stylistic attributes which might be useful in cross dating the sites. As of yet, however, no comparable specimens have been located.

The sites were usually encountered where the right-of-way crosses small streams or on top of stabilized sand dunes near water. One site (HhPs-2), consisting of one very large steep-end scraper, however, was located in the middle of a Black Spruce Muskeg community. The single artifact was lying on top of some disturbed peat. The fact that this site was located in muskeg would suggest that it was occupied during the winter. While the occurrence of artifacts in muskeg communities may not be rare, finding them in such a context is rare. At the least it suggests that more detailed analysis of muskeg communities by archaeologists is needed.

The Mildred Lake Airstrip road was surveyed in 1975 (Sims 1975) and no further work was required in connection with the 1976 construction proposals.

RECOMMENDATIONS

The site found on the Smoky River Crossing Project is too small and too disturbed to warrant any further work. GgQh-1 near the Valleyview junction of Highways 43 and 34 also does not warrant any further attention. However, GgQh-2 around the Valleyview Municipal Watertank should be studied further. This is particularly important because development of the area appears to be a possibility in the near future.

The sites found on the Red Earth to Tall Cree Highway all are too small to warrant further work. Access roads to the Wabasca River, gravel sources and other construction should however continue to be inspected before such projects are started. If nothing else, the sites found indicate that this previously archaeologically unknown area had interesting potential.

No further work is recommended in regard to projects 34:04 and SR963:12. Nothing of prehistoric or historical significance is likely to be disturbed by the construction of these projects.

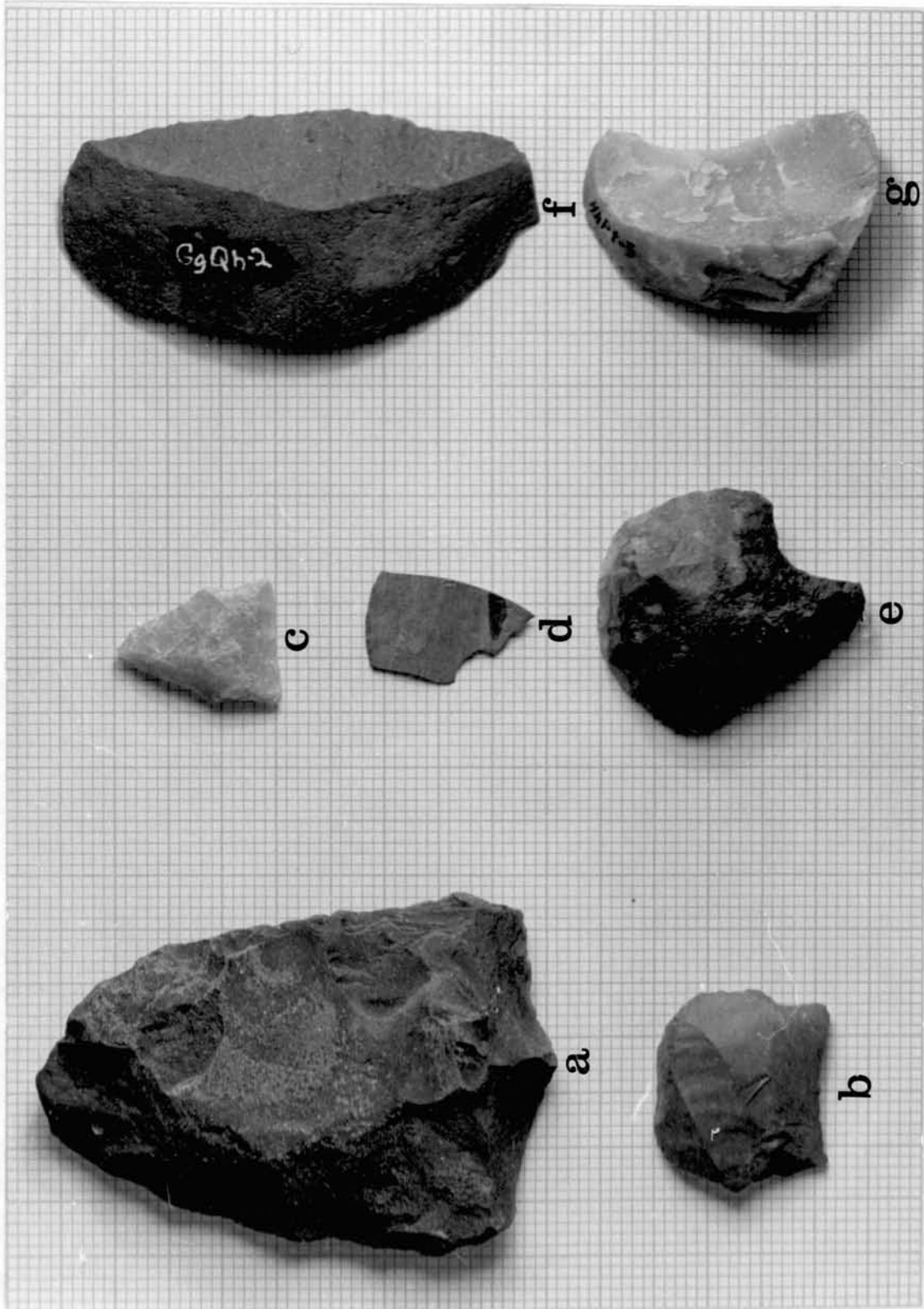


Figure 4: Artifacts a - e and g from the Red Earth to Tall Cree Road Sites. Artifact f is from the Valleyview Watertank Site. Grid is five squares per centimeter.

ARCHAEOLOGICAL RECONNAISSANCE-ALBERTA TRANSPORTATION
HIGHWAY CONSTRUCTION PROGRAM: TRANSITIONAL
PARKLAND AND SOUTHERN BOREAL
FOREST REGIONS

E. J. McCullough and B. O. K. Reeves,
Lifeways of Canada Limited
Projects 76 - 19, 20

INTRODUCTION

Under contract to Alberta Culture, Lifeways of Canada undertook an archaeological reconnaissance of 23 planned highway construction projects totalling 195 miles of new right of way, improvement sections, and bridge approaches in the Foothills, Parklands and southern Boreal Forest regions.

Field studies were carried out by a two person team. All open, cleared and vehicle accessible sections were traversed on foot. Sites observed, were recorded on Archaeological Survey of Alberta Site Inventory Forms, highway photo mosaics, route maps, and 1:50,000 NTS maps. Exposed artifacts were collected. Historic materials or structures were not recorded in any detail.

RESULTS

Southern Foothills/Mountain Region

Three highway projects were investigated in the southern region. SR541 (2 miles) is for bridge and approach reconstructions of Sullivan and Trap creeks crossings, tributaries to the Highwood River west of Longview. No prehistoric sites were recorded. SR940:14 (1.7 miles) now **constructed**, consisted of reconstruction of SR940 between Highway 1 and Morley. No prehistoric sites were recorded. 1A:02 (10 miles) is for reconstruction of Highway 1A between Canmore and Exshaw (Fig. 5). Five prehistoric campsites were recorded; four were previously on record. Two historic sites - a lime kiln and Canadian Pacific Railroad station - were noted.

Central Foothills/Southern Parkland

Three highway projects were investigated in this area. Two

sections of SR922 were assessed. The first section SR922:18 (26.2 miles) calls for reconstruction of SR922 between Cremona and Highway 27. Seventeen prehistoric campsites, an isolated artifact find, a NWMP cabin and an inscribed boulder were recorded. Most prehistoric sites were widely scattered and of little value. SR922:28 (19 miles) is a proposed construction segment in forested lands from Buck Lake to Highway 51. Eight prehistoric campsites, some of potential value, most associated with small stream crossings, an isolated find, and a homestead were located. 40:24/47:06 (20 miles) is for planned reconstruction and rerouting of Highways 47 and 40 between Robb and the Pembina River to provide access to the Coal Valley development. The route south of the Highway 40 junction lies in undisturbed forest and could not be investigated. Four prehistoric campsites (Fig. 6) a workshop, and an isolated find were recorded in the Coalspur-Highway 40 junction area. Some of value will be destroyed in realignment.

Eastern Parklands

East of Edmonton two projects were assessed. 16:24 (22.9 miles) is a proposed south bypass of Vegreville by Highway 16. Eleven campsites, one workshop, three isolated finds, a scattered bison kill, and two homesteads were recorded. Some of the prehistoric sites are of potential value. SR897 (10 miles), now constructed, called for reconstruction of the existing alignment of SR897, south of Kitscoty. Three campsites, a scattered bison kill, two isolated finds and a tipi ring site were recorded. Only the ring site was of value. It was destroyed by highway construction camp activity.

Central Parklands-Edmonton Area

Four highway projects were examined in the Edmonton area. 60:02 (4.9 miles) calls for a new bridge and highway realignment of the North Saskatchewan crossing at Devon. Exposures were extremely limited and vegetation heavy. No prehistoric sites were found. 2:34 is a proposed reconstruction of 3 miles of Highway 2 between Edmonton and St. Albert. One isolated artifact find was recorded. 16:14 (7 miles) is for upgrading Highway 16 between Stony Plain

and Spruce Grove. A scattered prehistoric campsite and an isolated find of no value was found. SR759 (2.2 miles) is for proposed bridge and approach construction to replace the Berrymore Ferry on the North Saskatchewan. A prehistoric campsite of no value was found.

Northwestern Parklands

Three projects were examined in Macleod-Pembina River area west of Edmonton. 16:08 and 16:10, consisted of 20.7 miles of planned construction of Highway 16 between Carrot Creek and the Pembina River crossing at Entwhistle. Two isolated finds and two campsites of no further value were recorded. Fifteen historic sites were found. They consisted of 11 farmstead/homesteads, a church, cemetery and community. 32:08 (8.97 miles) called for Highway 32 reconstruction between Pear and Shiningbank Lake. 70-80% had been completed when the field studies were done. One prehistoric campsite of no value and three historic sites - a shack, false front service station and homestead - were recorded. 43:18 (2.65 miles) is a proposed easement of Highway 43's crossing of the Pembina River at Sangudo. A prehistoric terrace campsite of unknown value was recorded (Fig. 7).

Southern Mixed Woods-Swan Hills-Lesser Slave Lake Area

Three highway projects were examined in this area. SR658 was a proposed Freeman River crossing. Construction was 90% completed when examined. A clapboard farmhouse was recorded. 43:12 was a detour of Highway 43 at its crossing at Two Creeks northwest of Whitecourt. It was 90% completed when studied. A trappers cabin was recorded. SR932:16 (16 miles), now constructed, called for reconstruction on the existing alignment of SR932 south of Highway 2 along Jerry Creek. Three prehistoric campsites (Fig. 8), a workshop and two homesteads were recorded.

Northeastern Boreal Forest-Lac La Biche Area

Two highway projects were examined in this area. PR129 (6 miles) calls for upgrading of the Sir Winston Churchill Provincial Park access road, along the south shore of Lac La Biche. Six prehistoric

campsites, some of potential value, recorded by E. J. McCullough in 1975 were re-examined as was a Hudson Bay Post. SR657 (8 miles) is a proposed alignment and widening of SR657 from Highway 23 along the south shore of Muriel Lake. Vegetation was heavy and exposures few. No sites were found.

SUMMARY

A total of 74 prehistoric sites and 27 historic sites were recorded for the 195 miles of reconstruction on the 23 highway projects. The prehistoric sites recorded include 57 campsites ranging from buried or surficial terrace/bench campsites (Fig. 5), along rivers and streams (Fig. 6), to surface sites exposed in ploughed lands (Fig. 7), on the prairie level and around lakes. Also recorded were scattered bison kills, ten isolated artifact finds, three workshops, and a tipi ring site. These sites were found in diverse habitats ranging from the mixed wood forests through the aspen parkland and grovelands to the grasslands in the plains, foothills and mountain regions.

In general, most projects had sufficient exposures to permit observation of surface or near surface sites if they were present. However, to maximize potential site location inventories should be made at the earliest possible time in the spring well before the grass or crops are up. With few exceptions, most of the highway projects were scheduled for construction in subsequent years, permitting adequate time lead for subsurface archaeological assessment and recovery from the sites of potential of known value recorded on the various projects.



Figure 5: Project 1A:02. View northwest of Bow Valley, highway southeast of Canmore. Prehistoric campsite EgPt-10 on bench to right of highway in middle distance. Highway realignment will disturb edge of site.



Figure 6: Project 40:24/40:26. Highway 40 and 47 junctions at the Embrass River Dummy Creek. Prehistoric campsite FhQg-3 on terrace to right of highway. Highway realignment will destroy most of the site.



Figure 7: Project 43:18. Pembina River crossing at Sangudo view construction. Prehistoric campsite F1Pr-1 on river terrace will be impaired in bridge and highway realignment.



Figure 8: Project SR932:16. Jerry Creek south of GgPu-1. View of prehistoric campsite exposed in borrow pit. Construction in 1976 further impaired site.

GRANDE CACHE - GRANDE PRAIRIE PRELIMINARY
ARCHAEOLOGICAL ASSESSMENT, 1976

Donald S. Slater
Project 76-60

INTRODUCTION

Between mid-September and October 31st, 1976, an archaeological survey was carried out in the region between Grande Cache and Grande Prairie, Alberta. The survey was conducted as part of a regional impact study connected with the proposed highway to be built between these two centres. The purpose of the study was to gather some preliminary information regarding the occurrence of archaeological sites in the area as well as to determine to the maximum degree possible the impact that the proposed highway would have in terms of site destruction. This project was carried out under licence to the Archaeological Survey of Alberta and was funded by Alberta Transportation.

Five proposed right-of-ways for the highway, three of which had, as of the date of the survey, numerous proposed placement alternatives, were to be used as general guides for the survey. The region to be covered thus was bounded approximately by the latitudes of Grande Prairie and Grande Cache to the north and south respectively, by the Forestry Trunk Road in the east and by the Alberta/British Columbia border in the west, a total of over five thousand square miles. The topography of the region varies from rugged and mountainous in the southwest to a low, rolling, lake-dotted plain in the northeast. The region is drained by an extensive network of streams and rivers, all of which are contained by deep, steep-sided valleys.

PROCEDURE

The survey itself consisted of jeep and foot travel by a crew of two. Except for two Alberta Forestry roads and two Company roads, one of the latter belonging to Procter and Gamble Cellulose, Ltd, the other belonging to North Canadian Forest Industries Ltd., the only access routes through the study area were temporary logging roads. These were generally in such poor condition that even with a four-wheel drive jeep we were unable to travel many of them. This situation, coupled with the need to complete

the survey before snowfall, greatly restricted the number of areas within the study region which we were able to test, as well as limiting to some extent the intensity of survey we were able to achieve in those areas we did test.

As a result we were forced to schedule our activities in such a way as to allow ourselves to survey portions of as many of the various sub-regions as we could, rather than doing intensive survey in only a few of the sub-regions present within the study area. In the course of surveying each sub-region, as many natural and man-made cutbanks and other exposed areas were examined as could be fitted into our schedule. In areas considered to be of reasonable site-potential, yet undisturbed, test-pitting was done. As a rule test-pits were limited to one-quarter square metre.

The proposed right-of-ways, in many areas, tend to follow high ridges many hundreds of feet above streams and rivers. While such areas were examined and tested, primary consideration was given to the examination of stream and river crossings and lake shores, as these were thought to be the areas of greatest site potential. Our reasoning in this was that human utilization of these areas would likely be greater due to the accessibility of water, game, and transportation routes.

During the course of the survey, members of the Grande Prairie local chapter of the Alberta Trappers Association were contacted and interviewed in the hopes that they might be able to supply us with information regarding old historic sites within our study region. They proved to be extremely cooperative and helpful in this regard and their information led to the location of many abandoned and partially buried historic sites including trappers' cabins, ranches, a possible trade post, graves, etc., some of which date back to the turn of the century or earlier.

FINDINGS

The survey resulted in the recording of twenty-eight archaeological and historical sites and find locations. Twelve of the sites and find locations, seven of which were prehistoric Amerind in origin and five of which were Euro-Canadian in origin, were at least partially buried, thereby requiring study by archaeologists. The remaining sixteen site and find locations were unburied and historic in age. In addition, information

was gathered concerning the location of twelve more possible historic sites which we were not able to visit.

One of the prehistoric sites appears to be quite extensive in area and possibly represents multiple occupations over considerable time depth. As this site is in danger of destruction from the building of a tourist recreation area, it has been recommended for excavations as soon as possible.

DISCUSSION AND RECOMMENDATIONS

As was mentioned above, there were numerous factors operating which limited greatly both the extent and intensity of surveying that we were able to accomplish. For future surveys in the area we would strongly recommend:

- a. an increase in time available for survey;
- b. canoe survey of major streams and rivers in the area;
- c. the use of horses for cross-country surveying.

This last recommendation we make as there are many areas which are inaccessible by both four-wheel drive vehicle and ATV, yet foot survey is impractical due to the time constraints implicit in the surveying of such a large area.

It was disappointing that so few sites were forthcoming from this survey, but we feel that this was due more to the nature of our assignment and the various resources available to us than to a paucity of sites extant in the region. Since our primary purpose was to survey numerous proposed highway right-of-ways which, as was stated above, often tend to follow high, steep walled ridges far above streams and rivers we, of necessity, had to spend a substantial amount of time testing in what we considered to be areas of fairly low site potential. In our opinion, however, high potential areas do abound throughout the region. Future surveys in the area, we feel confident, are certain to result in the location of many more archaeological sites and the generation of much valuable information from this hitherto archaeologically unknown region of Alberta.

EXCAVATIONS AT WENTZEL LAKE

Gerry Conaty

Project 76 - 11

Site IfPO-1 extends along a remnant beach terrace on the southeast arm of Wentzel Lake. It is located at 58° 58' 58" N latitude and 114° 25' 30" W longitude; SE $\frac{1}{4}$, SE $\frac{1}{2}$, S16 and SW $\frac{1}{4}$, SW $\frac{1}{2}$, S15, R3, W5. Designated as an archaeological site during a 1975 survey of the Caribou Mountains (Donahue 1976a), the artifact count from an initial test was very low with only three worked pieces being recovered. However, charcoal samples indicating a possible sequence of occupation from 1440±100 B.P. to 5220±100 B.P. presented the possibility of obtaining a datable artifact sequence from this little studied region of northern Alberta. An extensive sampling of the site was subsequently begun under the auspices of the Archaeological Survey of Alberta.

While the establishment of an occupational chronology was a primary objective of the project, it was not the sole goal. A sampling strategy was designed such that the horizontal, as well as the vertical, composition of the site might be tested. It was hoped that any patterning of land use which had occurred prehistorically might become manifest through such an extensive area examination. Thus, an intensive test of areas which Donahue's excavation had indicated would be most productive was supplemented with a more extensive sample which encompassed the entire site.

The first objective was achieved by excavating five two-by-two metre square units and five one-by-one metre square units in a concentrated area at the eastern end of the site. These units provided a profile of prehistoric occupation from the edge of the current beach to a ridge which bounded the site on its southern edge. It also provided a vertical cross-section of the stratigraphy. The east-west distribution of artifacts in the site was sampled by excavating six one-by-one metre square units which had been placed at chosen locales. Criteria for the selection of a locale were: distance west from the eastern concentration; location on the beach ridge, with units being placed alternately near the beach and close to the central part of the terrace; and, finally,

the distance from previously excavated units.

An examination of the material recovered by Donahue in 1975 (personal communication) had led to the hypothesis that prehistoric occupation of the site had been concentrated toward the eastern end. This was confirmed in the present study. A count of the absolute number of flakes and tools recovered in each square metre excavated revealed that an average of 94.1 artifacts were recovered from the eastern end (maximum: 251; minimum: 6), while in the remaining area an average of only 21.17 artifacts were recovered (maximum: 51; minimum: 11). The average depth of excavation is not a factor in this distribution since it is approximately the same in both areas (72.7 cm in the eastern portion; 75 cm in the remaining area).

This pattern of concentration may be contrasted with the tendency of historic groups to winter-camp on the west-central portion of the site. Physiographically, the area of densest prehistoric occupation is also the area of greatest north-south relief. It is also considerably further from a substantial creek which bounds the site on its western edge. This latter factor is important in view of the tendency of the lake to become polluted with decomposing organic wash during high winds. It is possible that these two patterns are indicative of different seasons of occupation. In light of the lack of any faunal preservation, however, any such statement must remain within the realm of conjecture.

This site may also be examined in terms of a north-south, or lakeward/landward, occupation preference. The only adequate sample for such a discussion can be derived from the eastern area where the majority of the excavating was concentrated. With the excavation units situated such that most of the beach area would be sampled, a comparison of relative artifact concentration becomes a meaningful measure of areal utilization. The lakeward sample, comprised of units, A, D, E, and J yielded 33.37 percent of the artifacts, while the most landward units (C, I, and K) produced only 10.52 percent of the material. The majority (56.11 percent) was recovered from units B, F, G, and H, which lay in a middle area. It should be noted that, while the smaller sample of more shallow units from the landward area has a skewing effect on these results, it is still significant in terms of available choices for prehistoric occupation.

Vertically, the material recovered was generally situated between 10 cm and 60 cm below the surface. There is a general tendency towards a concentration in the middle zones, between 20 cm and 60 cm below the surface. Dates associated with all levels of the site will be forthcoming. As yet, it is impossible to attach any cultural significance to the stratigraphic distribution of the artifacts.

The artifacts recovered from IfPo-1 encompassed a wide range of material types. Quartzites ranged from a highly vitreous brown variety to a Beaver Creek Quarry form. Black and brown cherts were represented along with a white variety of chalcedony and pieces of chert that are similar to Knife River Flint. The majority of the assemblage is flake debitage. Hammerstones, retouched flakes, thumbnail scrapers, end and side scrapers, unifaces, and bifaces comprise the bulk of the small collection of finished tools. The projectile points (three) recovered include stemmed and side notched varieties.

The Caribou Mountains provide a large, undisturbed area in which problem-oriented archaeological studies may be carried out. The question of differentiating summer-occupied sites from winter camps is one such problem. In addition, the source of much of this lithic material remains to be identified along with the means by which it arrived in this upland region.



Figure 10: Aerial view of IfPo-1, looking west.



Figure 11: Showing the series of 1x1 m units which transect the width of the site. Looking south.

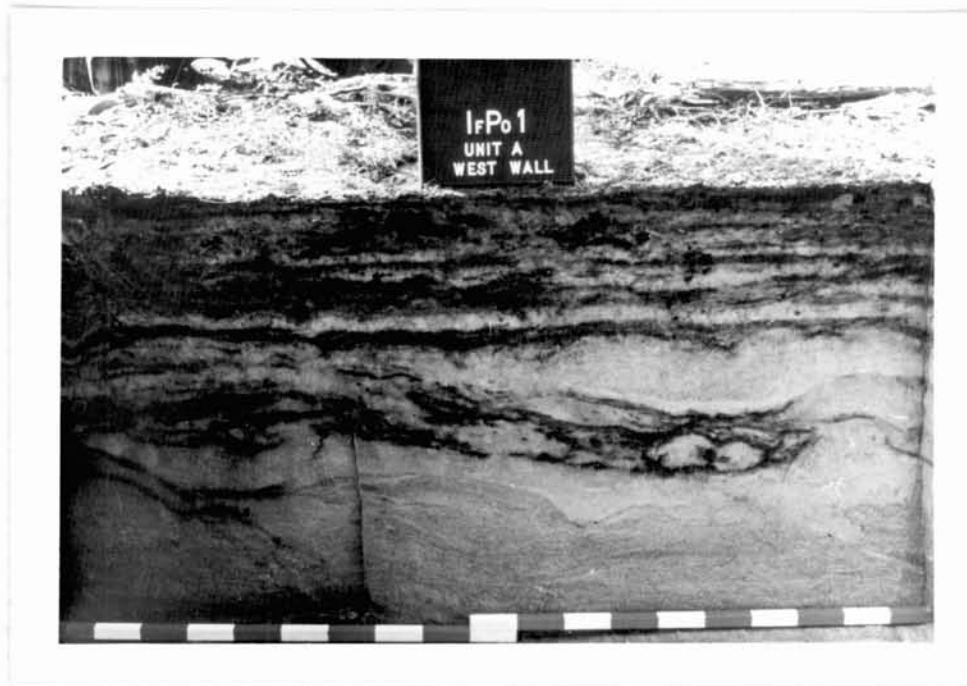


Figure 12: Profile of West wall of unit A

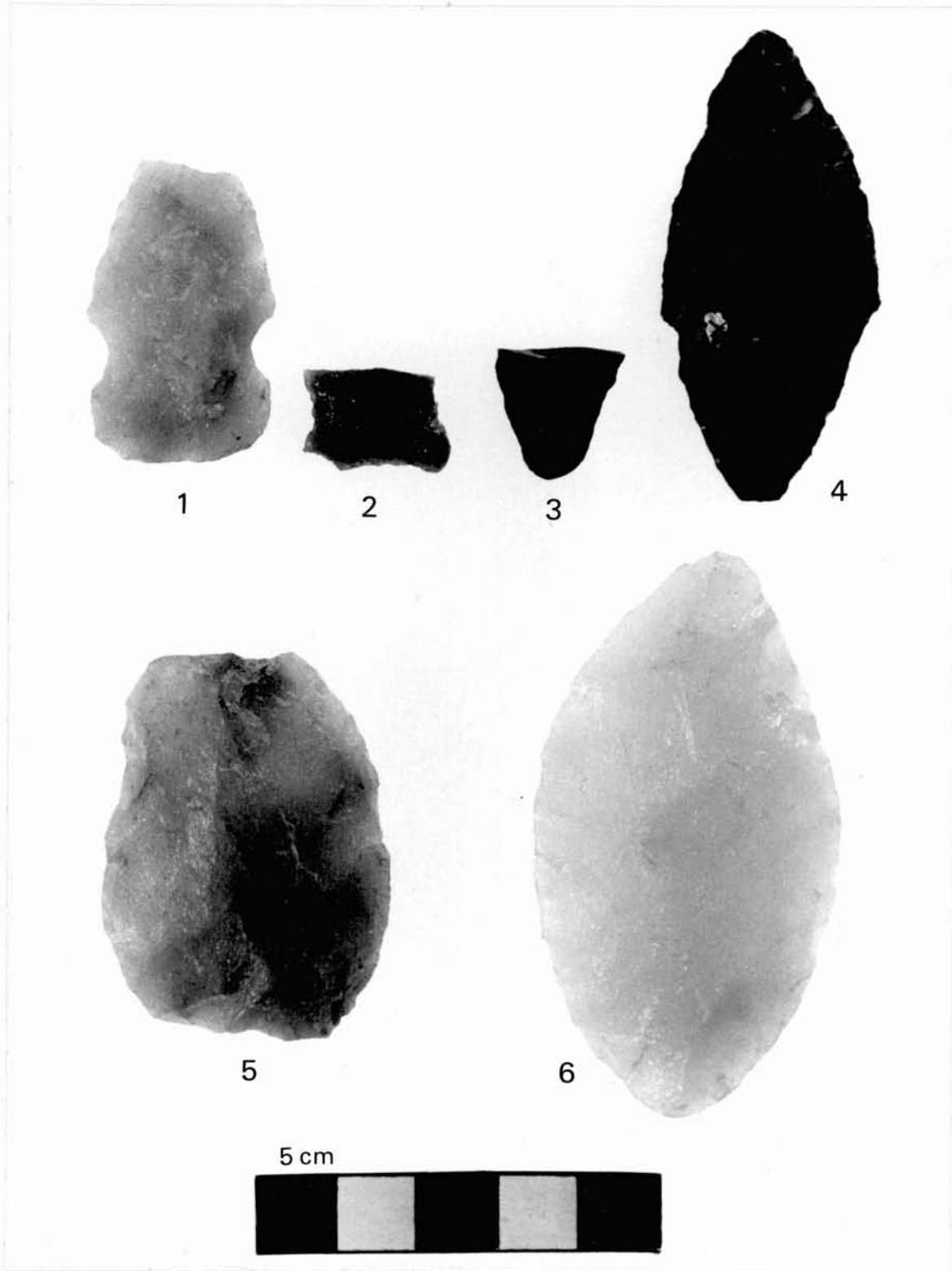


Figure 13: IfPo-1. Artifacts. Top row, projectile points; bottom row bifaces.

THE EXCAVATION OF HkPa-4
BIRCH MOUNTAINS, ALBERTA

John W. Ives
Project 76 - 10

INTRODUCTION

Excavation of HkPa-4 was undertaken between mid-June and late August for the Archaeological Survey of Alberta. The site was discovered in the course of a survey under the direction of Paul Donahue, conducted through the Archaeological Survey of Alberta, in August of 1975. It is located on the northern side of the confluence of drainages from Eaglenest and Clear Lakes, some 80 air miles northwest of Fort McMurray. HkPa-4 is extensive in area, testing at the time of discovery indicating dimensions on the order of 50 by 150 metres. Artifacts were found eroding from the top of a terrace approximately 6 metres high. Surface collection and the excavation of 14 small test pits provided an artifact assemblage dominated by debitage. Dark and light grey quartzite raw materials predominated, along with lesser quantities of Beaver Creek Quarry quartzite, black chert, and other cherts. A small flake of welded tuff was also positively identified. Various historic artifacts were believed associated with the remains of two cabins on the site. Stemmed and notched projectile points located at that time were compared with Pelican Lake, Mackenzie complex, and Late Taltheilei tradition specimens (Donahue 1976b).

NATURAL SETTING

The Birch Mountains, rising some 525 metres above the surrounding lowlands, constitute the remnants of Late Tertiary Plains in this province and are underlain by poorly consolidated Late Cretaceous slates and sandstones (Bayrock 1961:49-51). The area lies within Longley's (1967:67) short cool summer climatic subzone. The major lakes, including Eaglenest, are on the Athabasca drainage system (Carrigy 1959:7-9). Glacial fluting and hummocky disintegration moraine typify terrain in the vicinity of the site. Ridges tangential to glacial fluting may derive from underlying bedrock, the site being located on one of these features. Drainage on the site itself is good, although surrounding

areas are boggy. Soils, sandy in texture, are most likely to be classified as Degraded Eutric or Degraded Dystric Brunisols (Canada Department of Agriculture 1974:113, 116). Processes of chemical weathering and translocation make for rather poor preservation, and few bone artifacts have been recovered.

The Birch Mountains fall within the Mixed Wood Section (B. 18a) of the Boreal Forest (Rowe 1972:36). As is typical of the forest association of well drained uplands in this region, the site is characterized by mixed stands of trembling aspen, white spruce, and jack pine. Ground cover consists largely of mosses, lichens and ericoids. The mammalian fauna of the Birch Mountains area includes black bear, beaver, moose, woodland caribou, and the woods bison plains bison hybrid (Allison 1973a, D1-D4; Soper 1964:35-36). Among the several species of fish which naturally invaded the area with deglaciation are lake whitefish, Arctic grayling, and northern pike (Paetz 1973:B1-B2).

Bayrock (1961:49-50) speculates that the Birch Mountains became exposed as a nunatak during the final retreat of Wisconsin ice. However, the possibility remains that a combination of latitude and elevation resulted in a somewhat later deglaciation, with obvious implications for the antiquity of human occupation in these uplands. Pollen analysis indicates that the Mixed Wood Section of the Boreal Forest has been established since about 3500 B.P. (Lichti-Fedorovich 1970).

Ethnohistoric accounts are sparse. Jenness (1963:382-384) indicates that the Beaver Indians occupied the district around Lake Claire and the Valley of the Athabasca at about the middle of the eighteenth century. They are the likely late prehistoric occupants of the area, apparently being displaced by the Cree in protohistoric and historic times (Bryan 1969:37). Goddard's (1916) reconstruction of Beaver cultural ecology stresses the hare and beaver as important food resources, besides moose, elk, bison, and caribou hunting. There are no details of a seasonal round, although bands are known to have resorted to fish lakes when game failed.

THE 1976 EXCAVATIONS

The excavation of HkPa-4 provided an excellent opportunity for the

recovery of baseline archaeological data in the Birch Mountains uplands while obtaining glimpses of the spatial structure of artifact distributions on a large, comparatively rich site. Current archaeological research designs stress probabilistic sampling strategies. For this project, non-probabilistic sampling techniques were employed. This allowed the utilization of archaeological judgement in the recovery of information basic to cultural historical reconstruction in northeastern Alberta, while collecting data in a format amenable to spatial analysis. Boreal Forest archaeology is plagued by the problem of thinly stratified sites with relatively impoverished artifact assemblages. It is believed that a close scrutiny of horizontal artifact distributions may resolve some of the problems of component purity and the synchronicity of assemblages.

To this end, a two phase research design was employed. Two transects (25 cm in width), one of 50 metres in length and another of 76 metres, were excavated (running back from the water's edge). They yielded primary data on the distribution, sequencing, and density of artifact aggregates on the site. At the same time, transects were successfully utilized as predictive devices in locating larger grid units for the observation of spatial structure in more densely occupied areas of the site. Two 4 by 4 metre units and two 4 by 8 metre units (suitable for both nearest neighbour and dimensional analysis of variance types of analysis) were excavated for this purpose. Preliminary results suggest that artifacts do occur in fairly discrete clusters, at different size scales, and occasionally in association with time sensitive diagnostic items.

No readily recognizable features were encountered, save for one fairly large area of buried soil horizon. Given the soil condition, and I refer particularly to fairly well developed Ae horizons, the identification of hearth areas is difficult. Nevertheless, several radiocarbon samples were taken; samples associated with buried horizons may provide useful radiometric dates.

The 1976 excavation confirmed several aspects of the 1975 survey. Flaking debris dominates the roughly 6600 artifacts recovered. Raw material usage indicates a high degree of reliance on light and dark quartzites (occasionally heat-treated), with lower, but consistent

percentages of Beaver Creek Quarry quartzite, black chert, and various other cherts. A fragment of obsidian was surface collected. Scapers and retouched flakes are common, and several objects resembling chi-thos have been noted. Other artifacts include larger bifaces, cores, spalls, hammerstones, and split chert pebbles. The site is even larger than anticipated. Dimensions of 100 by 250 metres are closer to the total extent of the site.

Donahue (1976b) has compared one 1975 specimen with Pelican Lake projectiles, and if this were the case, occupation of the site is suggested from ca. 1000 B.C. onward (cf. Reeves 1970:158). Other comparisons can be made, however, and this particular specimen does not provide good evidence for occupation of the site during this time period. A shouldered projectile point collected in 1975, having a lightly ground, parallel-sided, and straight-based stem, compares favorably with Noble's Windy Point Complex (1971:Fig. 11b). This is dated at A.D. 300-500 (Noble 1971:112).

Fifteen diagnostic items were recovered during the 1976 field season and a cursory examination of these artifacts suggests that HkPa-4 was occupied comparatively recently. Several specimens are strongly reminiscent of Noble's (1971:114) Frank Channel Complex. Small bifaces of less certain affiliation include small, triangular, side-notched points with straight, ground, and thinned bases (possibly Late Prehistoric), a narrow-stemmed and shouldered proximal fragment of a projectile point, and a thick, square-based, rather broad lanceolate specimen with heavy basal and lateral grinding. A crudely flaked, squat, side-notched, and basally thinned projectile point bears some resemblance to Besant forms. Finally, and with reference to the earliest possible occupation of the site, a side-notched, basally concave projectile point bears superficial comparison with specimens Wright (1975:167, Plate XII, Fig. 29) and Noble (1971:122, Fig. 4b) have termed Oxbow. Several features, the slightness of the basal concavity, the depth of notching, and the overall flaking pattern, are not typically Oxbow in configuration.

In conclusion, HkPa-4 is probably a fairly recent occupation, typified by Late Taltheilei tradition artifacts. There does remain an enigmatic hint of somewhat earlier plains-affiliated diagnostics. HkPa-4, a large

and rich site, has substantial archaeological potential and merits further attention at some time in the future.

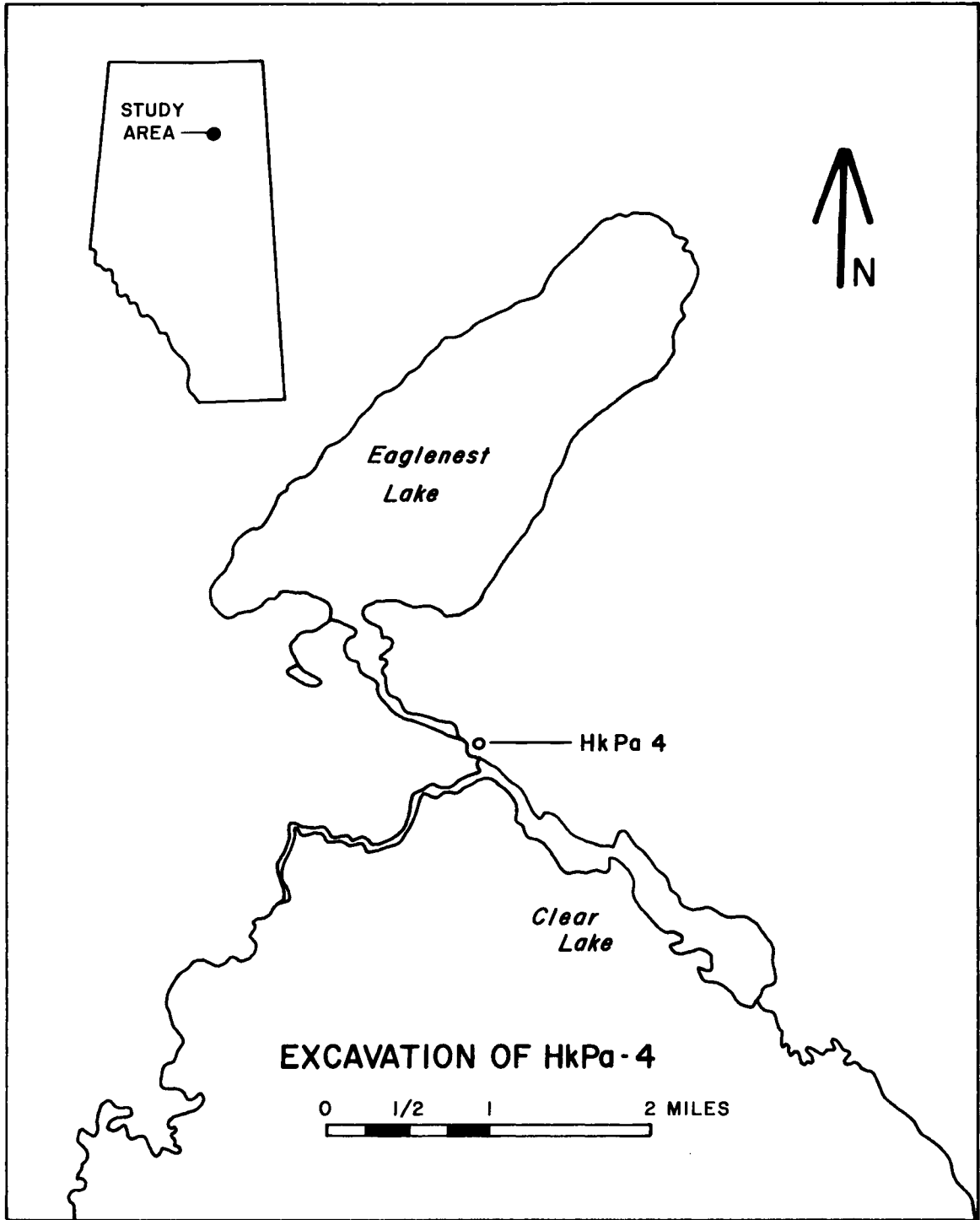


Figure 14



Figure 15: Excavation in progress on a 4 by 4 metre unit at HkPa-4 during the 1976 field season.



Figure 16: A particularly dense concentration of large flakes and artifacts, also visible in the background of the figure above.



Figure 17: Finished artifacts recovered during the 1975 survey and testing at HkPa-4.



Figure 18: Diagnostic artifacts recovered to date from HkPa-4. The second, third, and fourth projectile points are from the 1975 survey.

THE 1976 PLAINS HIGHWAY SURVEY PROJECT

John H. Brumley

Project 76 - 13

INTRODUCTION

Under contract with the Archaeological Survey of Alberta, the writer directed archaeological survey of 21 different highway construction projects within the plains, plains-foothills, and plains-parkland zones situated in Alberta from Edmonton south to the international boundary (Fig. 19). This work was carried out in the summer and fall of 1976 by John Brumley, assisted by Randy Freeman and Bob Romeril.

FIELD PROCEDURES AND CONDITIONS

The 21 highway projects examined comprise a collective total of 147.92 miles of right-of-way. An estimated three-quarters of this mileage follows existing roadways which are slated for future upgrading; the remaining mileage consists of alignments in areas where roadways have previously not existed.

In the field, air photo mosaics, route plans, and topographic maps were used interchangeably in examining various projects. All right-of-ways were traversed on foot employing standard archaeological survey techniques to locate and record archaeological materials observed.

Two major factors affecting the results of the survey require mention. An estimated 3/4 of the project mileage examined follows existing roadways slated for future upgrading. In addition, currently or previously cultivated areas occupy all or part of the right-of-ways along an estimated 80 percent of the total mileage examined. These factors have already resulted in complete destruction, extensive damage or alteration of much of the archaeological resources originally present within the areas.

A further complicating factor was the presence of dense vegetation over much of the project areas. In cultivated fields silage crops and heavy straw cover often obscured much or virtually all of the ground surface and ditch cuts along existing roadways were most commonly grassed over.

SURVEY RESULTS

In spite of the aforementioned limitations and problems, the survey resulted in the location and recording of 63 archaeological sites. These sites are divisible into the following basic categories: surface campsites (N=24), tipi ring sites (N=4), buried campsites (N=15), isolated finds (N=15), tipi ring/buried campsites (N=1), tipi ring/cairn sites (N=1), cairn sites (N=1) and historical burials (N=2). The majority of these sites are considered of minimal scientific or cultural value usually due to the sparse amount of cultural material present and/or because of previous disturbance. Several other sites located are outside project right-of-ways and will not be impacted by construction. However, 9 of the sites located within project right-of-ways are considered of sufficient value to warrant from limited testing to extended excavation prior to initiation of highway construction. Very briefly, these sites are:

- EhPb-1 consists of two well defined tipi rings situated on the prairie edge overlooking the Red Deer valley near Dorothy. Both rings are located within the right-of-way of Project 10: and will be destroyed in construction. Complete excavation of the site or relocation of the alignment is being recommended.
- EcPi-3 consists of a minimum of 39 well defined tipi rings and 8 small stone cairns situated on the prairie edge overlooking the Bow River valley near Carseland. The right-of-way for highway Project 24:02 and 04 crosses the western end of the site which includes at least 12 tipi rings. Extensive excavation of the west end of the site or project realignment is being recommended.
- FdPc-17 consists of a small concentration of firecracked rock and flakes exposed in situ at a depth of 40 to 50 cm below surface in the ditch face of SR 953 near Donalda. The material appears to represent a small campsite. The SR 953:10 Project will result in upgrading the roadway and probably destroy what remains on the site. The absence of other cultural material along a clearly exposed ditch cut for several hundred metres on either side of the site indicates it is extremely limited in extent. Limited excavation intended to recover what remains of the site is being recommended.

- FdPd-2 is also located within the area of highway Project SR 953:10 near Donalda. The site consists of 2 well and 2 poorly defined tipi rings situated on the prairie edge overlooking the valley of Meeting Creek. A portion or possibly all of the site lies within the project right-of-way. The site should be extensively excavated or the project right-of-way relocated so as to avoid the site.
- FdPd-3 is also located within highway Project SR 953:10 and consists of a single well defined tipi ring located along one edge of the proposed right-of-way. The site is situated within the valley of Meeting Creek and is only a few hundred metres northeast of FdPd-2. The site should be completely excavated prior to project construction.
- DjPf-63 is a buried campsite exposed in the north bank of the St. Mary's River a short distance south of Lethbridge. Small to moderate amounts of butchered bison bone, firecracked rock and flakes are exposed for over a 1000 metre extent along the river bank at varying depths up to 3 metres below surface. The proposed bridge location for Project SR 509 is situated in the approximate middle of the site area and will result in extensive damage to the site. Extensive testing should be conducted at the site prior to construction in order to better assess the nature and extent of the cultural deposits.
- EIPb-5 consists of 6 well defined and 6 possible tipi rings, a rectangular shaped stone cairn approximately 2 metres long by 1 metre wide, and a rich, buried campsite occupation located between 10 and 20 cm below surface. The site is located in strongly rolling prairie on the leeward side of a very prominent ridge. The proposed right-of-way for SR 851 includes between 1/2 and 2/3 of the site area. The proposed alignment should either be relocated so as to completely avoid the site, or extensive excavations be carried out prior to project construction.
- EIPb-6 consists of a localized concentration of firecracked rock and a bone fragment found eroding out of a cow trail at 5 to 10 cm below surface. The site is located completely within the proposed SR 851 Project right-of-way. Limited testing should be conducted at the site to better assess its nature and extent.

- D10o-1 is a buried campsite located within the proposed Walsh-Irvine Rest Stop at the junction of Highway 1 and Highway 48, approximately 19 miles east of Medicine Hat. The proposed rest stop encompasses part of an old channel of Ross Creek and its adjoining flood plain. A moderate amount of butchered bison bone, firecracked rock and flakes were observed in the face of a borrow pit at depths of up to a metre below surface. Extensive testing should be conducted at the site to better assess its nature and extent.

Table 2: Summary of the 1976 Plains Highway Survey Project

Hwy. Project No.	Project Location	Project Mileage	No. of Sites Located	Borden No's. Assigned
-	Hwy 1 Strathmore	5.00	2	EgPi-3,4
3:	Lundbreck/Pincher Stn. Weigh Scale	0.80	0	-
5:04	Jct Hwy 2-S. of Spring Coulee	11.60	13	DhPg 3-7, DhPh-36-43
10:_	Red Deer River crossing at Dorothy	1.74	2	EhPb-1,2
SR 921	S. of CPR Underpass to Bremner Int.	0.71	0	-
21:20	Bashaw: Hwy 21 South-N. of Jct. Hwy 53	10.00	0	-
23:04	Jct Hwy 3 to N. of Nobleford	6.70	0	-
24:02 and 04	Bow River crossing near Carseland	1.00	1	EcPi-3
SR 953:10	SR 953 from Donald E. to Battle River	10.00	8	FdPc 15-17, FdPd 2-6
AR 97	Jct Hwy 36 to Rainier	3.93	1	EcPa-8
AR 172	Jct Hwy 21 to New Sarepta	1.69	0	-
AR 179	Jct Hwy 25 to Coalhurst	1.19	0	-
PR 136	Jct Hwy 2 to Police Outpost Park	18.00	4	DgPi-7, 19-21
SR 509	Standoff to W. Lethbridge	30.00	8	DiPh-2-6, DjPf-62-64
SR 515	Hwy 48 at Robinson to Sask. border	15.30	1	DkOm-14
SR 597	Hwy 2A to SR 815	11.66	10	FcP1 17-26
SR 851	Jct SR 573 to N. of Little Fish Lake Provincial Park	5.60	5	EiPb 2-6
SR 886	Consort South	10.00	5	E10q 1-5

Table 2, continued...

Hwy Project No.	Project Location	Project Mileage	No. of Sites Located	Borden No's. Assigned
-	Ponoka Rest Area	1.00	2	FdPj 1,2
-	Crossfield Rest Area	1.00	0	-
-	Walsh-Irvine Rest Area	1.00	1	D10o-1
TOTAL		147.92	63	

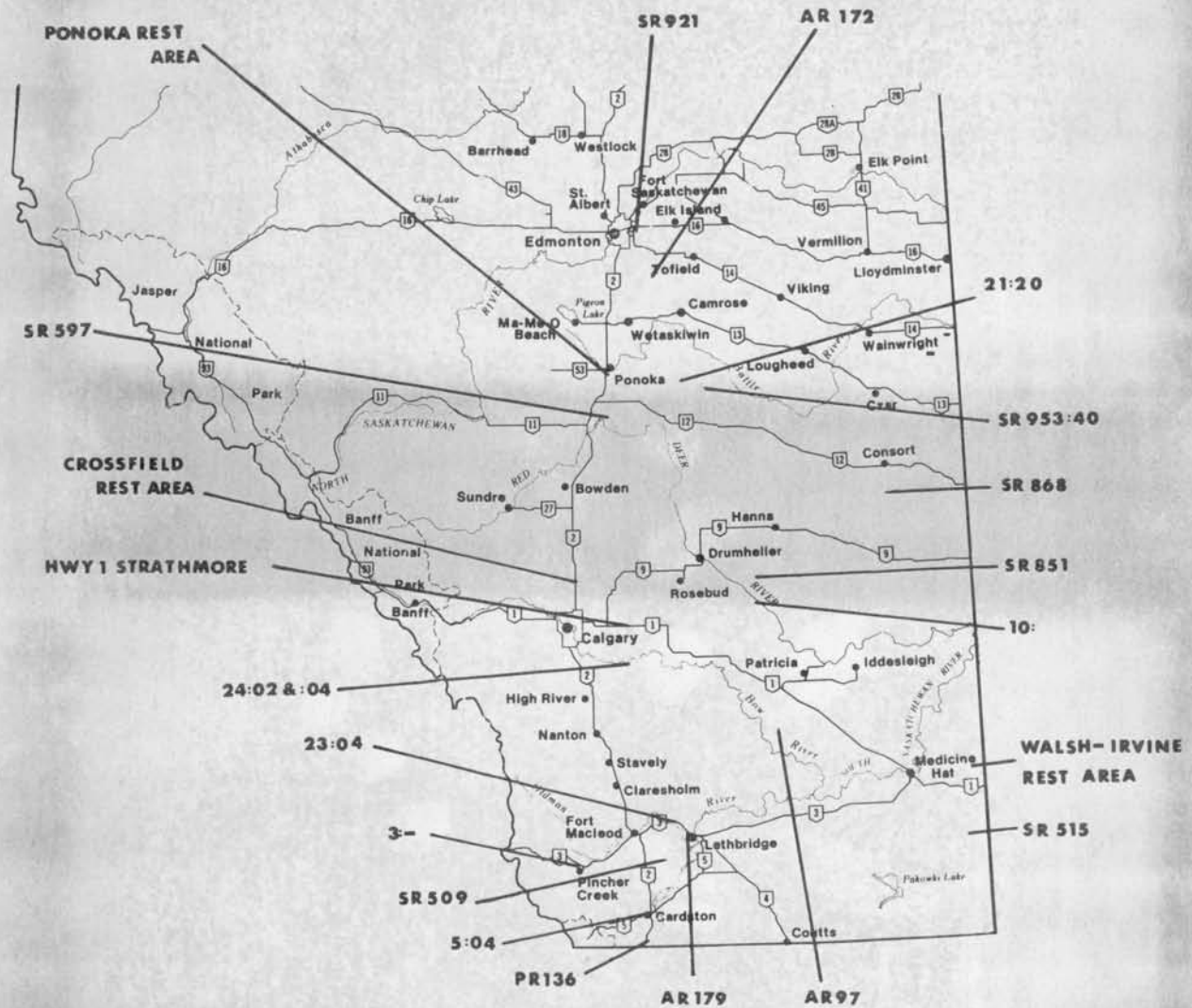


FIGURE 19: LOCATION OF VARIOUS PLAINS HIGHWAY SURVEY PROJECTS WITHIN SOUTHERN ALBERTA



Figure 20: View of EhPb-1, tipi ring site situated along Red Deer River valley near Dorothy

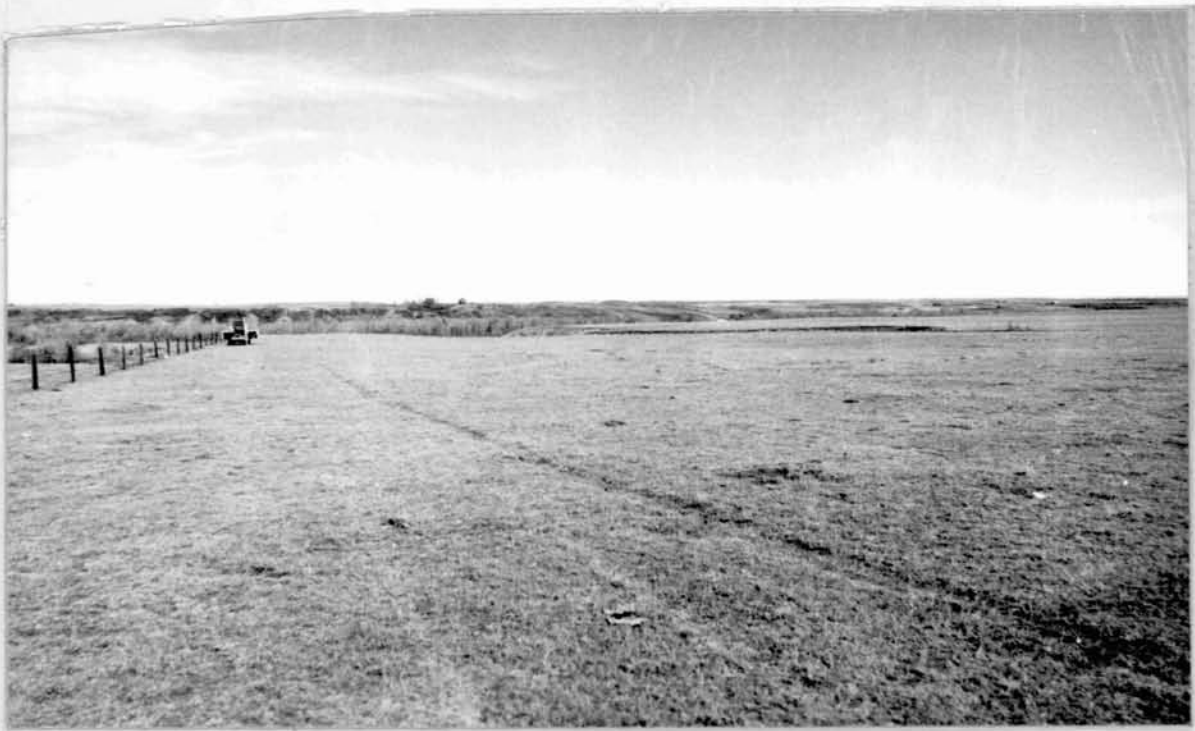


Figure 21: View of Ec0i-3, a tipi ring site along Bow River near Carseland.



Figure 22: View of EiPb-5, a tipi ring, cairn and buried campsite. Vehicle situated in center of site.



Figure 23: Rectangular shaped stone cairn at EiPb-5. Trowel on right side of cairn indicates scale and points north.

1976 FIELD INVESTIGATIONS IN THE NEUTRAL HILLS REGIONS

J. Michael Quigg

Project 76 - 25

INTRODUCTION

In accordance with the Archaeological Survey of Alberta's exploratory program into relatively unknown archaeological regions, the writer continued field research in the east central portion of the province for the second successive field season. The 1976 research project consisted of a two month field survey and a single month of test excavations.

The aim of the survey was to establish a predictable model for regional site density. To accomplish this, the survey transected various physiographic and vegetational zones identified on a selected 1:250,000 map sheet. The reconnaissance was restricted to defined boundaries with all visible archaeological sites identified according to type and location.

The month of excavation in the region was conducted in order to obtain basic information concerning the overall cultural history of this particular geographical area. Two site types, a buffalo jump and a tipi ring camp, which were encountered during the 1975 field survey (Quigg 1976a, 1976b), were two categories selected as prime localities for initial subsurface investigation this season.

This report is intended to be a discussion of this two part field program, containing some preliminary remarks, results, and interpretations.

THE NEUTRAL HILLS SURVEY

DESCRIPTION

Designated as a stratified transect reconnaissance program, the 1976 foot survey was initiated June first and continued through the third week of July. Situated within the Wainwright region (Fig. 24) our area of interest lay at present in the Aspen Parkland zone, where groves of aspen poplars were interspersed with prairie grasses (Bird and Bird 1967). Plentiful game animals and abundant varieties of edible plants and berries

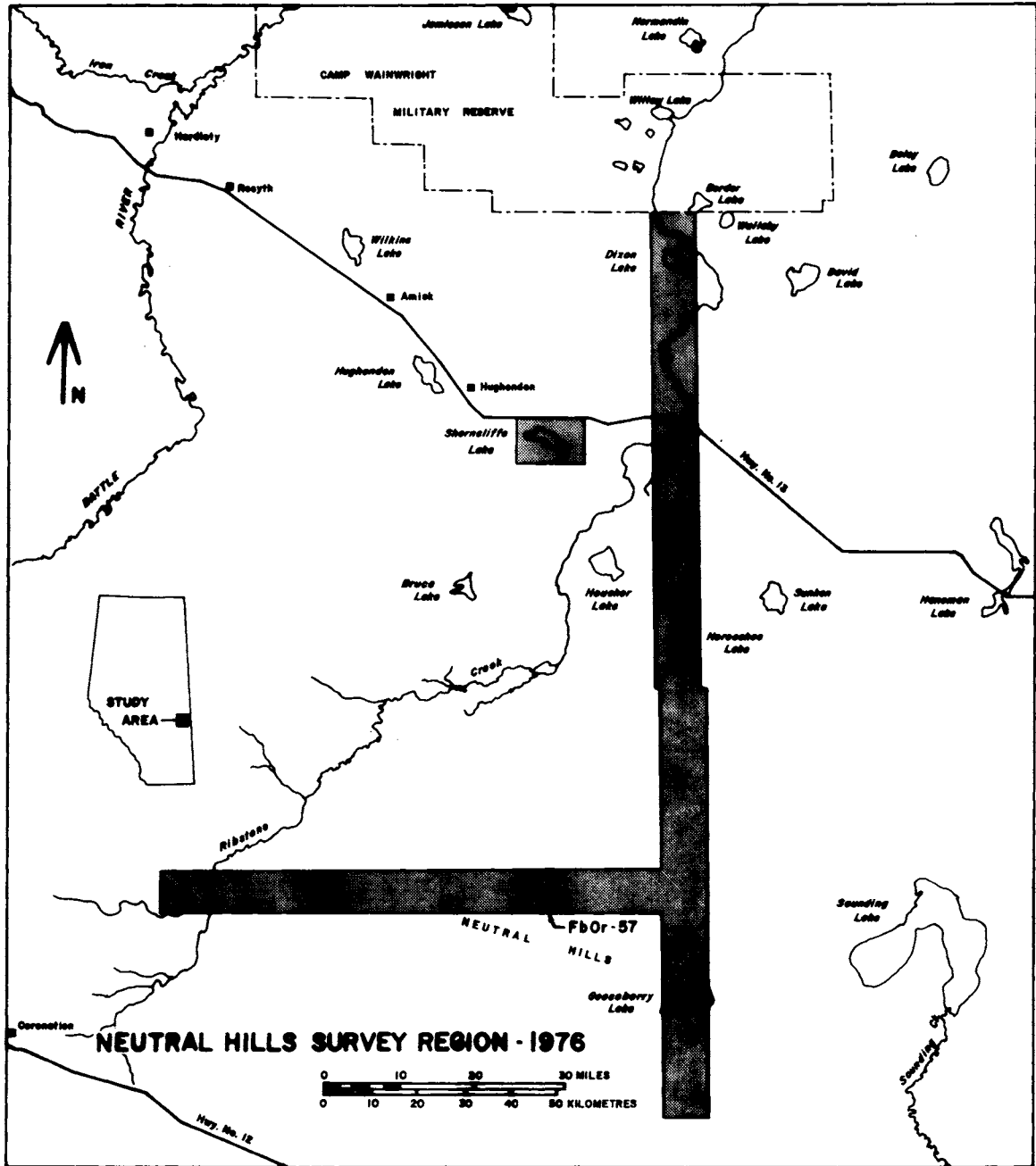


Figure 24

constitute the local food resources. Physiographically, the area was defined as a portion of the central Alberta Plains: it was a relatively flat plain except where the Neutral Hills rise some 400 feet (120 metres) above the surrounding prairie (Bayrock 1967). The area's landforms were of Late Wisconsin glacial origin; hummocky moraine dominates the rolling hilly landscape with numerous lakes and sloughs laying in the low areas. Composed of glacially contracted bedrock, the Neutral Hills formed a series of discontinuous, acute subparallel ridges transected in places by melt-water channels (Bayrock 1967). Medium and dark brown soils cap the glacial deposits in this region.

The transected region of reconnaissance was parcelled off into two main sections; an east-west line extending from the Neutral Hills to Ribstone Creek, and a north-south line extending from the Wainwright Military Reserve to just north of Consort (Fig. 24). The actual area surveyed was a two mile wide (3.2 kilometres) by 61 mile long (99.2 kilometres) transect. A total of 122 square miles (317.44 kilometres) was foot traversed by a crew of five members. In response to various geographical and physiographical aberrations, our reconnaissance was termed stratified.

Our specific survey route was selected on the basis of pre-field-season observations. Soil maps (Soil Survey of Sullivan Lake Sheet), surficial geology maps (Cornation District 55-1, Neutral Hills District 67-4B, Buffalo View District 67-4F, Czar District 67-4c), various land capability maps (recreation, agriculture, and wildlife), all combined to supply the data base from which this author selected the transect route of reconnaissance. Primary consideration was given to those locales in which the widest, most varied groups of characteristics were present, in order to hopefully delineate archaeological site preference as well as density.

Field methodology was relatively simple and straight-forward. From road accesses along mile section lines, systematic foot traverse of mile wide areas was accomplished, with varying distances covered per day. Any cultural material encountered was recorded in situ on the A.S.A. archaeological site inventory data forms. In most instances only a representative sample of lithics observed were retained: cultural

materials and features such as fire-broken rocks, butchered bone, hearths, etc., were noted as present on the forms, and left on the site. Ground surfaces not visible due to undergrowth, cultivation, etc., were defined as such on the spot, and later furnished data for the development of surface visibility charts.

SURVEY RESULTS

A total of two hundred and eighty-six (286) archaeological sites (not including 10 isolated finds) were recorded in the course of the 1976 field survey. These sites were located solely on the basis of visible surficial remains; no test holes were excavated in order to locate buried prehistoric material. Table 3 displays the numbers and percentages of the various sites found throughout the survey.

Table 3: Site Frequency Distribution

<u>Site Type</u>	<u>Number of Sites</u>	<u>Percentage of Sites</u>
Tipi Rings	146	50.7
Surface Camps	26	9.1
Buried Camps	52	18.2
Quarries	15	5.2
Cairns	43	15.0
Hunting Blind	1	.34
Historic Site	4	1.38
Total	286	100%

These figures were utilized to determine the density of archaeological sites per mile, and further used, to extrapolate our predictable model for regional site density and distribution. A figure of 71,164.07 acres (total land traversed minus water covered areas) calculated against a total of 286 recorded sites, resulted in a density figure of 2.6 sites per square mile. To extend this density figure to the entire Wainwright map sheet is perhaps premature, but with caution, this extrapolation can provide significant information regarding the area's general use during prehistoric times. Further analysis on the location and distribution of sites is forthcoming; such analysis will hopefully provide more information delimiting the predictability of various site densities for specific physiographic regions within the Wainwright area.

One important outgrowth of our survey, which merits mention now, involves the quality and quantity of cultural lithic material and artifacts (Table 4). Contained in our collection were various classes of finished tools, which in total made up 15.1% of the cultural items. These finished tools included: twenty-four (24) projectile points (16 Middle Prehistoric; 8 Late Prehistoric), thirteen (13) bifaces, thirteen (13) end scrapers, eight (8) unifacial knives, sixty-four (64) retouched flakes, and five (5) ceramic sherds.

Three main categories of lithic material constituted the bulk of the 904 cultural artifacts recovered: these were the quartzites, pebble cherts, and other cherts. Ninety-seven percent (97%) of the materials retrieved were comprised of these three lithic types, 20% - 62.3% - and - 14.6% respectively. The author believed that the high occurrence of the small pebble cherts as a raw lithic resource was an area-specific phenomenon, and would tentatively designate it as the "Neutral Hills Pebble Industry". Support for this contention was readily available: of the fifteen (15) quarry sites located during our survey, eleven (11) quarries were found in erosional scarps specifically within the Neutral Hills, and all evidenced similar small pebble cherts eroding from alluvial slopes. Further information regarding this pebble industry is discussed in the subsequent section dealing with the excavations at the Lazy Dog Tipi Ring Site.

A particular tipi ring site (FbOr-62) encountered in the process of the '76 survey revealed a most interesting find. For the first time in Alberta, actual wooden tipi poles, presumably used as supports in the construction of the aboriginal tipi, were located in situ at the site.

Located by Don Barr, a crew member, within the range of the Neutral Hills, the site consisted of fifteen (15) complete rings (averaging 3.5 metres with a 5 metre ring being the median and the mode) and eight less distinct partial rings, with six log poles lying on the surface between two of the rings. These logs ranged in length from 6 to 7 metres, in width from 8 to 11 cm, and were in various stages of decay. One distal end of one pole displayed three oblique angle cut marks which were made by individual strokes, probably by a metal axe. The very end was relatively flat, either caused by a vertical stroke or the cutting of a saw.

Table 4: Lithic types and frequencies

Localities Lithics	Neutral Hills Survey	Lazy Dog Tipi Ring (Fb0r-57)					Fb0v-1		Totals	Percent- age
		Ring #2		Ring #4		Between #2 & #4	Kill	Campsite		
		Outside	Inside	Outside	Inside					
Quartzite Pebbles	29	50	11	26	5	23		1	145	05.7
Quartzite	181	50	21	30	8	36		32	358	14.0
Opalized Wood	14	6	4	2	1	7		7	41	1.6
Pebble Cherts:										
Red	3	7	1	4	0	2			14	.5
Blue	12	2	0	2	2	3			21	.8
Brown	16	22	5	13	4	9			69	3.7
Black	245	174	46	128	30	133		8	764	30.0
Grey	184	117	46	128	21	88		4	588	23.1
Yellow	15	3	3	4	1	12			38	1.5
Green	50	40	15	30	6	33			174	6.8
White	4	4	1	0	0	2			11	.4
Purple	5	4	0	0	0	8			17	.6
Chalcedonies	7	0	0	0	0	2			9	.3
Cherts:										
White	86	23	10	20	4	9		15	167	6.6
Red	4	1	1	0	0	1		1	8	.3
Brown	9	5	1	4	1	1		9	29	1.1
Grey	19	7	2	10	3	1		3	45	1.7
Black	6	0	2	1	0	0		4	13	.5
Green	3	1	0	1	0	0			6	.2
Yellow	5	1	0	2	1	1			9	.3
Obsidian	1	0	0	0	1	0			2	.04
Knife River Flint	1	0	0	0	0	0			1	.04
Pottery	5	0	0	0	0	0		6	11	.4
		517	169	402	87	372		90		
Totals	904	1548						90	2542	100.18

In order to determine the type and age of tree utilized, samples of the poles are being analysed by Heinz Pyszczyk (graduate student - University of Manitoba). Radio carbon dating of log samples provided a date of 140 ± 55 years B.P. or A.D. 1810 ± 55 (S-1221 Saskatchewan).

EXCAVATION: LAZY DOG TIPI RING SITE (FbOr-57)

INTRODUCTION

Upon completion of the stratified transect survey we initiated the excavation program at a selected tipi ring site in the Neutral Hills. Aims of this research were directed at the acquisition of both general and specific data concerning tipi ring sites as an archaeological phenomenon. Sampling techniques employed at this site should be of considerable interest, in view of the fact that this type of site has just recently begun to receive professional scrutiny on a large scale.

Selection of this particular site was based on the examination of a number of factors this author felt relevant to the retrieval of significant archaeological data, specifically those factors governing the quantity and quality of material to be recovered at a designated tipi ring site. Factors to be considered included: limited geographical boundaries, definition of individual rings, preservation to those rings, precise location of ring sites, and association of artifactual material with particular tipi rings.

FbOr-57, later entitled the Lazy Dog Tipi Ring Site, evidenced the most optimum conditions desired, and was chosen as the site of our subsurface excavations.

LOCATION

Situated in the central portion of the Neutral Hills, just east of a large meltwater channel in east-central Alberta, FbOr-57 lay in a small saddle of an east-west ridge (Fig. 25). Although a more commanding view could be achieved on the surrounding ridges the site was visibly open on the north and south sides through the saddle. Below and south of the Neutral Hills lay an open expanse of farming country.

DESCRIPTION

The actual site area, 50 x 70 metres, was bounded on three sides by

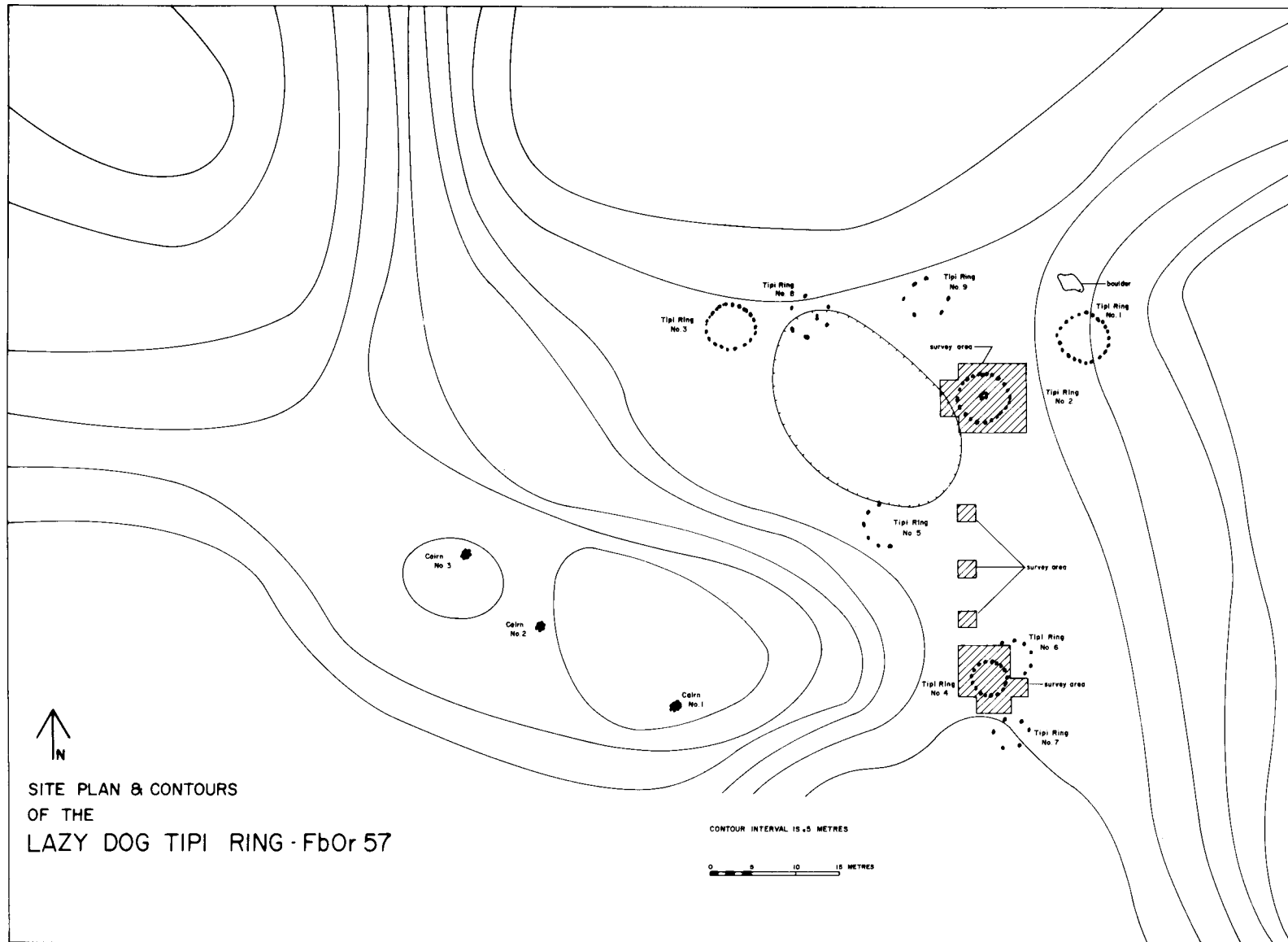


Figure 25

ridges (Fig. 26), with low ground to the north and a small opening to the south. Both areas of low ground leading away from Fb0r-57 were brush and tree covered, the remaining terrain was covered in grasses. The site consisted of four very distinct and well defined tipi rings and four partial, indistinct rings on the low saddle area. In addition, rock cairns were located along the south and west ridges (Fig. 27). The rings ranged in size from 3.5 metres to 5 metres in diameter, with 45 to 75 rocks per ring. Ring #2 contained a well defined central hearth, but no other features could be discerned on the surface. The cairns on the ridge also were of variable size, the largest of which had been the site of amateur potting and disturbances.

EXCAVATION TECHNIQUES

In order to retrieve as much detailed information as possible, much deliberation and care was taken in the recording of artifacts and the ring rocks themselves. Two metre squares, across the standard universal grid system, served as the principal excavation unit for this site. Each unit was excavated by shovel and trowel: all soil was screened through a 1/4 inch mesh. When a unit contained areas both interior and exterior to a ring, each portion was excavated and screened separately. A single arbitrary datum was established for the entire site; artifacts and rocks were recorded in situ to facilitate vertical control across the area. For plotting of the plane distribution of material, a horizontal map was employed continuously throughout the excavations (Fig. 28 & 29). Soil, pollen and charcoal samples were taken where possible, and screened through a fine wire mesh in order to recover minute seeds, particles of charcoal, etc.

In response to the limited time allotted to excavations at this site (four weeks), it was decided that the largest and best defined (5.5 m diameter) ring with the central hearth, and the smallest (3.5 m diameter) ring at the site would be completely excavated, with actual digging extended at least two metres beyond the perimeter of each ring. Some testing between the tipi rings would be initiated if time allowed.

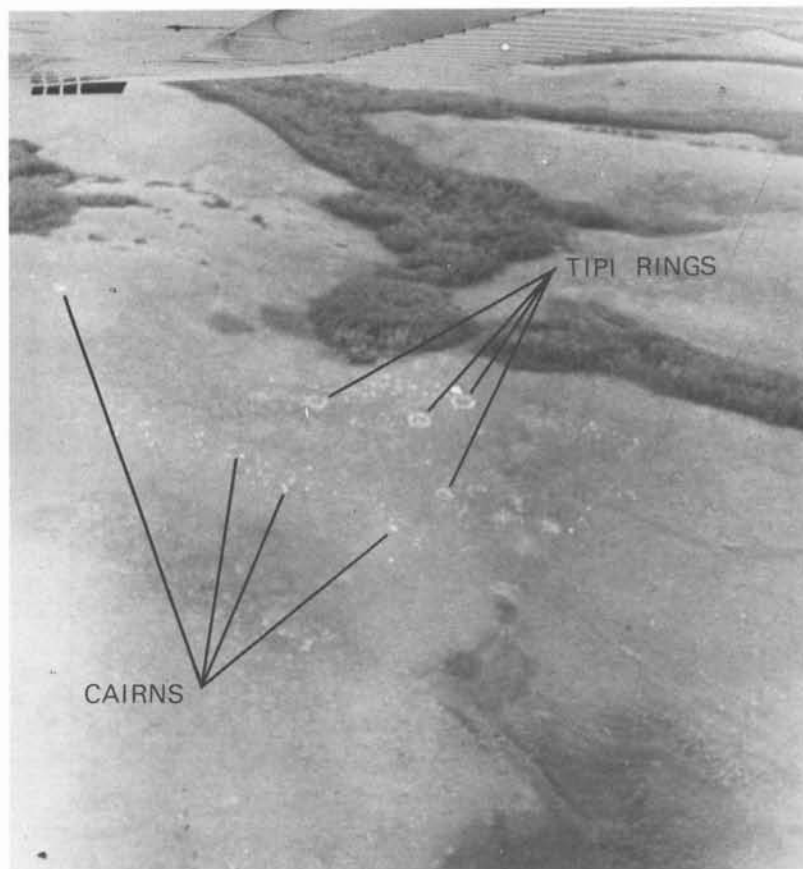


Figure 26: Fb0r-57 air photo showing position of rings and cairns and surrounding country side. Rocks were painted white.



Figure 27: Fb0r-57, indicating the two excavated rings and showing a profile of the site.

Figure 28: PROFILE & PLAN OF TIPI RING No.2 FbOr-57

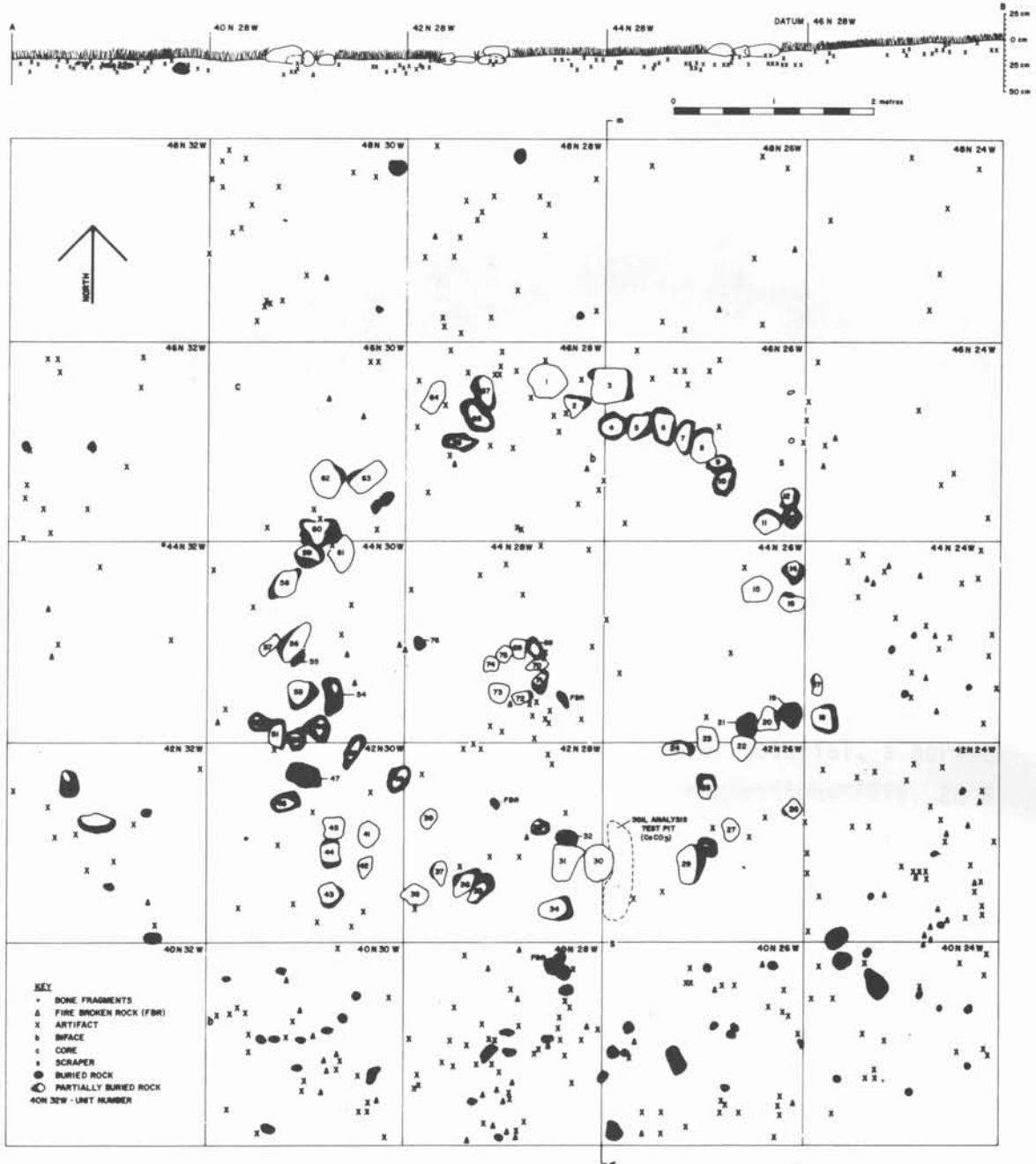
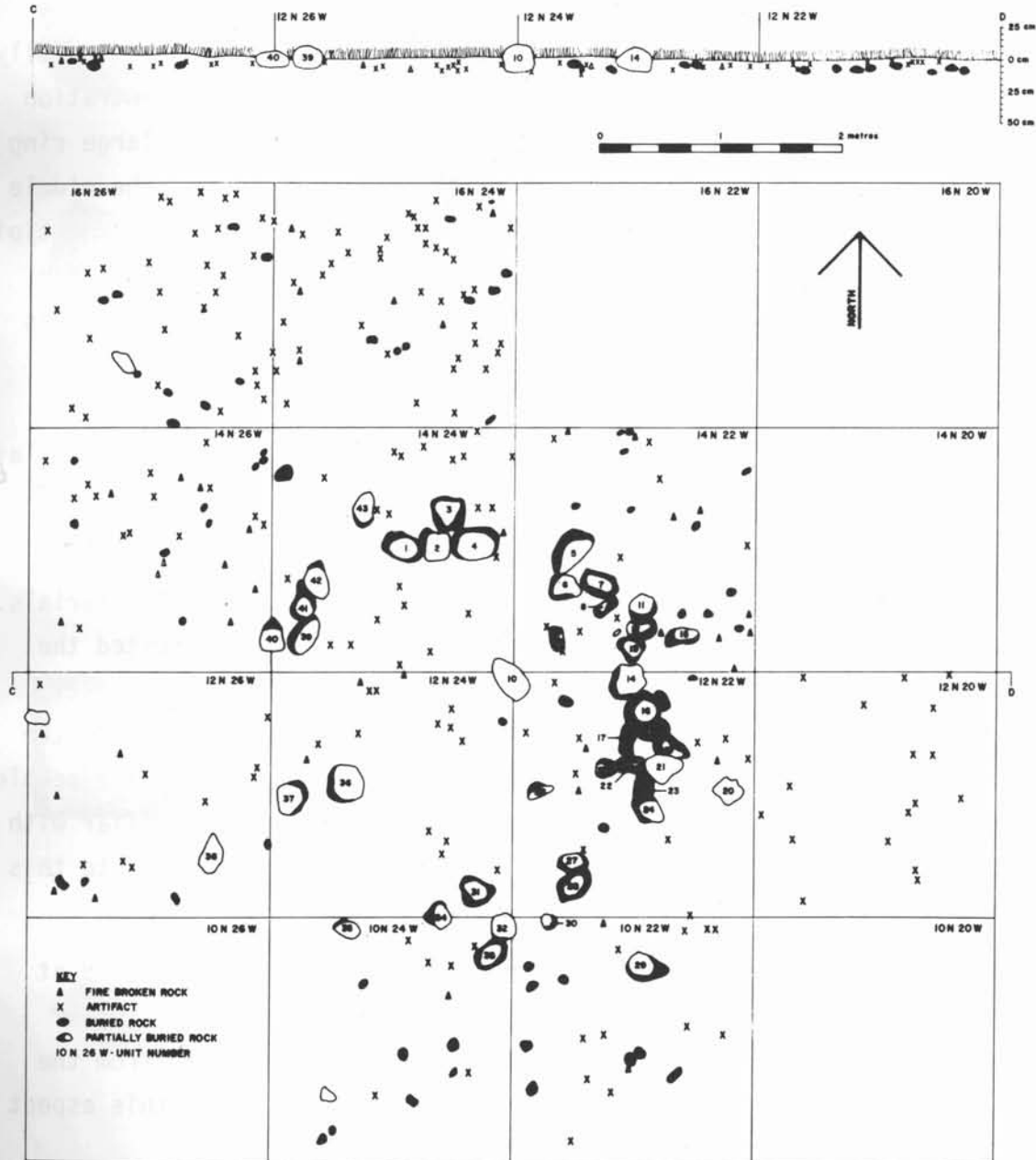


Figure 29: PROFILE & PLAN OF TIPI RING No.4 FbOr-57



RESULTS AND OBSERVATIONS

Two complete tipi rings and a small area between these two rings were excavated to a depth of approximately 12 cm below the surface, utilizing a total of 37 two by two metre units.

The vast majority of the cultural materials encountered at this site occurred outside the actual tipi rings (83%). Those lithics recorded in situ (45%) inside and outside the rings were distributed in a totally random manner, with the exception of an apparently light concentration of artifacts on the south side of the internal hearth in the large ring (Fig. 28). The material was generally more prolific towards the middle of the site, at a distance of 50 - 75 cm away from the edges of the tipi stones. A total of 1548 pieces of cultural material (42.5 pieces per unit) were retrieved in the course of our excavations. Finished tools composed only 1% of the total artifactual assemblage (Fig. 30); only seventeen such tools were recovered: four (4) bifaces, four (4) end scrapers, three (3) choppers, two (2) unifacial knives, and one (1) Plains side-notched projectile point (Table 4).

The lithic assemblage was dominated by the presence of small chert and quartzite pebbles; these made up some 90% of the cultural materials. This predominance of a particular lithic resource again suggested the close proximity of local quarrying or gathering locales; it has been identified previously as an area specific phenomenon, and entitled the "Neutral Hills Pebble Industry". Artifacts constructed of these pebbles are currently undergoing analysis. We shall soon be more familiar with specific characteristics of tool manufacture and use particular to this pebble industry.

Although of a fragmentary nature, the faunal material retrieved at FbOr-57 does indicate the use of bison as a part of the prehistoric subsistence base. No vegetal material (seeds) was recovered from the soils of this site, thus no statement can be made regarding this aspect of the probable aboriginal diet.

Various attempts at determination of seasonality of use at this site proved inconclusive.

While awaiting specific dates from obsidian Hydration and C¹⁴ charcoal

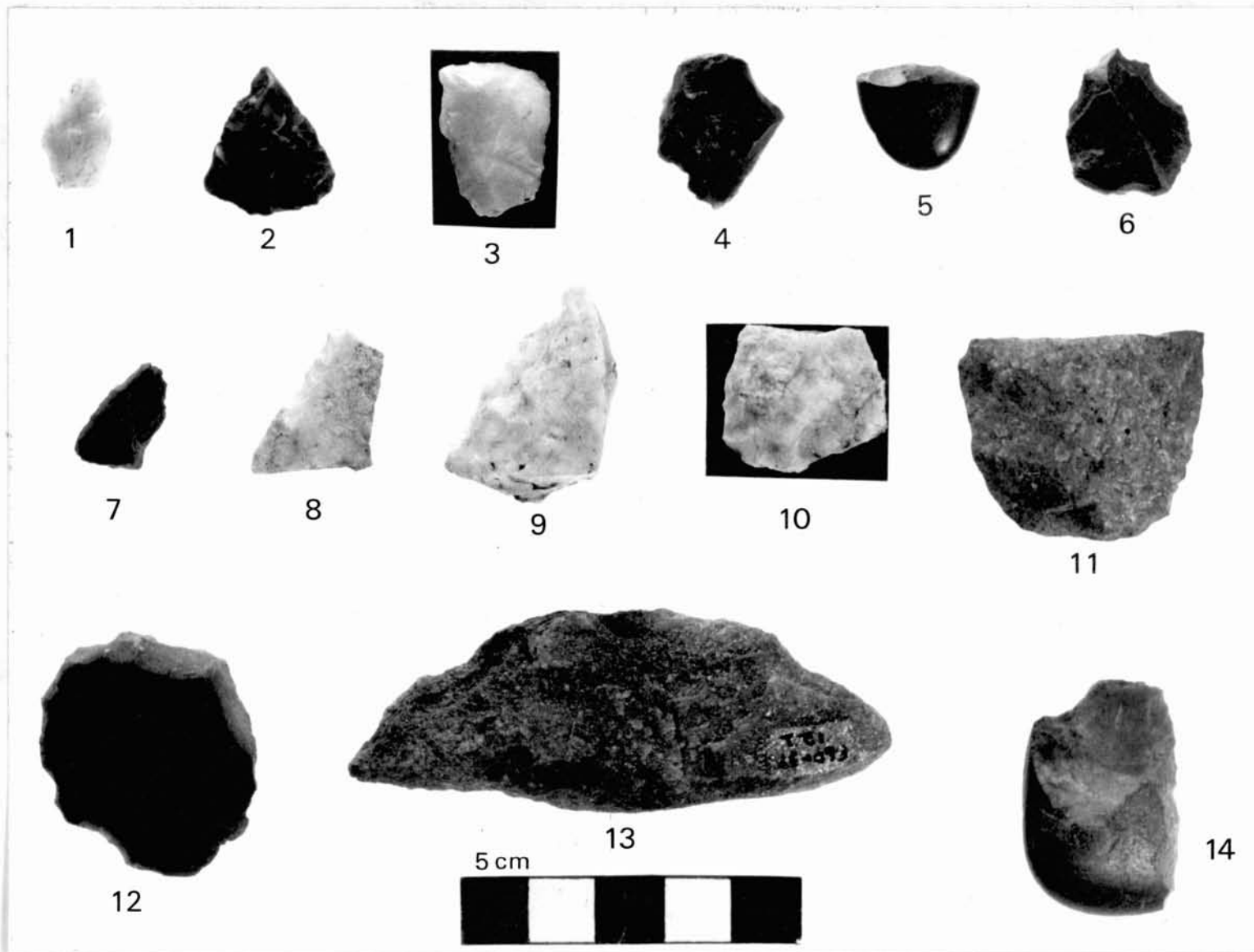


Figure 30: Artifacts from the Lazy Dog Tipi Ring Site.

dating procedures, aging of this site must rely on the presence of a single artifact. A sole Plains side-notched projectile point recovered in our excavation, places occupation of this site within the Late Prehistoric Period, somewhere between A.D. 1000 and A.D. 1700. The cultural debris, artifacts and features recovered at the Lazy Dog Tipi Ring Site combined to depict a relatively small aboriginal settlement. Its peoples lived in tipis, whose edges were held down by rock cobbles; their main activity at the site involved tool manufacture and production from local lithics.

EXCAVATION: BUFFALO JUMP (Fb0v-1) AND CAMPSITE

INTRODUCTION

Following the tipi ring excavations conducted at Fb0r-57, subsurface sampling procedures were initiated at Fb0v-1.

This buffalo jump was first recorded in 1961 by Dr. R. G. Forbis; it was relocated and associated with the nearby campsite in 1975 (Quigg 1976b) during the Battle River Survey. It is, at present, the most northern known bison jump in the province of Alberta.

Excavations at Fb0v-1 were primarily concerned with the recovery of data from the jump; cultural affiliation, frequency of use, age, and seasonality were various foci of interest. The campsite was also explored in order to determine its relationship to the bison jump.

LOCATION AND DESCRIPTION

The combination buffalo jump - campsite lay on the north bank of the Battle River, near the confluence of Castor Creek and the Battle River, northeast of the town of Castor. Although likely a part of the prairie grassland during prehistoric times, this general region was classified as part of the aspen parkland (Bird and Bird: 1976). Short grasses covered most of the higher and flatter ground while various tree species and brush were clustered in low areas.

The kill site was located on a small slump block at the base of the valley rim (Fig. 31 & 32). Sloping at approximately 30°, the block extended 100 metres in circumference at the base, narrowing to nearly 25 metres at the top, somewhat in appearance like a truncated cone.



Figure 31: Fb0v-1, a bison kill located on small slump block on the north side of the Battle River.



Figure 32: Profile of Fb0v-1 showing the slump block where kill deposits were located.

Quantities of unbutchered and butchered bison bone were visible on the surface and also showed up just below the surface in a thin bone layer.

The camping site adjacent to the buffalo jump at Fb0v-1 was dispersed across an area 470 x 100 metres immediately south of the kill on alternating ridges and flats of slump material. Bounded on the east and west by small spring drainage channels running from the base of the valley wall, the greater part of the campsite lay to the southeast of the kill deposits in the vicinity of a small slough. A portion of the campsite was removed for fill during the recent construction of a railroad bed at the southern limits of the site.

EXCAVATIONS AT Fb0v-1

A total of five 2 x 2 metre test units (#1 - #5) and eight shovel holes were excavated to various depths in the site area in an attempt to sample the deposits and delineate the extent of the sites. Test units 1, 2 and 4 were employed to sample the kill deposits; tests 3 and 5 were placed in the campsite area.

The three units at the kill were distributed across the slope of the slump block; one unit at the base on relatively flat ground (#1), a second test half way up the slump (#2), and the third at the top of the kill deposits (#4). Actual digging procedures were conducted in levels responsive to the sloping face of the slump. The uppermost (#4) and intermediate (#2) units were excavated in a series of steps to facilitate dirt removal; the lowest unit was dug in arbitrary levels.

Two 2 x 2 metre units (#3 and #5) and eight shovel holes were scattered over the campsite area; one unit (#3) was placed 150 metres due south of the kill, and the other (#5) was situated 100 metres west of the first.

Depths of the five test units varied with the area excavated. Those pits placed in the jump itself were accommodated to the slope of the slump, test #1 was excavated to 80 cm below surface, test #2 to 120 cm, and test #4 to 380 cm below surface. Tests #3 and #5, located in the camping area, were taken down to 20 cm and 60 cm below surface respectively.

RESULTS AND OBSERVATIONS

The cultural remains recovered from the buffalo jump at Fb0v-1 were

restricted to one single occupation level occurring only within the slump block itself. Only faunal material was retrieved; no stone tools or lithics were recovered from the kill deposits. This single bone layer, (10-12 cm thick) following the general contour of the slump, lay just below the surface at the base, and was buried 260 cm below the surface at the top of the slump.

The faunal material recovered from the jump consisted mainly of the remains of bison, although one canine skull was found in the middle of the bone deposit in the uppermost test unit. The majority of the bison bones retrieved exhibited very little in the way of butchering marks, cut marks, or fractured areas. Most of the skeletal elements of the animal were represented in our sample, with the exception of the skull and horn cores. There appeared to be a noticeable under-representation of the hind section of the bison; perhaps the hind quarters and skull were preferred portions of the animal and carried away from the site for further processing elsewhere. Fetal bones were not found in the remains, indicating that the kill was not used during winter or early spring. Samples of bone recovered from the kill have been sent for radiocarbon analysis; these dates are not yet available.

Three separate very thin cultural components were located in the campsite area: each living floor occurred within a separate buried Ah soil horizon. Level thickness was generally 2-3 cm. These occupations were not continuous across the site.

The faunal remains of the campsite were highly butchered and very fragmentary and were generally unidentifiable as to element or species. Lithic artifacts found in the cultural occupation levels consisted mainly of small quartzite and split pebble chert flakage, the former dominating the sample. This occurrence, while very different from the predominance of pebble chert at the Lazy Dog Tipi Ring Site (Fb0r-57) and the Neutral Hills survey in general, does however relate to the high percentage of quartzite recovered in the Battle River Survey (Quigg 1976b). Two end-scrapers, one small side-notched projectile point, and some small fire broken rocks (4 cm diameter), added to the lithic sample (Fig. 33).

The campsite was utilized at least three different times throughout

prehistory - the latest occupation dating back to the Old Women's Phase of the Late Prehistoric Period. Although the cultural material was sparsely scattered over the site, in addition to being discontinuous across the entire profile of the site, further excavations would probably reveal horizontal distribution and clustering of artifacts.

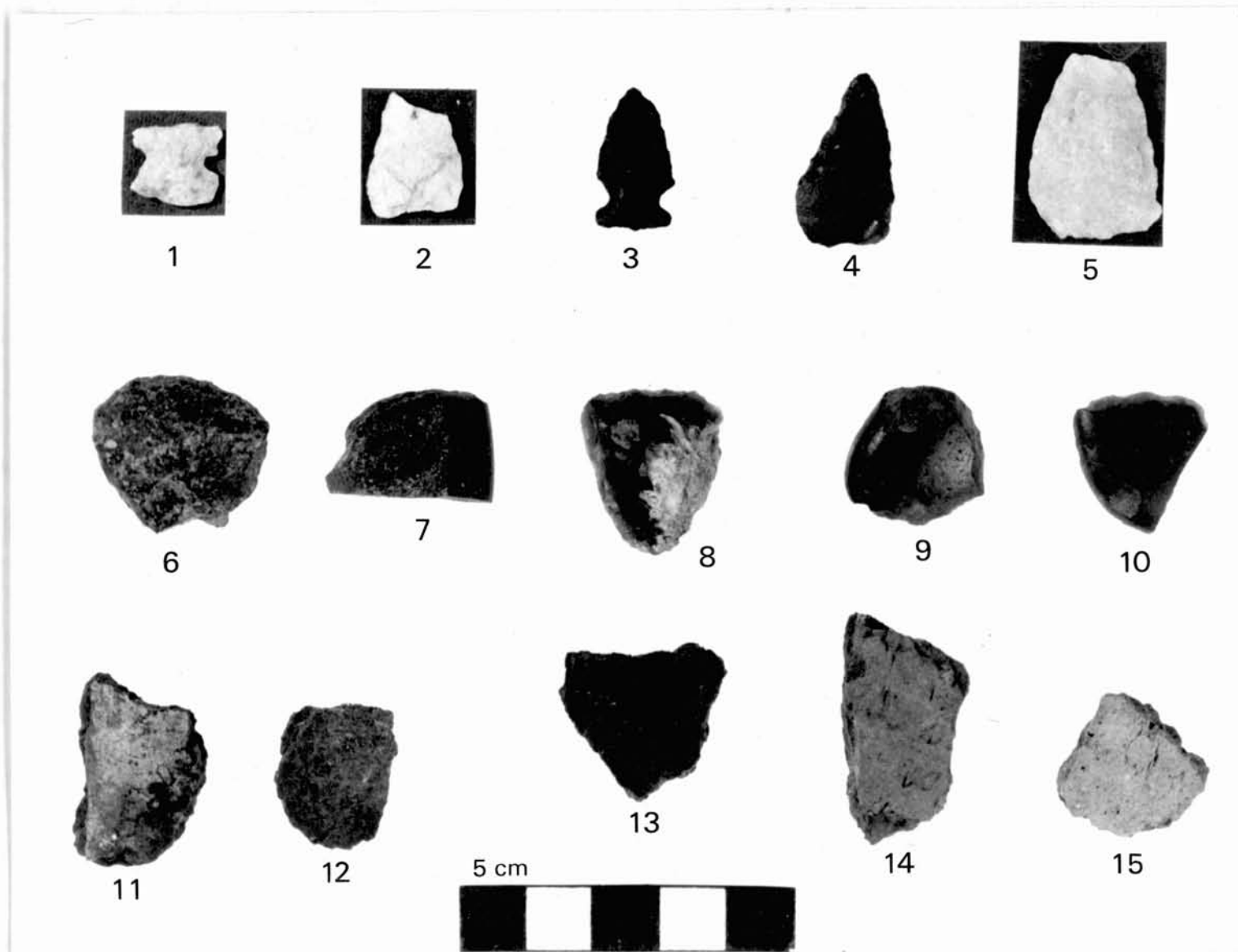


Figure 33: Artifacts from the campsite associated with the buffalo jump Fb0v-1.

SALVAGE ARCHAEOLOGY ALONG HIGHWAY 41 NEAR NEW BRIGDEN

John Brumley

Project 76 - 22

During 1975, a number of archaeological sites were located and recorded by Anderson and Poole (1976) within the right-of-way of a new section of Highway 41 to be constructed near New Brigden in east central Alberta. Several of these sites had been recommended for testing and evaluation to be conducted prior to road construction. Under contract with the Archaeological Survey of Alberta, the writer directed surface examination and/or excavation at 7 of these sites during June and July, 1976. A crew of 4 individuals assisted the writer.

The 7 archaeological sites examined lay along an 8 mile newly constructed portion of Highway 41 situated immediately north of the hamlet of New Brigden. This roadway is located within the Eastern Alberta Plains and is characterized by grassland interspersed with groves of poplar ~~located~~ around the countless small ponds dispersed throughout the moderately undulating landscape.

The central portion of the highway right-of-way lay largely within an old road allowance which, aside from a dirt trail, was undisturbed. Most of the lands immediately adjacent to and forming the margins on both sides of the right-of-way are currently or have at one time been cultivated. The 7 archaeological sites examined within the Highway 41 project area were Ek0o-2, Ek0o-3, Ek0o-5, Ek0p-4, Ek0p-9, Ek0p-10 and E10p-14. With the exception of Ek0p-10, the sites show marked similarities in stratigraphy and in the kinds of cultural materials represented. Thus, the following is a general characterization of all 6 sites.

Cultural materials are largely confined to the uppermost 20 cm of deposits with occasional items found from 50 to 70 cm below surface. These lower materials are clearly within glacial tills and reflect the relatively extensive amount of rodent disturbance characterizing the deposits. Meaningful stratigraphic separation of cultural material was not noted at any of the 6 sites. The variety of cultural materials recovered from these sites is extremely limited and consists almost

exclusively of cores, core fragments or debitage, all made from small, black chert pebbles which occur naturally and quite abundantly in the surficial deposits of the area. Conspicuously and almost totally absent from all these sites is butchered faunal remains; heat fractured stone; constructed features such as hearths; debitage from other types of lithic material; and an inventory of tool forms such as scrapers, knives and projectile points. The only time diagnostic artifact recovered is a tri-notched arrowpoint found on the surface of site EkOp-9, suggesting a Late Prehistoric period age. The writer feels this lack of diversity in the cultural assemblage indicates these sites served almost exclusively as quarry and workshop locales.

Site EkOp-10 differs from the above 6 sites in several respects. A small stone cairn apparently of aboriginal manufacture was situated at the site. Unfortunately, excavation of this feature revealed little in the way of informative data. Testing in various other areas of the site resulted in the discovery of a locality where 2 stratigraphically separated occupations are present. The upper occupation was located from 0 to 5 cm below surface and was totally dominated by debitage and cores made on small black chert pebbles. No time diagnostic artifacts were found associated with this upper occupation. The second occupation is associated with a buried Ah horizon located at 30 to 50 cm below surface. Although also dominated by small chert pebble cores and debitage, a small sample of finished stone tools and debitage from other lithic types were present within this second occupation. A single projectile point tentatively identified as Scottsbluff was also recovered from the second occupation.



Figure 34: General view of excavation in progress at site Ek0p-10. Looking south.

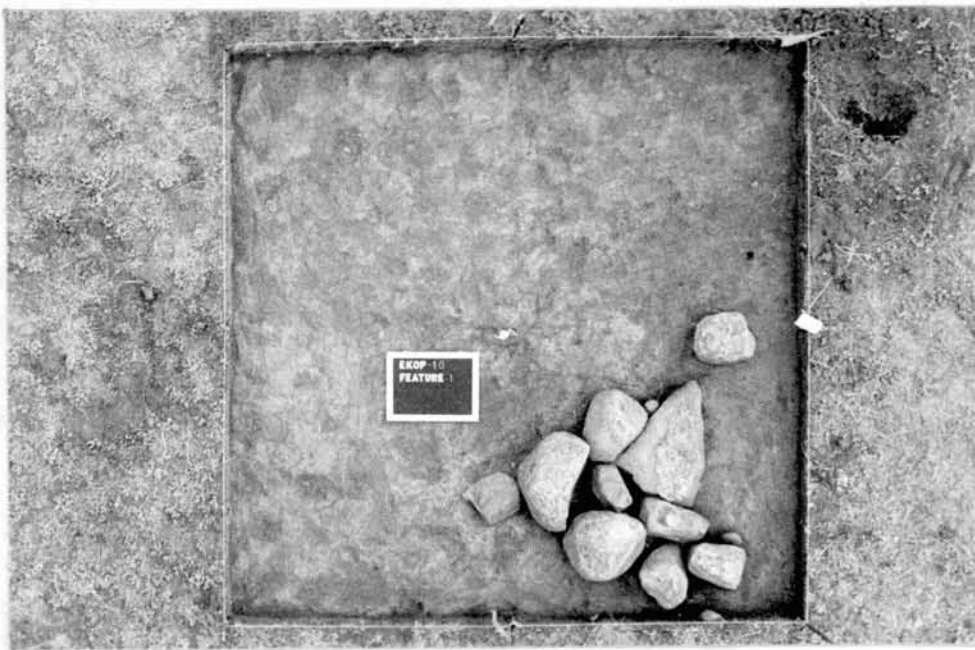


Figure 35: Small stone cairn excavated at site Ek0p-10. Excavation unit is 2 by 2 metres. North to top of photo.



Figure 36: View of excavation at site Ek0o-3. Excavation being conducted on small remnant of site not disturbed by road construction.



Figure 37: View of Ek0p-9. Site occupies entire area in lower half of photo. Persons in photo doing controlled surface collecting in plowed field.

EXCAVATIONS AT SITE FfPe-5

John Brumley

Project 76 - 21

Site FfPe-5 was located and recorded in 1975 by Anderson and Poole (1976) while archaeologically surveying proposed highway projects in the Plains region of Alberta. The site was originally recorded as consisting of numerous quartzite tools, flakes, and fire-cracked rock fragments found in cultivated fields lying on either side of SR966 about 10 miles southeast of Camrose. Proposed expansion of SR966 would destroy a major portion of the site so Anderson and Poole (1976) recommended evaluation testing be carried out. Under contract with the Archaeological Survey of Alberta, the writer directed test excavations at the site over a 9 day period between August 2 and August 13, 1976 with a crew of four.

The site is located within the Aspen Parklands of the Eastern Alberta Plains. The landscape in the site vicinity can be characterized as lightly to moderately rolling with surficial deposits consisting of ground moraine (Government and University of Alberta 1969). Upon arrival at the site, it was found to be located completely within cultivated fields currently in crop. A check with the Archaeological Survey of Alberta and the Department of Transport revealed that the right-of-way for the proposed expansion had not yet been acquired and the land was still privately owned. After considerable trouble, we obtained permission to excavate a series of 1 by 1 metre pits along the immediate edge of the field bordering the west edge of the existing roadway.

A series of 12, 1 by 1 metre pits spaced 4 metres apart were laid out in a straight line along the edge of the field and excavated in arbitrary 10 cm levels. All material was passed through a 1/4 inch screen. Maximum excavated depth in the various pits varied from 50 to 70 cm below surface. The upper 15 to 20 cm of deposits consist of a dark brown A horizon completely or largely disturbed as a result of cultivation. Below this, materials consist of a dark to light grey subsoil. The entire depth of excavated deposits at FfPe-5 showed clear evidence of extensive rodent disturbance. Cultural materials were very sparse and consisted of a

few pieces of heat fractured stone, bone scrap, flakes and pieces of window glass. These materials were concentrated within the upper 10 to 20 cm of deposit but, apparently as a result of rodent activity, 2 or 3 small pieces were found up to 50 cm below surface.

The results of our work at FfPe-5 were negative. The amount of cultural material present at the site is minimal; no diagnostic cultural materials were recovered; and the deposits are badly disturbed as a result of cultivation and rodent activity.

ARCHAEOLOGICAL EXCAVATIONS IN THE BUFFALO LAKE REGION

Maurice F. V. Doll

Project 76 - 15

Under the terms of Research Permit 76 - 15, issued by the Archaeological Survey of Alberta, the Provincial Museum of Alberta continued with its archaeological program on the northeast shore of Buffalo Lake, south central Alberta. Begun in 1970, this program initially concentrated on a large Metis settlement, with field work subsequently expanded to survey and test nearby prehistoric occupations (Doll and Kidd 1976; and Doll 1976).

The northeastern Buffalo Lake is characterized by hummocky glacial moraine and outwash features, and by a number of small lakes and ponds. The most prominent feature is Boss Hill, a "moraine plateau" running for some distance along the east shore of the main lake. Small mammals and birds, particularly waterfowl, are still abundant in the region, and larger mammals, particularly bison, were probably numerous and extensively hunted in the past.

Excavations in 1976 were concentrated on the Boss Hill Site, FdPe-4 Locality 2, with additional limited work at Locality 1 of the same site, as well as at Cabin #3 of the Buffalo Lake Metis Site, FdPe-1.

Under the general direction of Robert S. Kidd, field work was undertaken by Maurice F. V. Doll. The capable crew consisted of Shirleen Smith and Nora Hurlburt.

FdPe-4 LOCALITY 2 (FIG. 39 & 40)

During the 1976 field season six 2 metre units and one 1 x 2 metre unit were excavated. In most of these units no cultural material was found below a depth of 1 metre. In one unit, however, cultural material was found to a depth of 3 metres. Excavations here revealed at least three prehistoric components, with a thick band of volcanic ash (up to 7 centimetres) overlying the deepest of these components by approximately 50 centimetres. If laboratory tests confirm this as Mazama ash, one could assume a conservative date for the lowest occupation of 7,000 + years B.P.

Artifacts recovered from Locality 2 include glass bottles and metal caps found on or near the surface. Prehistoric pottery sherds, side and corner notched and McKean-like projectile points, in addition to several end-scrappers, retouched flakes and cores were found in lower strata. Although only a flaked bone tool and a chipped stone biface fragment were found in the lowest component, a large number of small flakes were recovered. In addition, a good sample of charcoal and bone should provide enough material for radiocarbon dates.

FdPe-4 LOCALITY 1

During a visit in early May 1976 to Locality 1 of the Boss Hill Site, a concentration of fire cracked rock within a darkly stained area was discovered. This concentration was eroding from the windward side of a steep-sided sand dune on top of Boss Hill. Because this feature was near the 1973 excavations (Doll and Kidd 1976:4) and in danger of being entirely destroyed, a salvage operation was deemed necessary.

The excavation uncovered a McKean-like projectile point and workshop debitage in association with fire cracked rock.

THE BUFFALO LAKE METIS CABIN SITE, FdPe-1

In 1976 the Provincial Museum field party completed the excavation of a refuse pit associated with the interior of a Nineteenth Century Metis cabin. This excavation completed the architectural documentation of a cluster of mounds and depressions designated Cabin #3 (Doll and Kidd 1976). In addition, the artifact yield from previous seasons of excavation was enhanced both quantitatively and qualitatively. Artifact types not formerly encountered in excavations at Buffalo Lake include a tin cup, a United States Army uniform button, and several new bead types. Bones recovered from the refuse pit indicate the Metis' utilization of a diverse fauna.



Figure 38: General view of the northeastern shore of Buffalo Lake as seen from the top of Boss Hill. View is to the northwest.

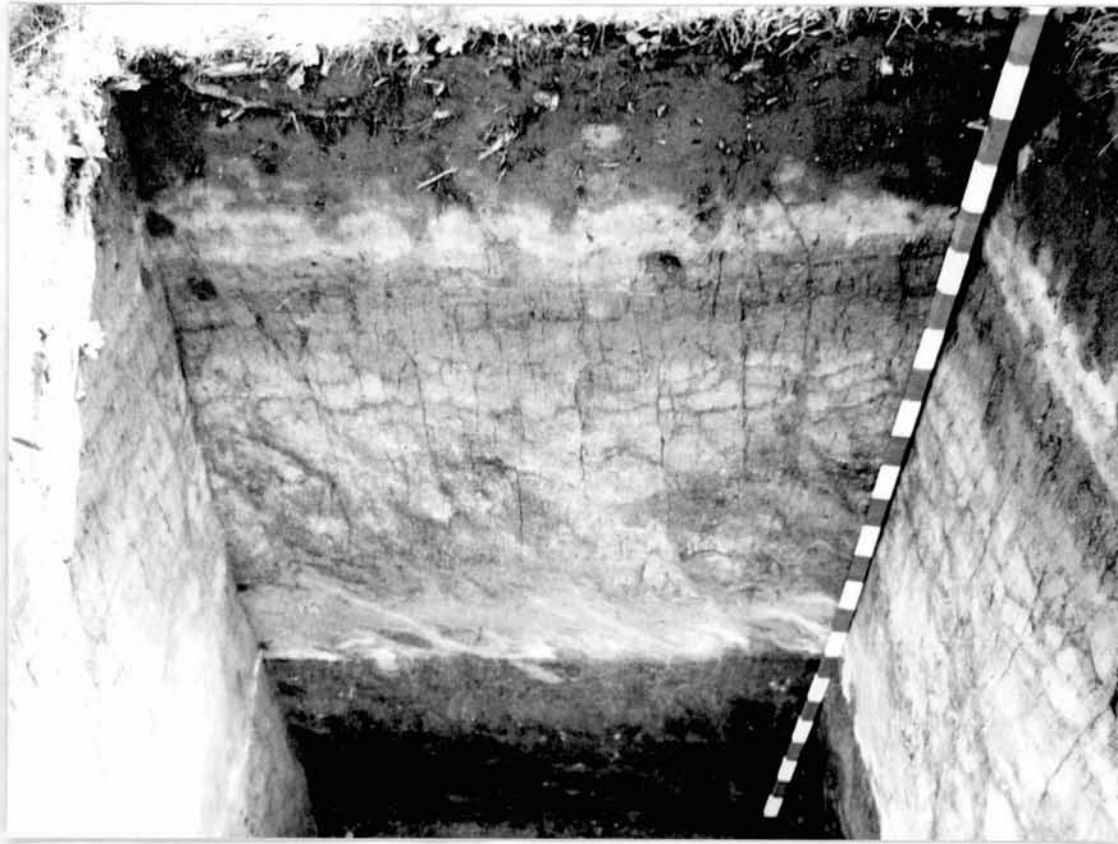


Figure 39: General view of stratigraphy in unit ON 10W (FdPe-4, Locality 2). The scale is in 10 centimetre increments.



Figure 40: Detail of the bottom segment of unit ON 10W (FdPe-4, Locality 2). Note the stratigraphic relationship between the volcanic ash (white layer in center of photograph) and the dark occupation stratum. The occupation zone is separated from the ash by an undulating stratum of light sand.

RED DEER RIVER STUDY, PHASE 2

Gary Adams

Project 76 - 27

OBJECTIVES

The overall objective of a second season on the lower Red Deer River in southeastern Alberta was to attempt to extend and detail the prehistory of the previously surveyed area. Specifically, we wanted to concentrate on the feature sites such as tipi rings, cairns, medicine wheels and bison drives. We also felt that better control over the data could be maintained if a limited area was used. The location ultimately chosen for survey extended east-west from the bank of Alkali Creek to a fenceline about 2 km west of the coulee bluffs. This area varied between 5 and 8 km wide. It also extended 11.5 km north from the Red Deer River. This provided a wide variety of topographic forms in a restricted area. This included knob and kettle topography, flat prairie, coulees, terraces, plateaus and floodplains. It was also an area of relatively ease to survey, virtually undamaged prairie.

METHODOLOGY

The first two weeks of a 14 week field season were spent re-surveying the area. An intensive examination resulted in 61 sites recorded in 1975 and an additional 241 sites in 1976. These comprised approximately 180 stone ring sites, 80 cairn sites, 40 surface or buried sites and 5 special activity sites such as quarries and a bison kill.

The surveyed sites were then examined for excavation potential. About 20 sites were tentatively selected on a basis of having surface flakes, reasonable accessibility and a tight concentration of rings. They were then divided up into five categories based on the number of rings per site and one site was eventually chosen from each category for excavation. By the end of August we had uncovered 11 rings by moving 773 m² of earth. We also excavated eight cairns at three different sites, tested a proposed bison drive and excavated 7 m² at a possible Hanna site (EfOp-18). Additional work on nearby medicine wheels was accomplished by a crew under the direction of Keary Walde.

RESULTS

As all the summer's data is essentially unanalysed at this time, little can be said about the survey except that the site concentration was high and that lithic samples were taken from several sites for comparative purposes. However, certain basic information is immediately available from the excavated sites, even if unqualified or unquantified at this time.

EfOp-352 was a single ring site, located on a low plain about 0.5 km from the creek. It had a sparsely filled ring with scattered flakes through the interior east half and some bone, outside and to the north. At EfOp-353, located on a terrace below the west coulee bluffs, two out of three complete rings were excavated. Practically no flakes or bone was recovered but a single late side-notched projectile point was found inside one ring. Central hearths and some indication of re-use were also evident.

Site EfOp-243, located on the prairie above the creek in a very scenic spot, had four of its eight rings uncovered. This site had a historic aspect and a large artifact recovery. It had some bone and evidence of specialized activity areas. There were also internal and external hearths and strong evidence of two mixed components. EfOp-49, also located on coulee bluffs had 31 rings of which one was exhausted. It produced no artifacts or hearths in 100 m².

At EfOp-53, a site of more than 80 rings on a series of plateau levels near the creek, two surface rings were excavated. A single side-notched projectile point, several pebble scrapers, flakes, bone and fire broken rock comprised the artifact inventory. There was also an internal hearth in at least one ring and shallow pots in both features. A third buried ring was uncovered from below the first two. Though there was no central hearth and no bone, there was a large number of flakes and retouch flakes along with a few scrapers, bifaces, and a possible Oxbow point.

Cairns were dug at EfOp-200, EfOp-353 and EfOp-331. None of these had any artifacts but there was some evidence for internal structuring at two cairns. The bison drive lanes were extensively surveyed at EfOp-248 but the 16 test pits, varying from 40 to 140 cm in depth revealed

little evidence of the kill itself. Further testing at EfOp-18 proved to be as fruitless as the 1975 operation.

In summary, work on the lower Red Deer River was essentially excavation oriented in 1976. A series of tipi ring sites were dug to increase the knowledge of this locally prominent feature while other site types had cursory examinations. The limited survey concentrated on detail, lacking from the 1975 work. We expect that laboratory analysis will provide some interpretive information on lithics, utilization of topography, intrasite patterning, tipi ring and cairn analysis and local technology.

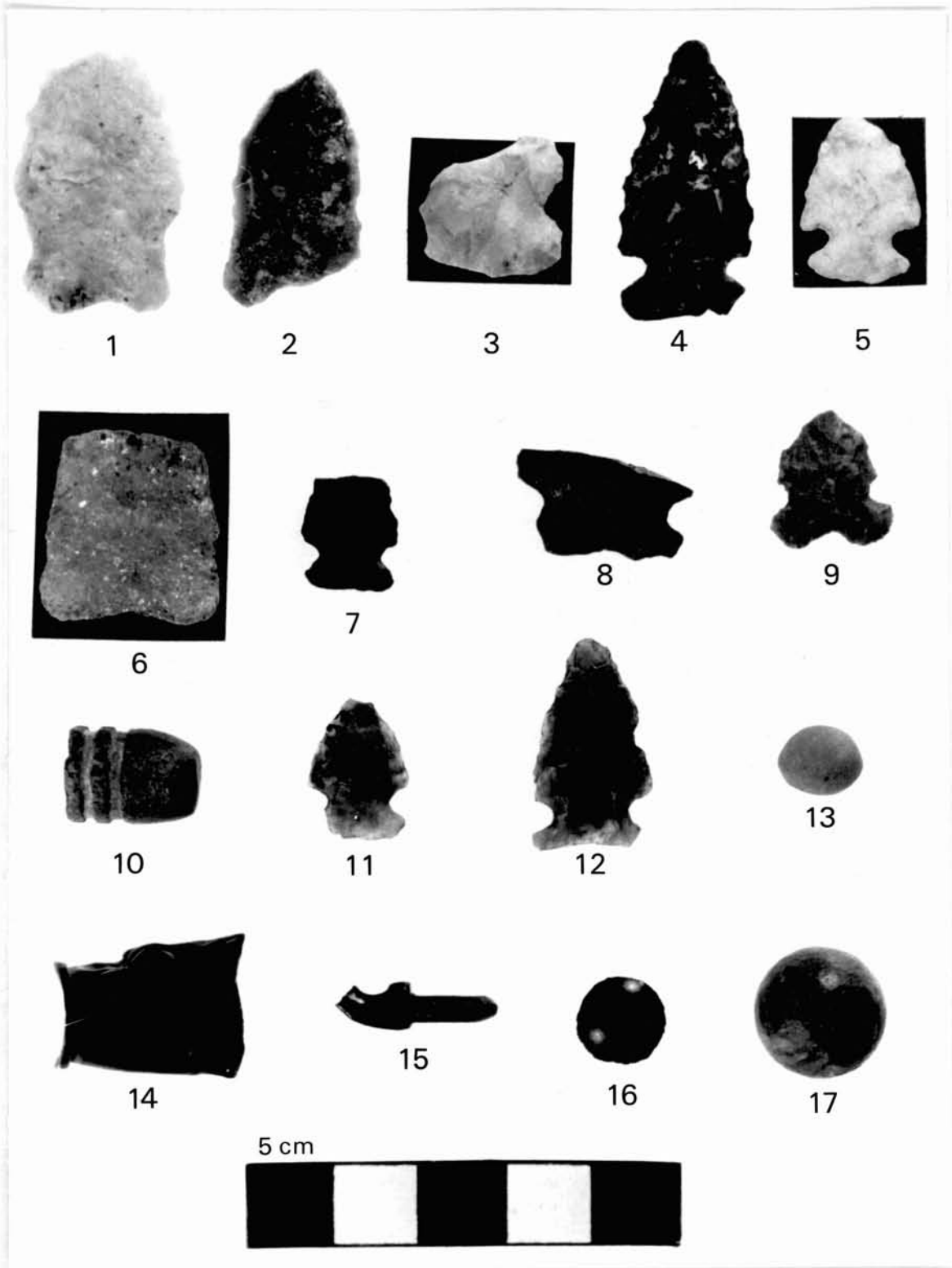


Figure 41: 1, Hanna point from Ef0p-18; 2, 3, surface points; 4, 5, 8, points from Ef0p-109; 6, Oxbow point from Ef0p-53 (level 2); 7, point from Ef0p-53 (level 1), 9, Point from Ef0p-353; 10 - 17, artifacts from Ef0p-324.

ARCHAEOLOGICAL SALVAGE INVESTIGATIONS: ALBERTA HIGHWAYS
AND TRANSPORTATION CONSTRUCTION PROJECTS:
CROWSNEST PASS MAPLE LEAF/BELLEVUE AREA

E. M. Calder, T. Smith and B. Reeves,
Lifeways of Canada Limited
Project 76 - 23

INTRODUCTION

Under contract to Alberta Culture, archaeological studies were carried out between July and mid September 1976 at two sites (DjPo-9, 46) in the Maple Leaf/Bellevue area of the Crowsnest Pass on the proposed Highway 3 realignment. These sites were recorded in an archaeological inventory conducted in 1973 for Alberta Transportation (Reeves (Ed) 1974) of proposed Highway 3 realignment between Burmis and the British Columbia Boundary. A number of prehistoric sites requiring further study prior to construction impact were identified.

Sites on the first construction segment at Burmis on and adjacent highway realignments were investigated in 1974 (Quigg and Reeves 1975). In 1975, studies were carried out on sites west of Coleman, and initial assessments made of three sites (DjPo-9, 16, 47) in the Bellevue/Maple Leaf area (Calder, Murray, Smith and Reeves 1976). These indicated additional studies would be required at the latter three sites prior to highway construction scheduled for 1978.

Further studies were carried out in 1976 in the north site area of DjPo-9, and at DjPo-46 by a four-six person field crew. Inclement weather hampered excavations particularly after an eight inch rainfall in three days. Consequently less work than planned was completed.

DjPo-9 a bison kill campsite complex lies in a sheltered spring line valley, 45 metres above the Crowsnest River (Fig. 42). In 1975 two site areas (north and south), separated by major springs were identified and test excavated. These tests indicated further studies of both areas were required. In 1975 one specific locale in the north area known as Test 3 and containing 130 cm of stratified deposits was studied.

DjPo-9 (Test 3) is situated in a sheltered hollow, below a bedrock ridge in the extreme northwestern site area (Fig. 43). In 1975 five occupational levels were identified; however time diagnostic materials were not recovered from the lowest levels. Further studies were needed, both to assess the area's ages and obtain a representative artifact sample.

In 1976, a block excavation area of 22 square metres was opened up and excavated in depths up to 120 cm below the surface (Fig. 44). Time diagnostic projectile points recovered indicated the earliest levels date in the interval ca 3000-150 B.C. associating with the Late Mummy Cave cultural complex. Latest levels associated with the Besant Phase Base campsites associated with bison processing are characteristic. Sterile sands and gravels underlie the occupation; these were deposited by a stream probably during the first of the recent glaciations around 5000 years ago. Studies of this specific DjPo-9 site area are now complete. Other areas, particularly the south site will require further excavation in 1977.

DjPo-46

DjPo-46 is a campsite/workshop situated on a northwestern striking sandstone ridge 30 metres above the Crowsnest River, immediately west and above DjPo-9 (Fig. 44). Test excavations in 1975 identified campsite and workshop areas requiring further on site study.

The 1976 study area lay in a saddle between two bedrock ridges (Fig. 44). An outwash terrace bordered it on the southeast. A series of 2 x 2 test pits were spaced along the hollow's axis to locate the culturally most productive area. It lay at the southeast end. Initial tests here recovered a variety of artifacts, bison and other vertebrate remains, from two cultural levels. An accurate line of large sandstone blocks suggestive of a tipi ring was found in the second level. Expansions of the tests to delineate the rock feature uncovered a buried tipi ring 5.5 metres in diameter (Fig. 44). Hearths, fire cracked rock piles, butchered bison bone and artifacts were associated. A 58 square metre area was excavated. Inclement weather prevented extensions of this area to determine if other rings were present. Diagnostic

projectile points suggest an Early Pelican Lake Phase association for the ring of ca. 1000 B.C. Several large quartzite and sandstone artifacts were recovered, tool types rare in the other valley campsites excavated to date.

The buried ring was in association with a buried soil. Glacial out-wash gravels or alluvial fill lay below it. Four two metre by two metre units were excavated in the alluvial fill southeast of the ring. Earlier components characterized by large bison skeletal elements were found. This component did not occur in the hollow northwest of the ring.

SUMMARY

An Archaeological study of Highway 3's planned realignment in the Crowsnest Pass in 1976 further studied two sites in the Bellevue/Maple Leaf area initially investigated in 1975.

One area of DjPo-9, a kill/campsite complex situated in a sheltered stream valley was further studied to obtain basic data on the age/cultural affiliation and site activities dating ca. 3000-A.D. 400. A sufficient sample was recovered and no further study in this particular site area is required. Other areas of DjPo-9 remain to be investigated before highway construction.

DjPo-46 a workshop/campsite situated on a bedrock ridge west and above DjPo-9 was also studied. The excavations were designed to recover a representative sample of artifacts and other data from the two major site occupations dating 1000 B.C. 400, identified in 1975. While less work was completed than planned because of inclement weather, a 3000 year old buried tipi ring some 5.5 metres in diameter was uncovered. It is the first tipi ring found either buried or on the surface in the Crowsnest Pass west of the foothills front, and is also one of the earliest excavated buried tipi rings in the Province. The presence of the tipi ring and other data recovered, artifact and lithic types and settlement locale, from the site, suggests the culture represented - Pelican Lake - moved into the Pass from the adjacent plains, displacing the earlier mountain culture from the valley.

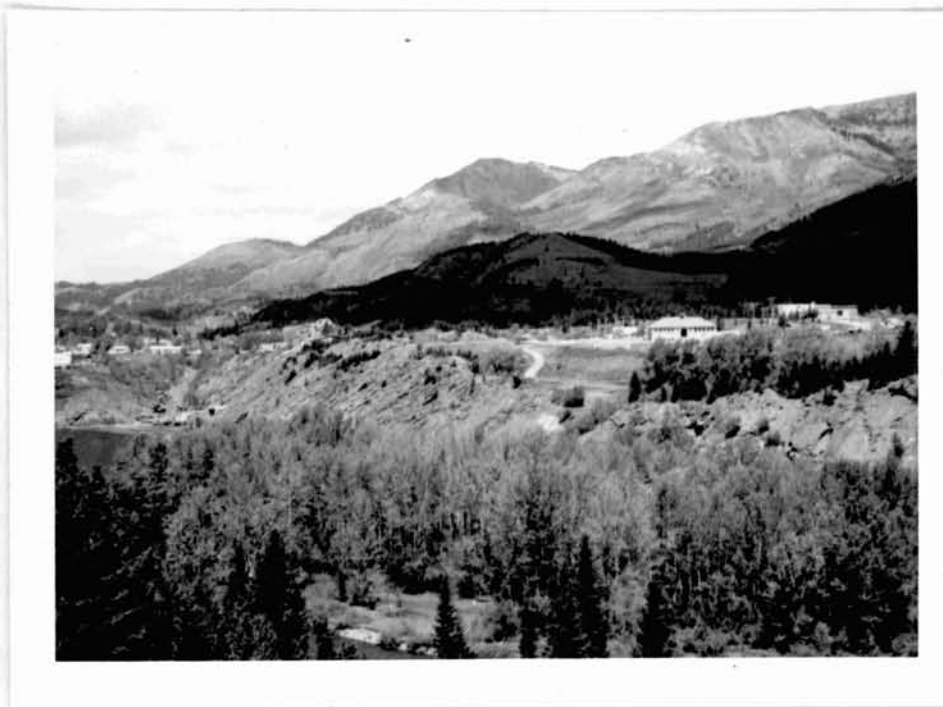


Figure 42: Maple Leaf/Bellevue Area view north from southside Crowsnest River. DjPo-9 situated in valley, below school. Test 3 area lies to left of road. DjPo-46 situated on ridge to west.



Figure 43: Site DjPo-9. Test 3 area along excavation.



Figure 44: Site DjPo-48. Excavation area view north.



Figure 45: Site DjPo-46. Buried Tipi Ring ca. 3000 years old.

MEDICINE WHEEL SURVEY

Keary Walde
Project 76 - 35

INTRODUCTION

The purpose of this survey was basically threefold: (a) to field examine all reported "Medicine Wheel" sites currently on file with the Archaeological Survey of Alberta, (b) to evaluate their status as "Medicine Wheels", and (c) to prepare detailed topographic maps of selected sites.

SITES

During June, 1976, over sixty sites were inspected in the field. Of these, the following sites were considered appropriate to be classified under the "Medicine Wheels" designation.

1. DgOo-1: One Four Medicine Wheel
2. DgPa-1a: (now destroyed by pipeline construction)
3. DhPb-2: Antelope Hill Medicine Wheel
4. DiPi-2: Wolf Child Medicine Wheel
5. DkPf-1: Many Spotted Horses Medicine Wheel
6. DIOv-2: Grassy Lake Medicine Wheel
7. EaOs-2: Suffield Medicine Wheel
8. EaPe-1: Sundial Hill
9. EcOp-4: Suffield Experimental Station Medicine Wheel
10. EdOg-30: Byrne's M40 Medicine Wheel
11. EdOp-1: British Block Cairn
12. EdPc-1: Majorville Cairn
13. EePi-2: Jamieson's Place Medicine Wheel
14. EfOg-87: Ross Medicine Wheel
15. EfOo-10: Miner's #1 and #2 Medicine Wheels
16. EfOo-24: Miner's #3 Medicine Wheel
17. EfOp-58: Rinker Medicine Wheel
18. EfOq-36: Anderson #1 Medicine Wheel
19. EfOq-65: Anderson #2 Medicine Wheel
20. EgOx-1: Suiter Medicine Wheel #1
21. EgOx-29: Suiter Medicine Wheel #2 and #3

22. EgPn-53: Barry Medicine Wheel
23. EhOp-1: Buffalo Bird Medicine Wheel
24. EkPe-3: Ziegenbein Medicine Wheel
25. EkPf-1: Rumsey Cairn

MAPPING PROGRAM (by Douglas Barnett and Kenneth Wong)

On completion of the initial survey, twenty-four Medicine Wheels and one rock alignment (EfOp-118) were selected for detailed topographical mapping. The mapping program itself followed standard survey techniques wherein the following significant information pertinent to each site was collected: (a) the site was first located within the local topography, next (b) the dimensions and positions of the elements characterizing the complex were mapped, and finally, (c) the precise astronomical orientation of each site was obtained.

MAPPING PROCEDURE

In mapping the local topography in relation to the site the following methodology was employed for each site surveyed. Depending on the details of the topography either a 10 metre or 5 metre grid system was set up. In setting up the grid, 3 one foot iron bars were planted flush with the ground; one centrally located and the other two at opposite ends of the site. These bars thus formed the central axis of the grid system. For future relocation the bars were referenced to some prominent/permanent feature within the site area.

Using the top of the central iron bar as the elevation reference point (assumed to be 100.00 m), level shots on all grid corners and elevations at all topographic breaks within the grid system were obtained. Where applicable, using transit and chain, the sites were tied into existing bench marks, section monuments, fence corners and/or fence lines which appeared to approximate section lines. All measurements which were taken to the nearest centimeter were closed back to the central iron bar.

In surveying the Medicine Wheel within the grid, the transit was set up on the central iron bar. Orientation was then obtained by sighting along the central axis. The details of the Wheel were then mapped by transit readings of horizontal angles turned to the right from the central axis. Distances were obtained by level rod readings and/or

chaining again, all measurements were taken to the nearest centimeter.

The precise orientation of each site was made by obtaining the astronomic bearing of the central axis. Because the sun was utilized to obtain this bearing its angle was important; subsequently the observations could not be attempted when the sun was within 10 degrees of the horizon or between 10 a.m. and 2 p.m.

In taking the sun observations, first the magnetic compass bearing was taken along the central axis, then 3 sets of sun shots (face left and face right) were made utilizing a Roelof Solar Prism mounted on the transit at the central iron post. Horizontal and vertical angles for each set and the time made were recorded. All observations were completed within 5 minutes. Here, the watch time was required in obtaining the correct declination. On completion, the compass bearing was rechecked along the central axis.

In computing the azimuth reductions, the following Altitude Method was employed:

$$\cos Z_n = \frac{\sin \sigma \sin \phi \sin h}{\cos \phi \cos h}$$

SITE PLANS (Fig. 46, 47, and 48)

On completion of the mapping program, site plans were drawn upon linen using India ink. A minimum of two drawings per site were made. Depending on the size of the site the scale used varied between 1:100, 1:200 and 1:500. Overall information relevant to the grid system, position of the site within the local topography, contours, and astronomic location was confined to one plan and specific information on reference to the Medicine Wheel itself was annotated on the other. Where the sites were of a complex nature, additional drawings were included.

As a result of this program, plans for the following noted sites were completed:

- | | | |
|-----------|-------------|-------------|
| 1. Dg0o-1 | 9. Ed0p-1 | 17. Ef0q-65 |
| 2. DhPb-2 | 10. EePi-2 | 18. Eg0x-1 |
| 3. DiPi-2 | 11. Ef0g-87 | 19. Eg0x-29 |
| 4. D10v-2 | 12. Ef0o-10 | 20. EgPn-53 |
| 5. Ea0s-2 | 13. Ef0o-24 | 21. Eh0p-1 |

- | | | |
|------------|--------------|------------|
| 6. EaPe-1 | 14. EfOp-58 | 22. EkPe-3 |
| 7. EcOp-4 | 15. EfOp-118 | 23. EkPf-1 |
| 8. EdOg-30 | 16. EfOq-36 | |

CONCLUSIONS

All the recorded Medicine Wheel sites listed with the Archaeological Survey of Alberta have now been mapped. No significant problems were encountered during the field work and compilation of site plans and it is felt that the methodology used during the survey was in itself adequate for the recording of the data applicable to each site.

Figure 46

PLAN

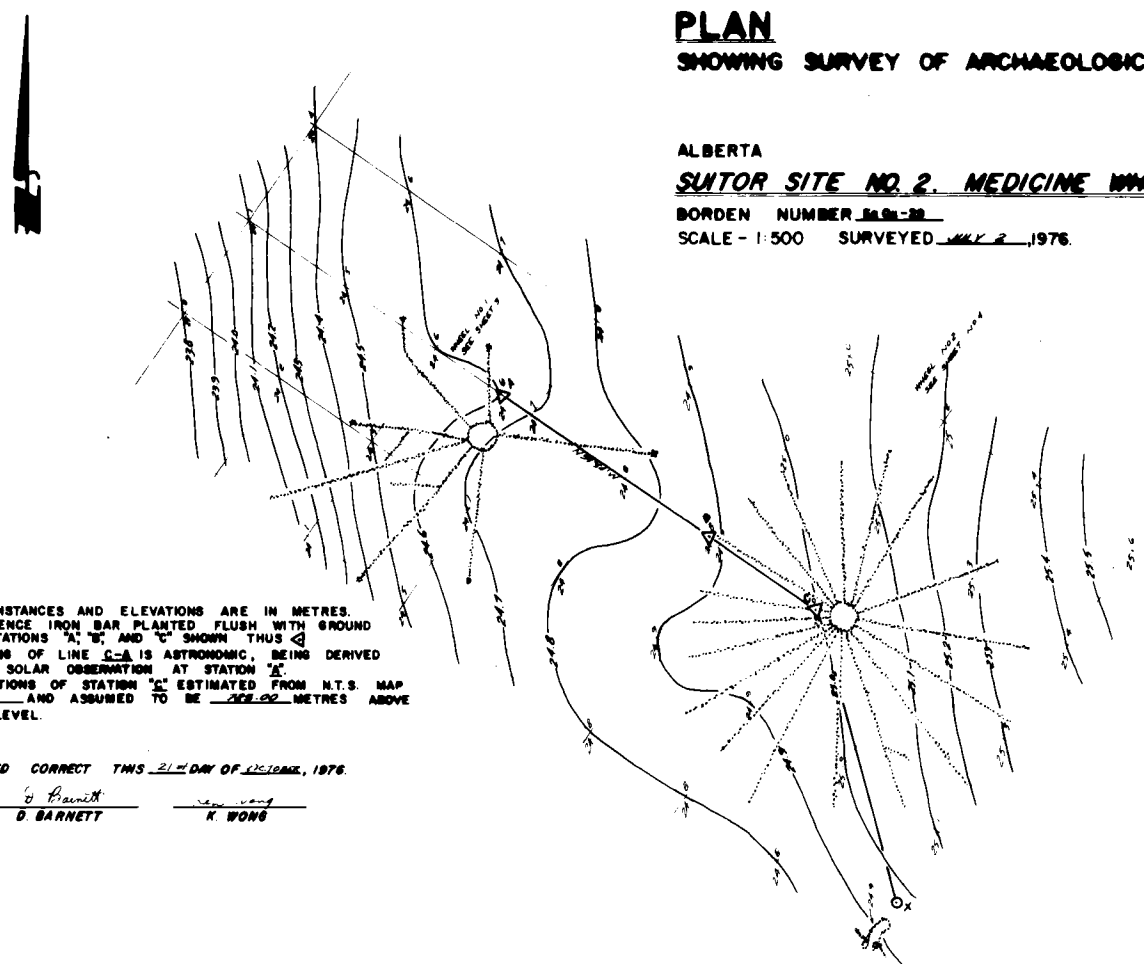
SHOWING SURVEY OF ARCHAEOLOGICAL SITE

ALBERTA

SUTOR SITE NO. 2, MEDICINE WHEELS

BORDEN NUMBER 8491-22

SCALE - 1:500 SURVEYED July 2, 1976.



- NOTE: 1. ALL DISTANCES AND ELEVATIONS ARE IN METRES.
 2. REFERENCE IRON BAR PLANTED FLUSH WITH GROUND AT STATIONS "A", "B", AND "C" SHOWN THUS \triangle
 3. BEARINGS OF LINE C-A IS ASTRONOMIC, BEING DERIVED FROM SOLAR OBSERVATION AT STATION "A".
 4. ELEVATIONS OF STATION "C" ESTIMATED FROM N.T.S. MAP AND ASSUMED TO BE 308.00 METRES ABOVE SEA LEVEL.

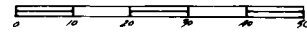
CERTIFIED CORRECT THIS 21st DAY OF OCTOBER, 1976.

D. Barnett
 D. BARNETT

K. Wong
 K. WONG

A-B = 44.01
 B-C = 28.31
 C-X = 88.0
 BEARING C-A = N64°34'W
 ELEV.
 A = 724.82
 B = 724.78
 C = 725.00

LATITUDE	LONGITUDE	N.T.S. MAP	U.T.M. LOCATION
51°02'15"	111°56'05"	72 N/4	



PROJECT 76-25
 SHEET 1 OF 2

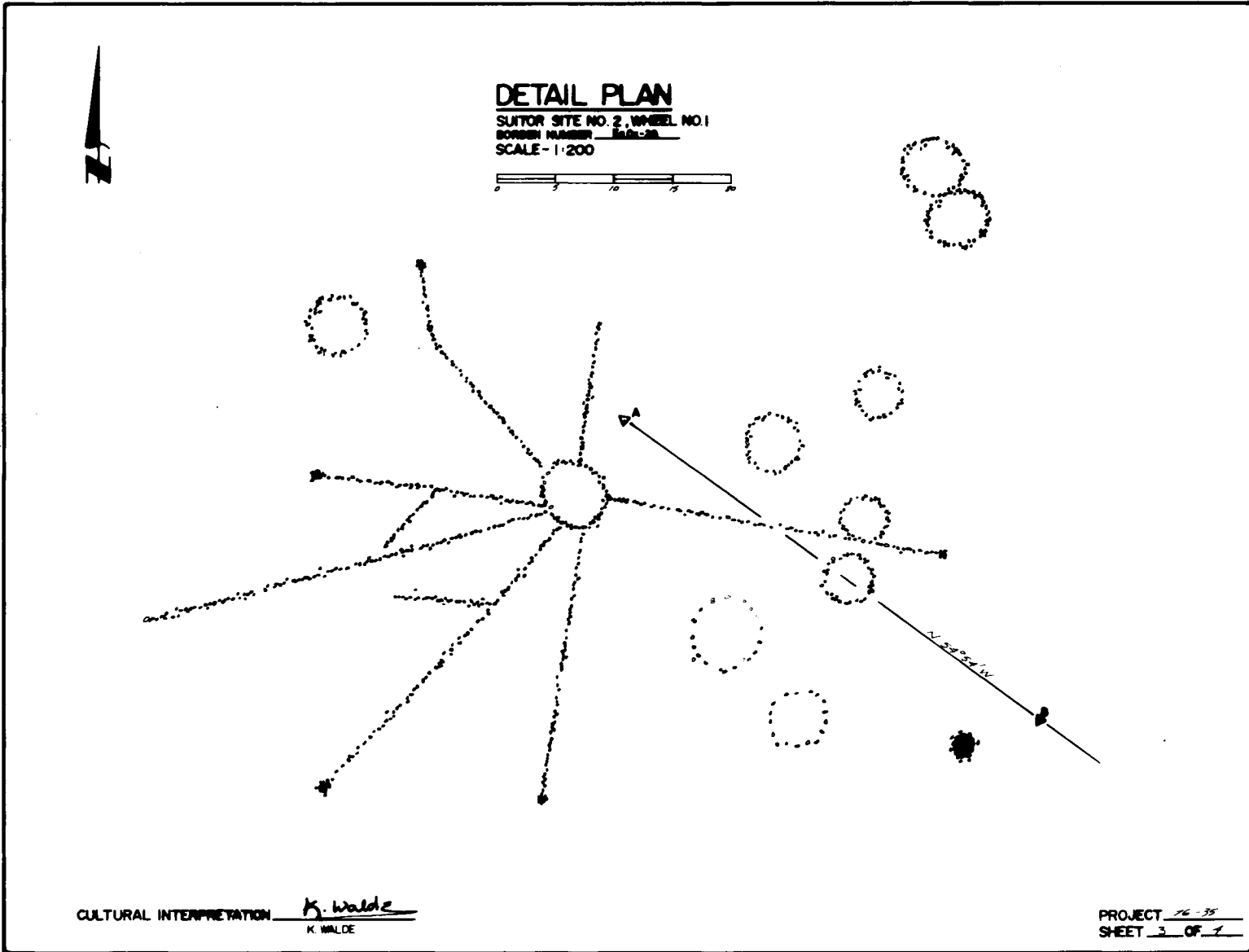


Figure 47

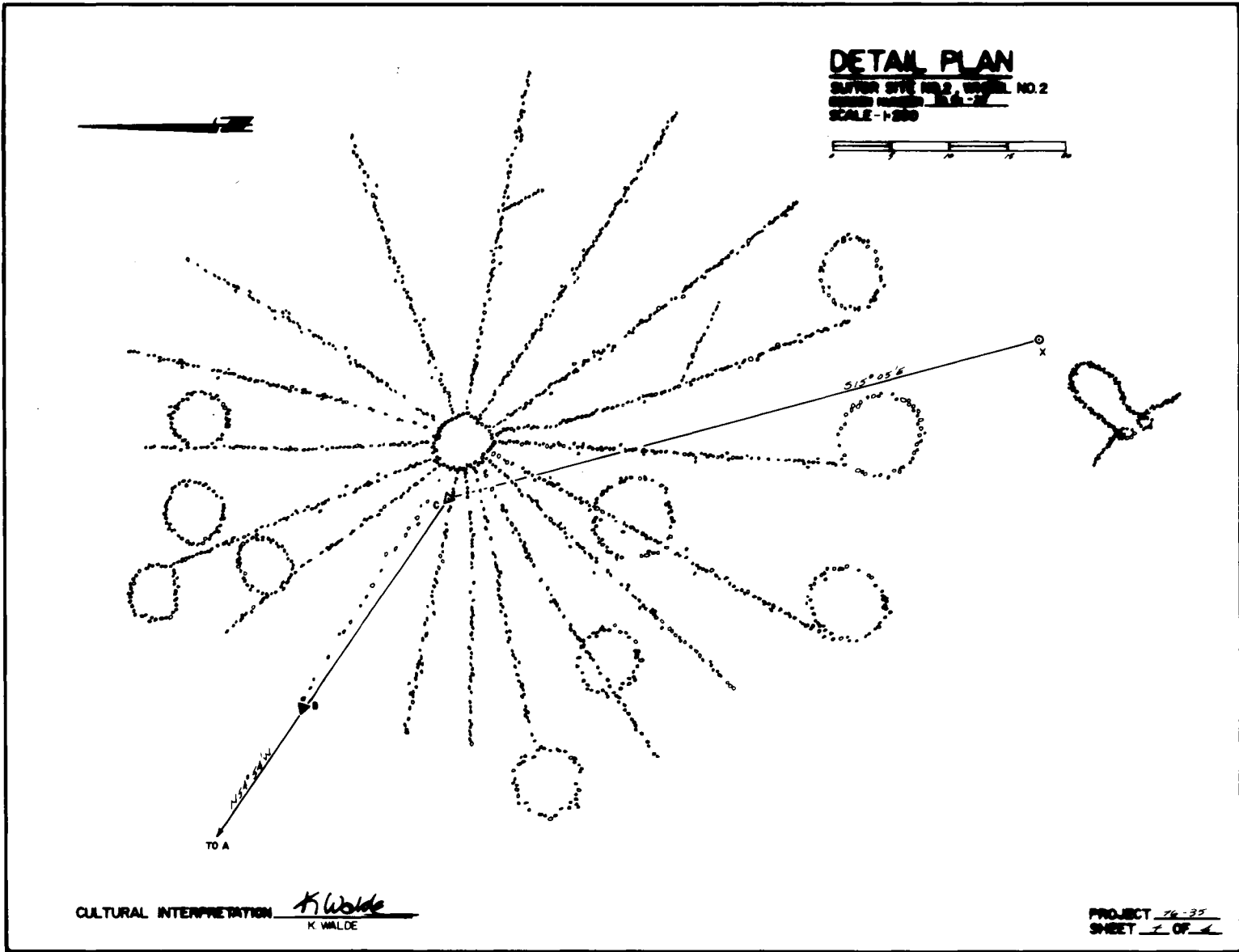


Figure 48

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