ARCHAEOLOGICAL SURVEY OF ALBERTA

Occasional Paper No. 1

1976

ARCHAEOLOGY IN ALBERTA 1975

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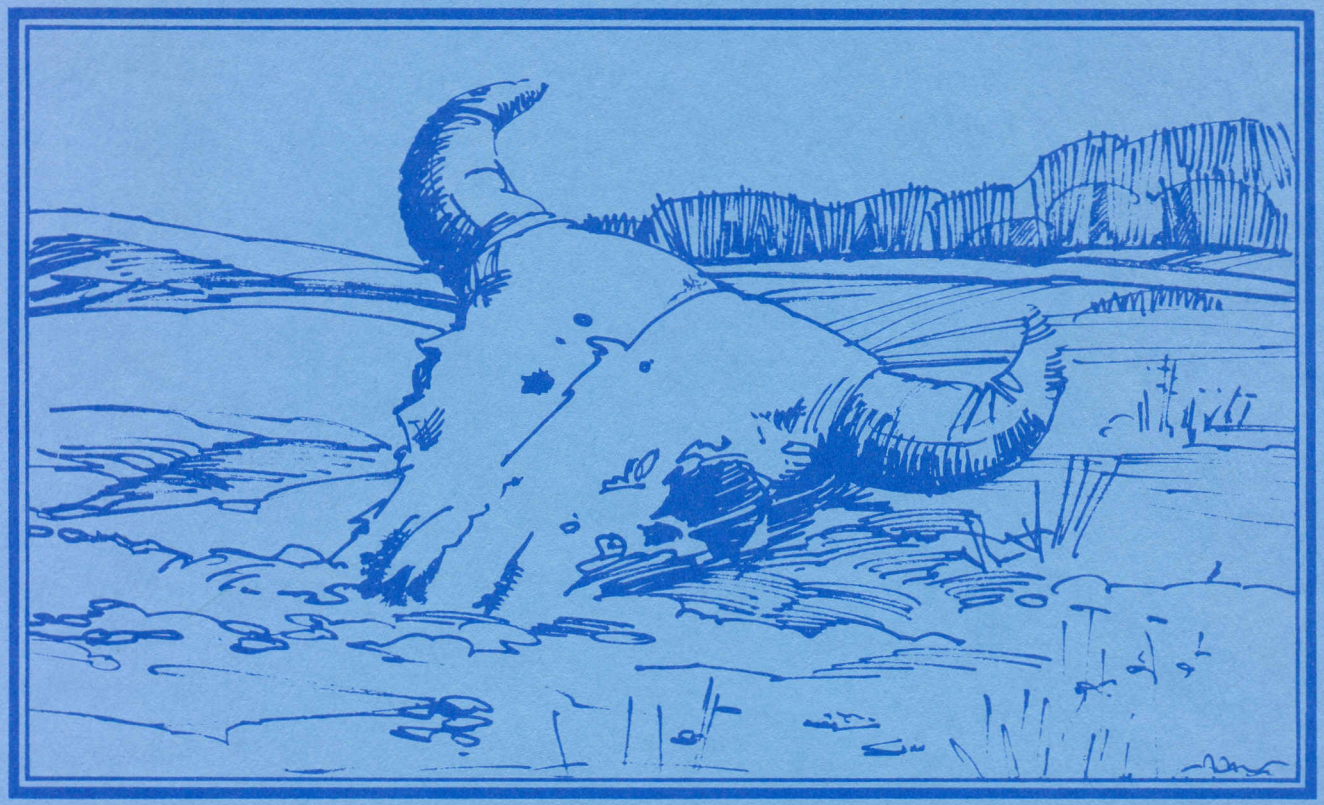

Alberta
CULTURE
Historical Resources Division

ARCHAEOLOGY IN ALBERTA, 1975

compiled by
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and
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OCCASIONAL PAPERS

Papers for publication in this series of monographs are produced by or for the four branches of the Historical Resources Division of Alberta Culture: the Provincial Archives of Alberta, the Provincial Museum of Alberta, the Historic Sites Service and the Archaeological Survey of Alberta. Those persons or institutions interested in particular subject sub-series may obtain publication lists from the appropriate branches, and may purchase copies of the publications from the following address:

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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 summer of 1975, the Archaeological Survey of Alberta instituted and administered a total of 15 archaeological field investigations in the province. Some of these projects constituted conservation operations necessitated by proposed government projects, and the remainder were problem-oriented studies aimed at resolving basic questions in Alberta prehistory. These projects, together with a discussion of a project undertaken several years ago which has just been completed, are presented in summary form.

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ARCHAEOLOGICAL SURVEY OF ALBERTA
FIELD ACTIVITIES, 1975

W. J. Byrne

The passage of the Alberta Heritage Act in the spring of 1973 heralded the arrival of a new chapter in Alberta archaeology. Prior to this date, the archaeological resources of this province provided with little or no protection, and systematic investigations of Alberta's prehistory were in serious jeopardy because of a lack of sufficient time and money to conduct professional research in advance of the destruction of archaeological sites as a result of industrial development, vandalism, or natural decay. Fortunately, however, professional archaeologists and interested members of the general public were able to bring this matter to the attention of the government, and appropriate legislation was introduced. This legislation, which has already been amended twice in its short life to make it stronger and more effective, is far from perfect, but it does constitute a very progressive step in a programme to provide for the orderly and rational investigation and interpretation of Alberta's prehistory.

One of the more immediate responses to the Alberta Historical Resources Act, as the Alberta Heritage Act is now titled as a result of recent amendments, was the formation of the Archaeological Survey of Alberta. This agency, a Branch of the Historical Resources Division of Alberta Culture, is charged with the responsibility for the implementation of those provisions of the Act which pertain to archaeology. In this capacity it serves a number of functions, including the issuance of Archaeological Research Permits now required for archaeological investigations undertaken within the province. The aim of the permit system is to ensure that all investigations of archaeological sites will only be done by individuals who possess the qualifications necessary to design and conduct an investigation according to professional and scientific principles, and to require the preparation of professional calibre reports on the work within a reasonable space of time.

The Archaeological Survey of Alberta also has more activist roles, however, as reflected by this first report on its field projects. That is, the Survey is also involved in province-wide programmes of archaeological investigations using both members of its staff and independent archaeologists working under contract. These investigations are of two

basic types, "demand" surveys and excavations necessitated by proposed government development projects in specific areas, and problem-oriented studies aimed at resolving basic issues in Alberta archaeology.

This report, the first in a new quick-print series being initiated by the Historical Resources Division of Alberta Culture to publish basic scientific papers in current Alberta archaeology, consists of summary statements on 16 demand and problem-oriented projects initiated or reported on in 1975. Of these projects, 15 were conducted under the direct auspices of the Archaeological Survey of Alberta, three by staff members and the remainder by contract archaeologists. The remaining article, that by Eugene Gryba, constitutes an excerpt from a longer report on an excavation programme initiated serveral years ago by Alberta Provincial Parks. This article has been included in this report because of the significance of the investigations and the lack of availability of the information through other means. In addition, it was considered justified to present this report here since the project initiated by Alberta Provincial Parks is to be continued in 1976 by the Archaeological Survey of Alberta.

The other projects discussed in this report encompass a wide range of subjects, and range in location from the Caribou Mountains in the north to the Crowsnest Pass in the south (Figure 1). Of the demand investigations, most were conducted in conjunction with current or projected highway construction programmes and were funded either entirely by Alberta Transportation or jointly by Alberta Transportation and the Archaeological Survey of Alberta. In this respect, Tim Losey, Cort Sims and Colin Poole were responsible for survey projects which examined highway rights-of-ways to determine the presence of archaeological sites which would be impacted by surface disturbance accompanying planned highway construction. At the same time, crews were fielded by Colin Poole, Jim Calder and Lifeways of Canada (under the direction of Brian Reeves) to conduct conservation excavations at archaeological sites previously located on highway rights-of-ways which were slated for destruction by highway construction projects ongoing in 1975. The only other demand investigation discussed in this report is the brief survey of portions of the Old Man River drainage basin by J. Michael Quigg, undertaken directly by the Archaeological Survey of Alberta at the request of Alberta Environment.

The remaining projects constituted problem-oriented investigations,

most of which reflect the interest of the Archaeological Survey of Alberta in promoting studies in the northern and eastern sectors of the province. That is, a reflection on the precious history of archaeological investigations in Alberta results in the conclusion that the bulk of the activities of university-based projects have been directed towards the southern and western regions. Consequently, in an attempt to bring about some balance in the information to be made available on Alberta archaeology in the near future, the Survey has adopted a policy of utilizing its resources to promote studies in northern and eastern Alberta.

To this end, Paul Donahue undertook an extensive survey of the Caribou and Birch Mountains, and limited sectors of the Peace and Athabasca River valleys in northeastern Alberta. At the same time, Gary Adams surveyed the lower portion of the Red Deer River and J. Michael Quigg investigated along the eastern end of the Battle River. Ed McCullough furthered the programme by a lakeshore survey in the Lac La Biche region.

Of the three remaining projects, those by John Driver and Bea Loveseth in the Crowsnest Pass area were more site-specific investigations arising out of earlier work in that area. John Driver excavated two Early Prehistoric Period sites in an attempt at resolving some issures on occupation sequences and early Post-Pleistocene environments in the front ranges of the Rocky Mountains, while Bea Loveseth was examining the problem of lithic quarry sources in this same area. The final project discussed here consisted of a very brief re-examination of the Fletcher site by Michael Quigg in an attempt at securing organic samples suitable for radiocarbon dating and at determining the extent of attrition of the site to see if it was feasible to plan for a concentrated research project at this Early Prehistoric Period. While the results of the former were disappointing to say the least, the overall results were favourable inasmuch as it was possible to demonstrate that a considerable body of cultural deposits still remains at the site.

Summaries of these projects, therefore, constitute the text of this first report in the Kitsukenaw Series publications in archaeology. All of these projects, however, will be reported on in much greater detail, and some of these reports will appear as future monographs in this series. At the same time, it is important to note that these projects by no means constitute all--or even the bulk--of archaeological field investigations conducted in Alberta in 1975. That is, a total of 55 archaeological

research permits were issued for field projects in Alberta in the past year, covering investigations which literally spanned the length and breadth of the province (Table 1). For each of these projects a report will be forthcoming, and it is anticipated that at least some of them will also be published in this monograph series.

Figure 1: ARCHAEOLOGICAL INVESTIGATIONS, 1975

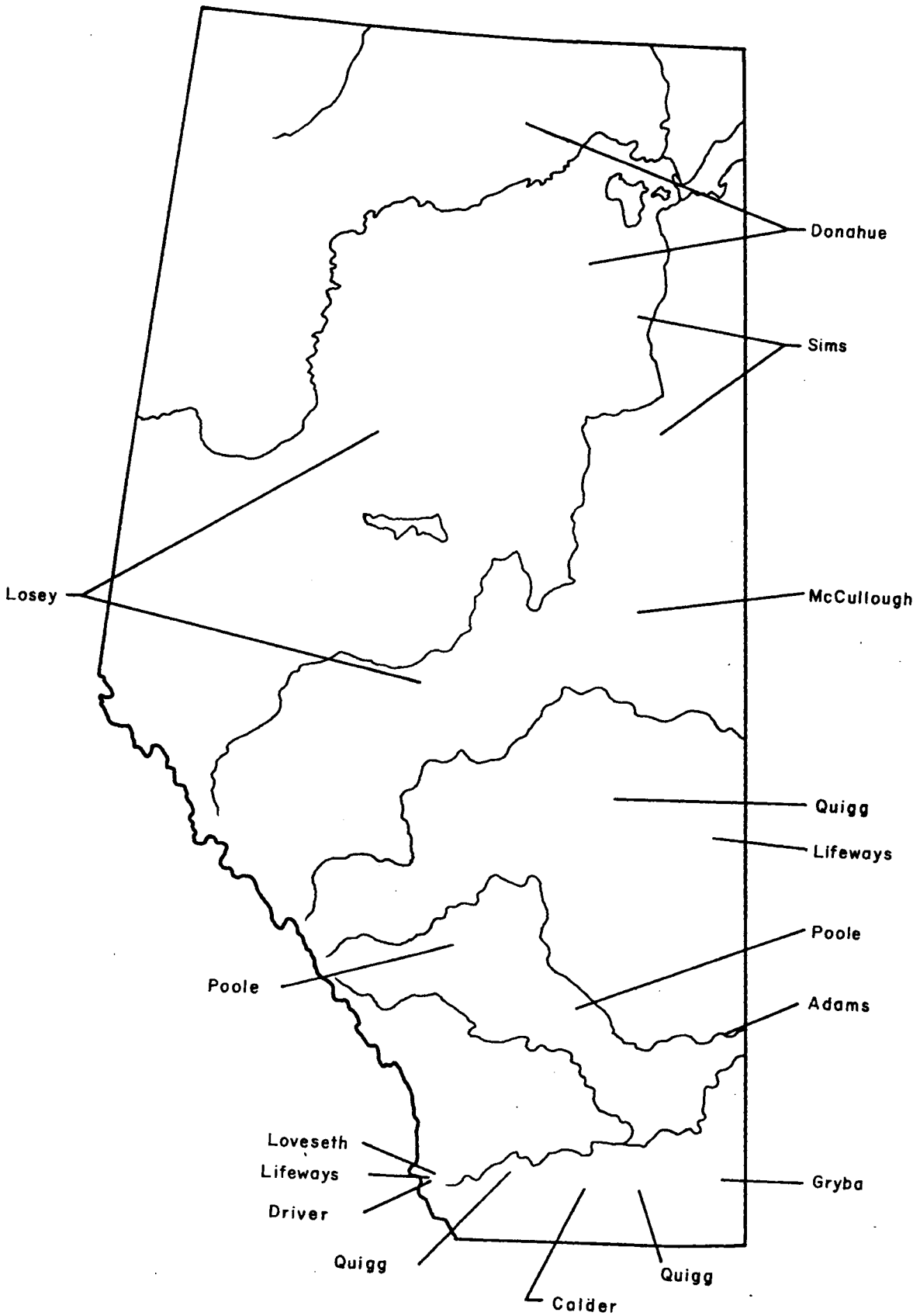


TABLE 1 1975 PROJECTS/PERMITS ISSUED BY THE ARCHAEOLOGICAL SURVEY OF ALBERTA

PROJECT #	ARCHAEOLOGIST	PROJECT
75-1	Bryan, Alan	Dunvegan Dam Reservoir survey
75-2	Gruhn, Ruth	Forestburg/Big Knife survey (coal dev)
75-3	Nicks, John	Ft. George, Buckingham House excavation
75-4	Adams, Gary	Red Deer River valley, east
75-5	Lubell, David (U of A)	Ft. Victoria/Field School
75-6	Brumley, Laurie	Medicine Hat, Seven Persons Creek
75-7	Sims, Cort	Namur Lake survey
75-8	Donahue, Paul	Lower Peace River basin
75-9	Brink, John	Smoky Site, Grande Cache
75-10	Losey, Tim	Shell Canada Lease #13
75-11	Poole, Colin	CN Railways twinning of lines
75-12	Quigg, J. Michael	Villeneuve Airport
75-13	Quigg, J. Michael	Battle River drainage basin
75-14	Sims, Cort	Hwys: 63:02 & 04, SR963, SR868 (Boreal)
75-15	Poole, Colin	Hwys. Reconnaissance: Plains
75-16	Poole, Colin	SR922: Conservation Excavation
75-17	Calder, Jim	Hwy. 36:02 Conservation Excavation
75-18	Lifeways	Hwy. 3--Burdett: Conservation Exc.
75-19	Lifeways	Hwy. 41:12--Conservation Excavation
75-20	Lifeways	Hwy. 3--Crowsnest: Conservation Exc.
75-21	U of C (Loveseth)	Crowsnest Pass quarry sources
75-22	Losey, Tim	Hwys Reconnaissance: Boreal/Trans.
75-23	U of C (McCullough)	Lac La Biche
75-24	U of C (Driver)	Crowsnest Pass tributary valleys survey
75-25	Doll, M. & R. Kidd	Urkevich Site
75-26	Doll, M. & R. Kidd	Metis Cabin Site
75-27	Nicks, John	Dunvegan Heritage Site
75-28	Nicks, John	SR860: FkPa-1 Conservation (HSS)
75-29	Poole, Colin	Hwys Conservation Exc., Historic Sites
75-30	Hickey, Cliff	Grande Cache reconnaissance
75-31	Hickey, Cliff	Lac Ste. Anne reconnaissance
75-32	Forbis, R.G. (J. Eddy)	Stone Alignments in Southern Alberta
75-33	Wallis, Brad	Majorville Cairn alignment study
75-34	Lifeways	Alberta Ammonia, Carseland:Excavation
75-35	Severs, Pat (U of A EXT.)	Battle River west of Hwy. 2
75-36	Steer, Don	Rocky Mountain House
75-37	Bryan, Alan	Consolidation Coal: Ram River
75-38	Poole, Colin	Ft. Calgary
75-39	Lifeways	Blackfalds & Jaffre (Alta. Gas & Dupont)
75-40	Lifeways	Coleman DjPp-12 & vicinity Con. Exc.
75-41	Lifeways	Kitsam EcPa-2 & 4, Conservation Exc.
75-42	Lifeways	Caroline to B.C. border
75-43	Lifeways	Caw Ridge, Sheep & Copton Cks & Smoky R.
75-44	Reeves, Brian	Fish Creek Provincial Park
75-45	Quigg, Michael	ORRPC Reservoir Sites
75-46	Byrne, W.J.	Fletcher Site Test Excavations
75-47	Doll, M. & R. Kidd	Boss Hill
75-48	Gruhn, Ruth	Alta. Power Project Hanna/Sheerness
75-49	Poole, Colin	S. Glenmore Lake Site

PROJECT #	ARCHAEOLOGIST	PROJECT
75-50	Reeves, Brian	Coal Valley
75-51	Forsman, Michael	Writing-On-Stone Provincial Park
75-52	McDonald, Jim	EeOm 1 South Saskatchewan Test Exc.
75-53	Vickers, Roderick	Fort Assiniboine Test Excavations
75-54	Poole, Colin	Lake Louise-Banff Area
75-55	Donahue, Paul	Notikewin Park Archaeological Survey
75-56	Bonnichsen, Robson	Artifact Analysis-Cypress Hills

HERITAGE RESOURCE INVENTORY OF PROPOSED HIGHWAY CONSTRUCTION PROJECTS IN THE PLAINS REGION OF ALBERTA

Colin Poole & Ross Anderson

Project 75-15

INTRODUCTION

The following is a brief discussion of the findings of an archaeological survey carried out in Alberta in the summer of 1975. The areas surveyed consisted of the rights-of-way of proposed highway construction projects in the grassland plains and parkland areas of the province.

The project was funded by Alberta Transportation and carried out under permit from the Archaeological Survey of Alberta. A total of 33 construction projects were surveyed under 30 project designations. The area covered ranged from Leduc in the north to Carway in the south, and from Rocky Mountain House in the west to Monitor in the east. The total number of project miles examined was 258, and resulted in the location of 68 historic and prehistoric sites.

PROCEDURES

Pre-field studies consisted of assembling an adequate information base for each project. This information, consisting primarily of air photo mosaics, route plans and topographic maps, was then examined to evaluate the potential of the route for yielding heritage sites.

No systematic research schedule was established since many of the highway projects were already under construction, some near completion, and required immediate attention. This resulted in a considerable loss of time and increased project costs due to the necessity of visiting various local areas on more than one occasion.

In-field studies consisted of foot and vehicular traverses of proposed routes while employing standard archaeological collection and recording techniques. The greatest impediment to the field studies consisted of the lack of adequate ground surface exposure on many projects. Records were made of those areas exhibiting characteristics amenable to prehistoric occupation but which lacked exposures.

PREHISTORIC SITES

A total of 56 prehistoric sites were recorded during the project. In addition, 4 sites containing both historic and prehistoric material were

TABLE 2: SUMMARY OF HERITAGE RESOURCE INVENTORY OF PROPOSED HIGHWAYS, PLAINS REGION, 1975

HWY PROJECT	LOCATION	PLAN OR MOSAIC	MILEAGE PROJECT	MILEAGE INVENTORIED	NO. SITES LOCATED	BORDEN SITE DESIGNATIONS
2:02	Carway-Cardston	Hwy 2:02 Carway-Cardston 7 of 7*	15.68	15.68	8	DgPh-81 to 85; DgPi-15, 16; DhPh-35.
2:12	N of Dewinton INT N of weigh scale INT	Hwy 2 N of Jct Hwy 2 and 2A Dewinton*	2.70+INT	2.5[1]	0	
2:18	INT S of Crossfield (Beiseker Road)	Hwy 2:18 Crossfield INT 1 of 1	INT	1.0[1]	0	
2:20	Carstairs-Didsbury	Hwy 2:20 Carstairs INT 321 1 of 1 Hwy 2:20 Didsbury INT 1 of 5	3.0	6.0[1]	0	
2:24	Penhold INT	Plan 4-Quadrant Parclo INT Jct Hwy 2 and Hwy 42 E of Penhold	INT	2.0[1]	1	FaPk-1
2:28	N of Hobbema INT	Hwy 2:28 Access Control N of Hobbema INT 3 of 3	INT	4.0[1]	0	
2:32	N of Leduc INT, Hwy 2	Hwy 2:30 and 2:32 Plan Leduc INT (No. 5A) Jct Hwys 2 and 39	10.37+INT	3.0[2]	0	
3:12	Fincastle-Grassy Lake	Hwy 3:12 E of Fincastle-Grassy Lake 6 of 6	12.71	12.71	0	
3:14	Grassy Lake-E of Burdett	Hwy 3:12 and 14 Grassy Lake-E of Burdett 5 of 5	8.46	8.46	0	
12:08	Aspen Beach-Jct Hwy 2	Hwy 12:08 Gull Lake-Jct Hwy 12 4 to 6 of	6.50	6.50	0	
	Rimbey Bypass	Hwy 12:08 Hwy 12-Rimbey Bypass 2 of 2	1.50	1.50	1	FdPn-1
SR922:14	E of Bragg Creek	SR922:14 Priddis Corner-E of Bragg Crk 5 of 5 and SR922:14 E of Bragg Crk-Bragg Crk 4 of 4	8.6	15.0[3]	5	EfPn-4;EfPo-3,4; EfPp-2,3
	Alder Flats-Jct Hwy 57[4]	SR922-28 Proposed Hwy 922 S of Jct SR612 Jct Hwy 57*	19.0	20.5	2	FgPr-1,FhPr-3
SR922:22	Jct Hwy 54-Jct Hwy 11	SR922:14 Jct Hwy 11-Jct Hwy 54*	16.0	16.0	0	
23:04	N of Jct Hwy 3	Hwy 23:04 Hwy 23 1 to 10 of	15.05	15.05	2	EaPg-1 and 2
36:16	Killam-Jct SR926	Hwy 36:16 N of Killam E of Jct SR926 7 of 7	15.65	15.65	4	FfOx-1 to 4
41:12	New Brigden-S of Monitor	Hwy 41:12 New Brigden-S of Monitor 1 of 6	8.14	8.14	19[5]	EkOo-1 to 5; EkOp-2 to 12; ElOp-10,11,14
52:02	Curve revision-W and E of Raymond	Hwy 52:02 curve revision W of Raymond Hwy 52:02 curve revision E of Raymond	1.04	1.04	0	
SR953:10	E of Bashaw-W of Donalda	SR953 W of Bashaw-Jct Hwy 956 1 to 3 of and SR953:10 W of Jct SR956 to Donalda 1 to 4 of 6	11.50	13.0	6	FdPe-7 to 11 FdPf-1
SR956:06	S of Bow River	SR956 Bow River Crossing at Crowfoot 2 of 3	2.5	3.0	1	EePd-2
SR956:16	S of Meeting Creek and	SR956:16 Jct SR953 to S of Meeting Creek 3 of 3* and	19.0	8.0[6]	9	FdPe-5, 6
	Jct Hwy 13 to W of Kelsey	SR956:16 W of Kelsey-Jct Hwy 13 6 of 6*	9.0	20.0[6]		FePe-1 to 4 FfPe-3 to 5
AR137	Jct Hwy 36 - Galahad	AR137 Jct Hwy 36 - Galahad 2 of 2	4.7	4.7	1	FdOx-1
PR127	Jct Hwy 13- Pigeon Lake Park	PR127 Jct Hwy 13 - Pigeon Lake Park 4 of 4	1.04	1.04	0	
PR134	Jct SR527 - Willow Creek Park	PR134 Willow Creek Park Access 1 of 1	1.20	1.20	0	
PR136	Jct Hwy 2 - Police Outpost	PR136 Police Outpost Park Access Road 1 of 1	15.0	4.0	2	DgPi-17,18
2A:16	Innisfail - Red Deer	Hwy 2A 2A:16 37 to 44 of	15.33	18.5	2	FaPl-2, FbPk-3
SR953:10	Forestburg-W of Hwy 36	SR956 Proposed Primary Hwy Forestburg-Jct Hwy 36 6 of 6*	6.18	6.18	2	FdPa-2, 3
2:22	Bowden INT Jct Hwy 2 & PR105	Plan: Parclo INT Hwy 2-SR587 at Bowden	4.77	3.0	1	ElPm-1
5:04	S of Spring Coulee-S of Magrath	Hwy 5:04 S of Spring Coulee-S of Magrath 7 of 7	12.40	12.40	1	DhPg-2
AR184	Jct Hwy 1-Springbank Airport	AR184 N of Jct Hwy 1-Springbank Satellite Airport 1 of 1	1.50	1.50	0	
PR121	Jct Hwy 41-Gooseberry Lake Park	PR121 Jct Hwy 41-Gooseberry Lake Park 1 of 1	1.0	1.0	0	
SR549	Quirk Creek to Jct Hwy 22	SR549 Quirk Creek Gas Plant to Jct Hwy 2 4 of 4	9.1	9.1	1	EePo-18
TOTALS			258.62	261.35	68	

* Mosaic received December,1975: not available at time of inventory.
1 Mileage determined by extent of on ground reconnaissance.
2 Project incomplete as exact location and extent could not be determined due to insufficient data received.
3 Section from E of Bragg Creek to Priddis inventoried 1974. Resurveyed in 1975 on basis of mosaics supplied by Archaeological Survey of Alberta.
4 Project inventoried was existing road S from Hwy 57 through Buck Creek to Alder Flats based on Annex A description; insufficient data received until December 1975 when mosaic was received.
5 ElOp-10 and 11 were recorded in 1974 but were not in the section constructed in 1975.
6 Insufficient data received. Information received from Alberta Transportation indicated the project extended from Jct Hwy 56-SR953 north to Hwy 13.

found. (See Table 2)

The prehistoric sites consisted primarily of small campsites with lesser numbers of butchering stations, tipi rings, cairns and isolated finds. The majority of these sites had suffered impairment from past and ongoing development. The principal agencies responsible for site damage included road construction activities and agricultural cultivation. (See Figures 2 and 3).

The most consistent prehistoric site locations were elevated locales, regardless of regional topography. Often these elevated areas were adjacent to former drainage channels, ephemeral runoff channels, active drainage courses or sloughs. (See Figures 2, 3 and 4.)

Where the regional topography was flat to slightly rolling, sites occurred most frequently on valley edges at drainage channels or on terraces adjacent to the water course. In regions of rolling, knob and kettle, or disintegration moraine type topography, sites were usually located on elevated surfaces adjacent to or above pothole sloughs inland from the major drainage channels. (See Figure 4.)

In the foothill regions, sites were almost exclusively restricted to valley-adjacent or lowland-adjacent locales. No definite preference for south-facing habitation site locations was encountered.

HISTORIC SITES

Eight historic sites were recorded, and, as was mentioned earlier, 4 sites were located which contained both historic and prehistoric materials. (See Table 2.) Of these 12 sites containing historic components, 9 relate to post-1900 agricultural settlement, 2 relate to circa 1900 ranching settlement, and 1 is of unknown function. (See Figure 5, 6 and 7.) These sites range from standing buildings and building remains to foundation outlines. None are so valuable as to require preservation and highway realignment, but the majority have been recommended for identification and further recording.

CONCLUSIONS

At present only general statements regarding site values can be made. No prehistoric sites were located which were of outstanding value. The vast majority of the sites had been previously disturbed and much of their value therefore lost. However, a number of sites have been recommended for limited

or evaluative testing to attempt to determine site extent, particularly with respect to buried components not visible through available exposures.

Generally prehistoric site locations did not cause any profound re-evaluation of settlement patterns in Southern Alberta. The greatest differences were seen between the true plains (short grass and mixed grass plains) and the parkland areas. In the parkland zone, rolling knob-and-kettle or disintegration moraine type topography is common, as are pothole and ephemeral sloughs. Prehistoric sites are frequently found in association with these sloughs, often spatially separated from major present or past active drainages.

In the plains grassland area, slough and inland sites are less common, with habitation sites occurring more frequently in association with major drainages.

Historic sites, while in the main relating to early 20th century settlement, are considered to be of value. In the last 20 years there has been an extensive shift to large farms and a movement of the rural population to urban centres. Consequently numerous smaller and original farms have been abandoned. Unless recording and identification of these farmsteads is undertaken now, much of Alberta's relatively short agrarian history will become irretrievably lost. Where highway construction disturbance is imminent, further site recording and identification was recommended.

Although no sites of great consequence were discovered during the survey, the project has guaranteed that damage to heritage resources in the Province of Alberta resulting from highway construction will be held to a minimum. In this respect, such work must be considered to make a major contribution to the archaeology and history of this province.

Figure 2 : Hwy. 5 Round-Up Creek Crossing. Creek diversion channel through stream terrace which destroyed much of Site DhPg-2. Looking N.

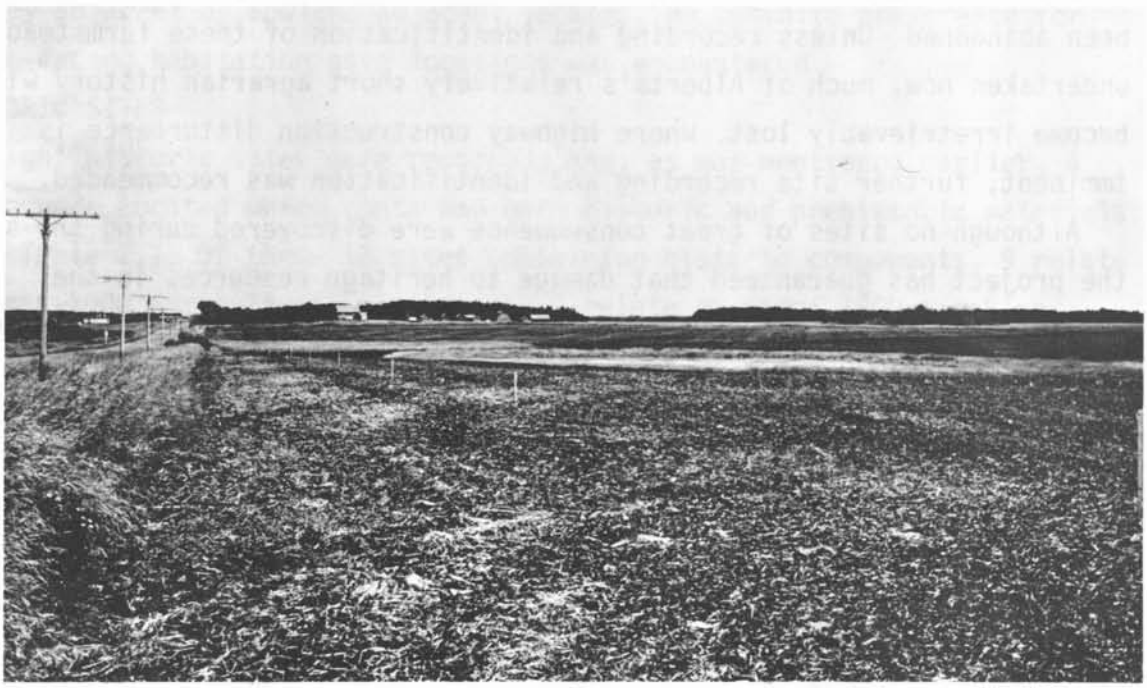


Figure 3 : Cultivated field adjacent to slough just NE of Galahad. Small slough-adjacent campsite located in foreground to slough's edge. Stakes indicate AR137 alignment expansion. Looking ESE.

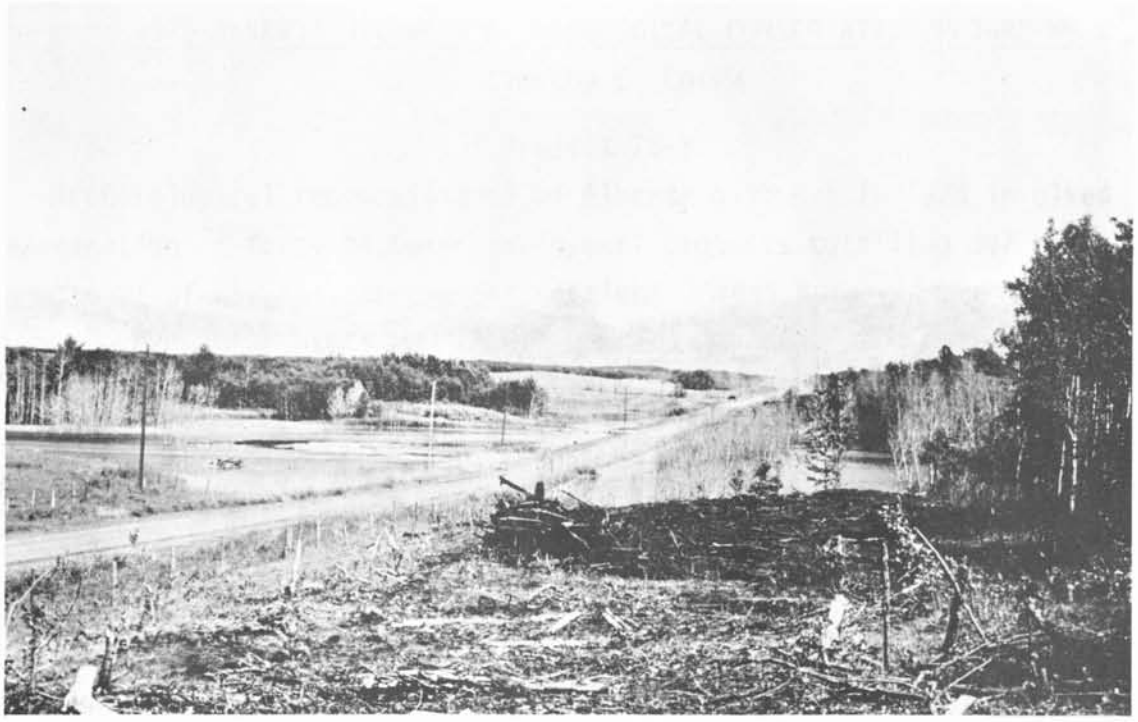


Figure 4 : West end of FdPe-7 located on SR953 W of Bashaw. Site is on near and far sides of sloughs. Cultural material was located in disturbed areas resulting from alignment clearing. Looking E.

Figure 5 : Looking south from DgPi-16 overlooking Hwy. 2, St. Mary's River and Round-Up Creek Valleys. Cairn and ring stones visible on hill-top in foreground.

Figure 6 : Looking E along SR549 west of Millarville. Building in left centre, a log barn (EcPo-18), will be destroyed by curve revision of SR549.

Figure 7 : Looking NW, near Crowfoot Crossing of Bow River (to left), towards stone building remains (EcPd-2). Crowfoot visible on skyline to right.

1975 ALBERTA HIGHWAYS ARCHAEOLOGICAL CONSERVATION PROGRAMME

Timothy C. Losey

Project 75-22

Archaeological reconnaissance of Alberta highways in 1975 involved examination of forty highway development projects totalling 397 miles of new right-of-way and improvement sections. Areas surveyed are located in both the Boreal Forest and Parkland/Foothills Regions of central and northern Alberta. The projects included 27 primary highways (250.48 miles), 12 secondary roads (140.76 miles), 3 inter-change systems, and one park road (5.55 miles).

A field party comprised of three field technicians under the immediate supervision of Mr. J. Priegert were engaged for 56 days of active reconnaissance from 5 June through 31 July, 1975. The procedure for investigation relied heavily on locational data available from 1": 400' scale photo mosaics supplied by Alberta Highways Department. These were used for defining areas to be surveyed and identifying areas of archaeological potential and/or pinpointing archaeological remains within a project area.

Examination of the rights of way and related construction activities usually entailed splitting the field team into two working units operating from a single vehicle which was moved along regular intervals as the investigation proceeded. Actual survey examination was conducted entirely by foot traverse of each right of way or construction area. Visual inspection of natural (eroded) and man-made exposures was augmented by occasional test excavation in areas of considered potential lacking good surface exposure.

Results of the 1975 Highways Archaeological Programme are briefly summarized below with reference to both the highway project number and the survey/environmental region.

TRANSITIONAL PARKLAND/FOOTHILLS REGION

Project 16:12 & 14 (20.29 miles)

One site already destroyed by previous road construction and agricultural activity was located north of the highway right of way near Smithfield, Alberta in SW 15 T53 Re W5. Material recovered includes three bifaces, a projectile point and several stone chips and flakes from a cultivated area.

Project 36:18 (13.79 miles)

An early twentieth century (?) homestead consisting of a dwelling and one outbuilding was located on the right of way in NE 35 T50 R13 W4. No special features were noted.

Project SR639 (8.0 miles)

A possible prehistoric kill site was located in a cultivated field in SE 27 T55 R13 W4 and an assemblage consisting of a projectile point and several bison (?) bone fragments was collected. Unfortunately no undisturbed area of the site appears extant.

Project SR855 (10.0 miles)

A prehistoric site consisting of a unifacial tool and a flake was located in a cultivated field east of the right of way in NW 16 T55 R16 W4.

An early twentieth century homestead was observed east of the right of way but situated on the new fence line in NW 21 T56 R16 W4.

Three isolated finds were made along the 10 mile survey section.

Project SR947:10 (29.80 miles) could not be examined owing to the presence of poison gas emission from a nearby oil and gas field.

BOREAL FOREST REGION

Project 49:02 (13.31 miles)

A single isolated pebble core was recovered from this survey section.

Project 34:04 (21.41 miles)

One prehistoric site was located in NW 10 T72 R3 W6, yielding four stone flakes and an unidentified projectile point fragment.

Two isolated finds were also made in this section.

Project 2A:34 (21.22 miles)

An early twentieth century homestead consisting of three log structures was located immediately adjacent to the right of way in NE 12 T76 R19 W5 but which is probably not endangered by construction.

Project SR749 (4.80 miles)

A disturbed prehistoric site consisting of several stone flakes, chipping detritus and thermally fractured rocks was located in a borrow pit which had been placed in a sand dune near the right of way in NE 36 T75 R17 W5. A nearby isolated find may be related to the site.

Project 2:44 (19.52 miles)

A recent log cabin structure already shown on the Department of Highways location mosaics was observed directly on the right of way. Cabin is scheduled to be moved. The location is NE 32 T69 R26 W4.

Project SR940:42 was completed during the 1974 field season and was not re-surveyed this year. One site, GgQq 1, was located in this section the previous season. No location line could be found for the alignment on project SR940:40 which was therefore deleted.

COMMENT

The results of the 1975 Highways Reconnaissance Programme are discouraging with regard to the number of archaeological sites found and the amount of materials recovered. There are a number of problems attendant to survey of highway construction projects, one of the most important of which involves the nature and condition of the rights of way at the time of examination. The possibility that some archaeological remains may be overlooked is, of course, always present, particularly in the northern region where sites are characteristically both small and fragile. However, the low return in terms of actual sites located must bear some relationship to the actual site density within the areas surveyed, but biased by the fact that highway locations are anything but random transects through the environment. In light of this, it may be necessary in the future to supplant the present system of right of way reconnaissance (which is both costly and time consuming) with area surveys which may provide baseline data with which to evaluate archaeological potential of areas slated for highway development. Thus the present limited number of trained personnel could be more profitably employed in salvage and presalvage excavation and problem oriented area surveys.

Figure 8 : View north of Project 2:44 through area ridge and swale topography showing truncation of linear dunes.

Figure 9 : A general view north along Project 2:44 right of way across Lawrence Lake basin.

Figure 10: A general view south of Project 967:02 right of way clearing near Marten Tower Road.

Figure 11: View north along Project 967:04 right of way showing "scalping" and removal of all upper soil horizons.

A PRELIMINARY REPORT CONCERNING AN ARCHAEOLOGICAL SURVEY OF CERTAIN BOREAL FOREST HIGHWAY PROJECTS IN NORTHEASTERN ALBERTA - 1975

Cort Sims

Project 75-14

INTRODUCTION

This is a preliminary report on archaeological investigations conducted through the Alberta Archaeological Survey on behalf of the Provincial Highways Department. This particular report concerns four highway projects in Northeastern Alberta which are scheduled for construction in 1975 or 1976.

The four projects included: a new road north of Fort McMurray which will run from Mildred Lake to a point north of Beaver Creek (Project SR 963:12), a new road from Quiggly on the Northern Alberta Railway to Gregoire Lake (Project SR 868), a widening of Highway 63 from Atmore to Wandering River (Project 63:02), and finally a widening of Highway 63 from Wandering River to the House River (Project 63:02 and 04).

All of these projects are within the Mixedwood Section of the Boreal Forest Zone. Project 63:02 runs almost entirely through farmland, but the rest of the projects are situated in bush country. Spruce/Aspen, Aspen, Jack Pine, Black Spruce Muskeg and Willow Muskeg are the most common plant communities encountered on the survey. Soils in the areas surveyed are mainly silts and clays with occasional areas of slightly duned sand. The surficial geology of the areas in which the projects are situated is also roughly the same, being composed of glacial outwash deposits (sands, silts and clays) covering relatively flat glaciated plains.

RESULTS

The survey covered a total of 79.6 miles of highway right-of-way during seventeen days between May 19, 1975 and June 13, 1975. The survey was accomplished by a foot traverse of each project by two archaeologists. Three archaeological sites were located and one "possible archaeological site" was identified.

Two archaeological sites were found in relation to project SR 963:12, an 8.16 mile road which will bypass the proposed Syncrude Canada Limited tailings pond on Beaver Creek. These sites were assigned numbers according

to the Borden System (HgOv-31 and HgOv-32). The right-of-way on project SR 963:12 has been cleared of all vegetation and the archaeologists had no problem locating any artifacts on the highway route.

HgOv-31 was found on a south-facing escarpment overlooking the Beaver Creek. The site was found in a largely disturbed condition as a result of vegetation clearance. A total of 3597 artifacts were recovered from HgOv-31. This collection included: 1 projectile point of the Besant type, 45 bifaces and biface fragments, 1 rectangular "micro-scraper", 13 used flakes, 11 multi-directional cores and fragments, 3 hammerstones, 3 split cobbles, and 3519 flakes, flake fragments and pieces of nondiagnostic shatter.

HgOv-32 was found in an undisturbed state approximately 500 feet east of the right-of-way. This site is situated on a west-facing escarpment on the south side of the Beaver Creek. A total of 211 artifacts were collected at the site including 1 projectile point fragment of unknown type, 7 biface fragments, and 203 flakes, flake fragments and pieces of nondiagnostic shatter.

Both of the above sites show clear affinities with a previously reported site, the Beaver Creek Quarry (HgOv-29) (Syncrude 1974). This site is located about 1000 to 1200 feet northeast of HgOv-31 and approximately 800 to 1000 feet north of HgOv-32. Almost all of the artifacts from all three sites were made from "Beaver Creek Quartzite" which outcrops around HgOv-29. Both the Beaver Creek Quarry and HgOv-31 have produced Besant projectile points. It therefore seems possible that the sites are of comparable age. The comparison of the activities conducted at these sites may produce some insights into prehistoric settlement patterns.

One archaeological site (HcOs-1) was found just north of the end of project SR 868, the Quiggly to Gregoire Lake Road. No prehistoric remains were encountered on the right of way itself. HcOs-1 is an open site located on the shore of Gregoire Lake, just east of the lake's outlet. Only a small number of flakes were found at this site. Nevertheless, the great dispersion of the artifacts found suggests that the site could contain much more cultural material than has been found to date. This site has been largely disturbed by the Anzac Road and a new project to re-align this road.

A "possible archaeological site" was found approximately 1/8th of a mile south of mile 18 of project SR 868. This "possible site", containing one flake and a piece of quartz, was found on a cutline. It was called only a possible site since one artifact is insufficient to identify an archaeological site.

The survey of highway projects 63:02 and 63:02 - 04 revealed no prehistoric remains. The rights of way along the projects are already deeply cut and no prehistoric material was found in the areas adjacent to the rights of way.

RECOMMENDATIONS

Site HgOv-31 was largely disturbed before discovery, and the majority of the artifacts it contained were collected. Therefore, no further work is recommended at this site. As HgOv-32 is not near the right of way, project SR 963:13 can be cleared for construction. However, further work is recommended at HgOv-32 in the future to determine its extent and content.

Although neither HcOs-1 or the possible site near mile 18 of project SR 868 is on the right of way, they do indicate that the area has archaeological potential. The archaeologists surveying this project had great difficulty locating and assessing the right of way because it was not staked and the vegetation formed an unbroken cover over the ground. It was obvious however that the right of way ran through many likely areas for prehistoric habitation. Thus, it is recommended that additional time be spent examining this project after it has been staked and the vegetation cleared away. In any future investigations around Gregoire Lake, HcOs-1 should be carefully examined.

No further work is recommended in regard to projects 63:02 and 63:02-04. The surveyors are quite confident that nothing of prehistoric or historical interest will be disturbed by these highway widening projects. These areas can thus be cleared for construction.

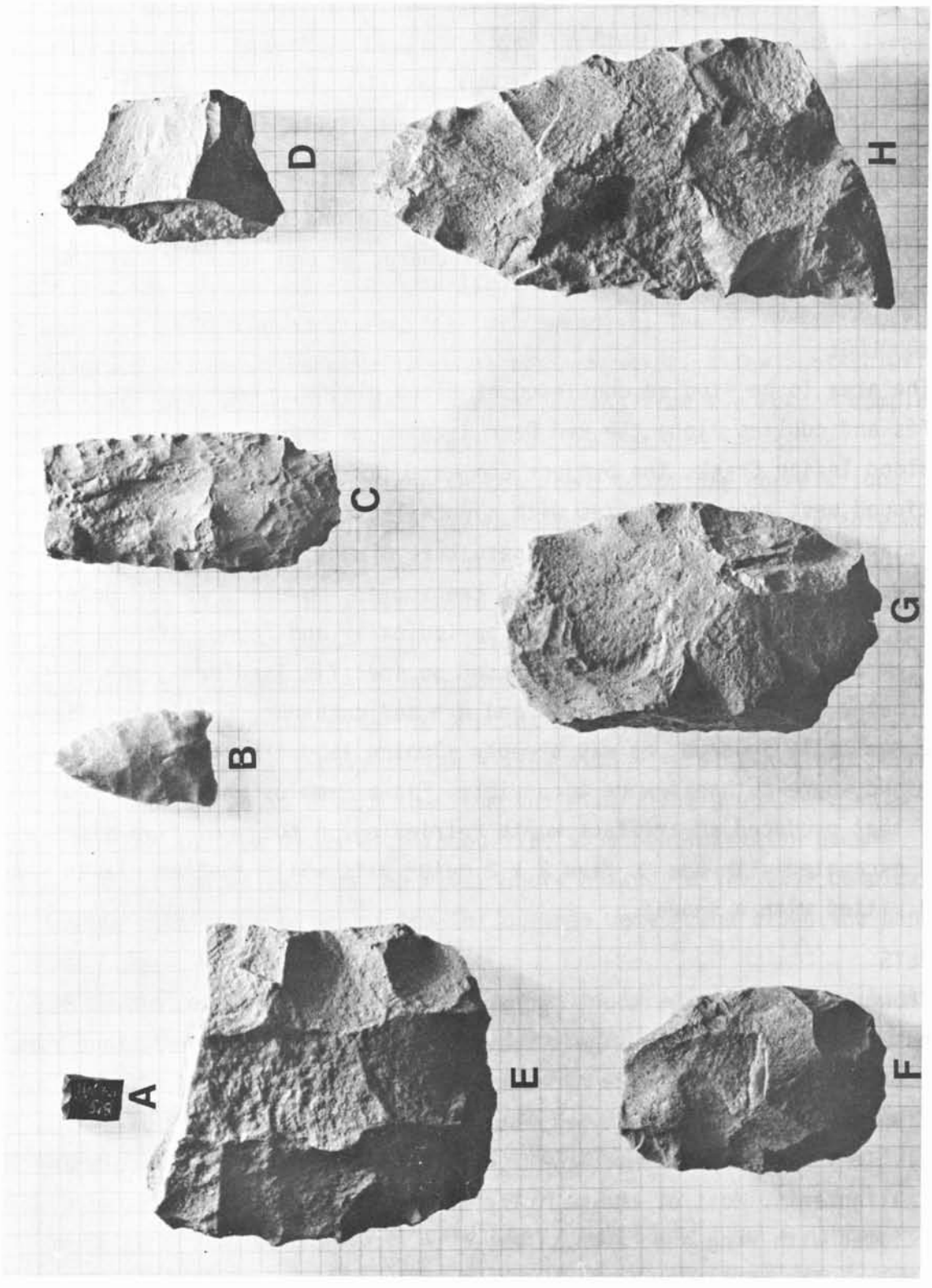


Figure 12: Artifacts from HgOv-31 and HgOv-32.

RED DEER RIVER SURVEY

Gary Adams

Project 75-4

PURPOSE

Reduced to its simplist terms, the mandate of the Red Deer River Survey was to locate and assess archaeological sites along the Red Deer. From this, a statement on the archaeological character and potential of the region is to be prepared.

METHODOLOGY

The area to be studied consisted of flood plains, river terraces, river bluffs and coulees along the Red Deer River from Empress, west to the mouth of Blood Indian Creek. The project commenced at the Saskatchewan border and continued west about ten miles with a detailed survey of all areas. Unfamiliarity with survey work and the nature of the coverage combined with poor weather to give a poor start to the summer. However, we did determine survey priorities that were checked periodically and found effective.

From July 1st, research concentrated on specific landforms; the river and coulee bluffs, river terraces and exposed cutbanks. Cultivated fields were basically ignored, as was steeply sloping land. The flood plain was examined where cutbanks were accessible. Flake samples were taken from any site that produced an artifact worth retrieving. A total of five sites were test excavated with one to five 2 x 2 meter pits while another eleven were test pitted with a shovel.

RESULTS

Though subject to revision, the preliminary tally indicates that 668 sites were recorded during the survey. Of these, 276 contained stone rings, 370 contained cairns and 229 had surface flakes. There was considerable overlap between these site types, but together they formed 94.3% of the total. They were supplemented by 21 buried sites, 6 medicine wheels and 40 rock alignments. Most of the medicine wheels and rock alignments were associated with ring and cairn sites.

The results of the testing program returned little in the way of immediate results. Little or nothing was found in the 11 sites shovel tested. The results of the five test excavations were as follows. A disturbed cairn produced three side-notched points and a quantity of flaking. A single component occupation had a large sample of pottery and a side-notched point on the

surface. A multi-component occupation had a very large quantity of fire-cracked rock and a hearth in Level 2, some flakes in Level 4 and a large number of flakes and retouch flakes in Level 5. The fourth site produced two hearths and little else. The last site was multi-component with nothing of significance in any but the lowest level where several flakes and bone fragments were found.

Three large collections were examined with equally poor results. Most of the artifacts observed came from large sand-blown areas between the Red Deer and Saskatchewan River, east of Cavendish. The collections were uncatalogued and memories were vague at best. However, a few Scottsbluff points were seen, along with good representations from the McKean complex as well as Oxbow, Pelican Lake, Besant and Side-notched types.

First impressions of the data have suggested that some correlations between site types and topography may be deduced. Though considerable work has yet to be done, a cursory examination of the region covered suggested that the north side of the river could be divided into four smaller geographic units, and the south into five. Each of these units was somewhat identifiable by topography and incorporates a different makeup of sites.

From the Saskatchewan border to a point about six miles west, the north bank sloped very gently to the plains with several flats and terraces extending back three to five miles from the river. The ground was extensively broken and few sites were found. The site concentration became thicker about ten miles from the river where a large drive lane complex and several tipi ring sites of ten to 30 rings were found along the banks of some large coulees.

The second region extended another ten miles to where the river banks close in on the Red Deer. This area was characterized by a wide flood plain with a series of terraces below gently sloping bluffs. The terraces contained large flaking sites while tipi ring and flaking sites dotted the more prominent bluffs and the rims of Kennedy Coulee, a straight-walled, flat-bottomed, spring-fed coulee of considerable size.

The third region consisted of very high steep banks over a narrow to non-existent flood plain around a large elbow in the river. Here the flood plain contained a series of small surface and buried flaking sites while the rim had a continuous series of tipi rings, cairns, medicine wheels and flakes. This area had the largest concentration of sites found during the season.

From Alkali Creek to Blood Indian Creek, the area had one to three mile wide flood plains and steep bluffs, dissected with coulees from one-half to seven miles long. The banks of both creeks and the rim of the river bluffs contained a high concentration of stone ring and cairn sites, averaging between five and 15 rings per site. The knob and kettle prairie to the north was characterized by cairns on almost every hill within a mile of the bluffs. Finally, the terraces above the flood plain were rich in flaking sites and the occasional ring site. One of these flaking sites appeared to be part of the McKean complex.

On the south side, the first area of gently sloping land from the border to a point about three miles west was practically devoid of observable sites. The next area was a four mile long stretch of coulee land above a mile-wide flood plain. Several small flaking and ring sites were found there.

From the west edge of the coulees to Cavendish (13 miles), the land was distinguished by its lack of character. There were areas of dune topography, flat flood plains, extinct lakes, a large plateau, levees, marsh, and prominent hills. This area was extremely hard to survey and had a low yield.

From Cavendish to Majestic (15 miles) the topography and the site inventory was very similar to that of its counterpart on the north side of the river, the last of the four described. The fifth region consisted of sharp bluffs over elevated terraces and very little coulee development. It too was practically devoid of sites.

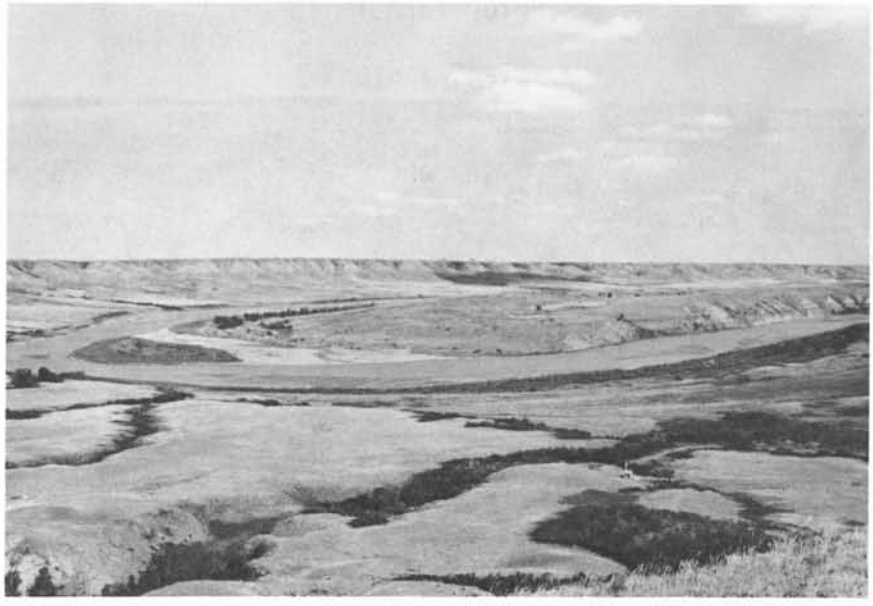


Figure 13: Red Deer River northwest of Bindloss. Photo shows typical river bluff formations

Figure 14: View to east across terraces of Alkali Creek. Large ring site in foreground.

Figure 15: Tipi ring from large encampment and drive lane complex about ten miles north of Empress.

Figure 16: Large cairn on north bluffs of river, north of Buffalo. View to northwest.

BATTLE RIVER VALLEY SURVEY, 1975

J. Michael Quigg

Project 75-13

Prior to June, 1975, systematic archaeological survey programs were a rarity in the transitional Parkland zone of east central Alberta. In an attempt to obtain information indicative of the area as a whole, therefore, a survey of the Battle River valley, a major water source in the area, was initiated by the Archaeological Survey. The aims of this survey program were three-fold: to locate, to record, and to assess sites and materials encountered within a limited two-month field season.

THE SURVEY

From June 2nd to August 1st, 1975, a five member crew conducted a partial survey of the Battle River (Fig. 17). At the commencement of the survey no specific sections were deemed more important than any other due to the lack of knowledge throughout the Parkland. Our reconnaissance started from the junction of Meeting Creek and the Battle River (west of Forestburg, Fig. 18) and continued to Hardisty (Fig. 19), approximately 120 kilometers to the east, passing through the big southward bend in the Battle River (Fig. 20).

Both east and west banks of the river were subjected to foot traverse, except for the east side of the valley between Hardisty and Nelson Creek, which was not covered due to lack of adequate time. Terraces and the valley rims were examined thoroughly with special attention to all exposures and non-treed areas. Tributaries along the Battle River were also surveyed to considerable distances beyond the point of juncture with the main stream.

FINDINGS

The two-month survey resulted in the location and recording of some 230 prehistoric sites. These sites were found mainly on the prairie level showing up in plowed fields and other surface exposures; a very small percentage of the sites occurred in the valley itself and these usually occurred on the surface of the valley wall terraces.

The most numerous of the site types encountered were surface campsites, consisting of various pieces of waste flakage and occasional tools. Tipi rings were found (Fig. 21), but mainly in small groups; the largest tipi ring encampment consisted of 13 rings. Stratified campsites and buffalo kills or jumps were very infrequent. Small quarries or lithic workshops,

however, were often located, mainly on the back wall of the valley terraces, generally concentrated towards the western end of the area surveyed.

The limited collection of lithic materials gathered from the Battle River area revealed a preference for the use of local quartzites and small pebble cherts in tool manufacture. In some areas opalized wood was utilized most extensively, probably due to the close proximity of outcrops of this material. Good quality cherts were rarely found in the sites, although isolated specimens of imported lithic varieties such as obsidian, Knife River flint, and Avon chert were recovered.

The prehistoric cultural continuum evident in this particular area was extrapolated from the occurrence of diagnostic projectile points in private collections, and in those points recovered from our survey. The Late Prehistoric period was represented by a scattering of small side-notched points. Projectile points attributed to the Middle Prehistoric occurred extensively within the area, primarily manifested in the various points of the McKean complex. The Early Prehistoric period was sparsely represented by a few Scottsbluff, Agate Basin, and Clovis points.

OVERVIEW

There is every reason to believe that the '75 survey of the Battle River Valley was, in reality, too superficial in nature and extent to result in any concrete assessment of the area as an entity. Lack of a testing program severly hampered the effectiveness of the field season and it is felt that much more definite data concerning the area's prehistoric usage would be revealed by future subsurface investigations.

Evidence for this belief can be found upon examination of the findings at the Castor Creek site (Wormington and Forbis 1965) and at the Hardisty site (C. May; pers. comm.); both of these sites were deeply stratified, not merely surface remains confined to the plow zone. It can be extrapolated, therefore, that at least some of the sites recorded on the '75 survey which showed up as surface exposures may also be of a deeply stratified nature.

The numerous sites located by a mere foot survey of a limited area, suggest to the author that the valley is obviously of value archaeologically. The type of sites recorded, and the projectile point types recovered, reveal a close relationship between this area of study and the Plains region. It is possible at this stage to say that this area was

occupied periodically during the past 8,000 years.

With an adequate subsurface testing program in conjunction with the findings of the survey, we can only expect that the Battle River Valley would prove to be of enormous interest to the archaeologist, as a sample of prehistoric existence in the transitional Parkland zone of east central Alberta.

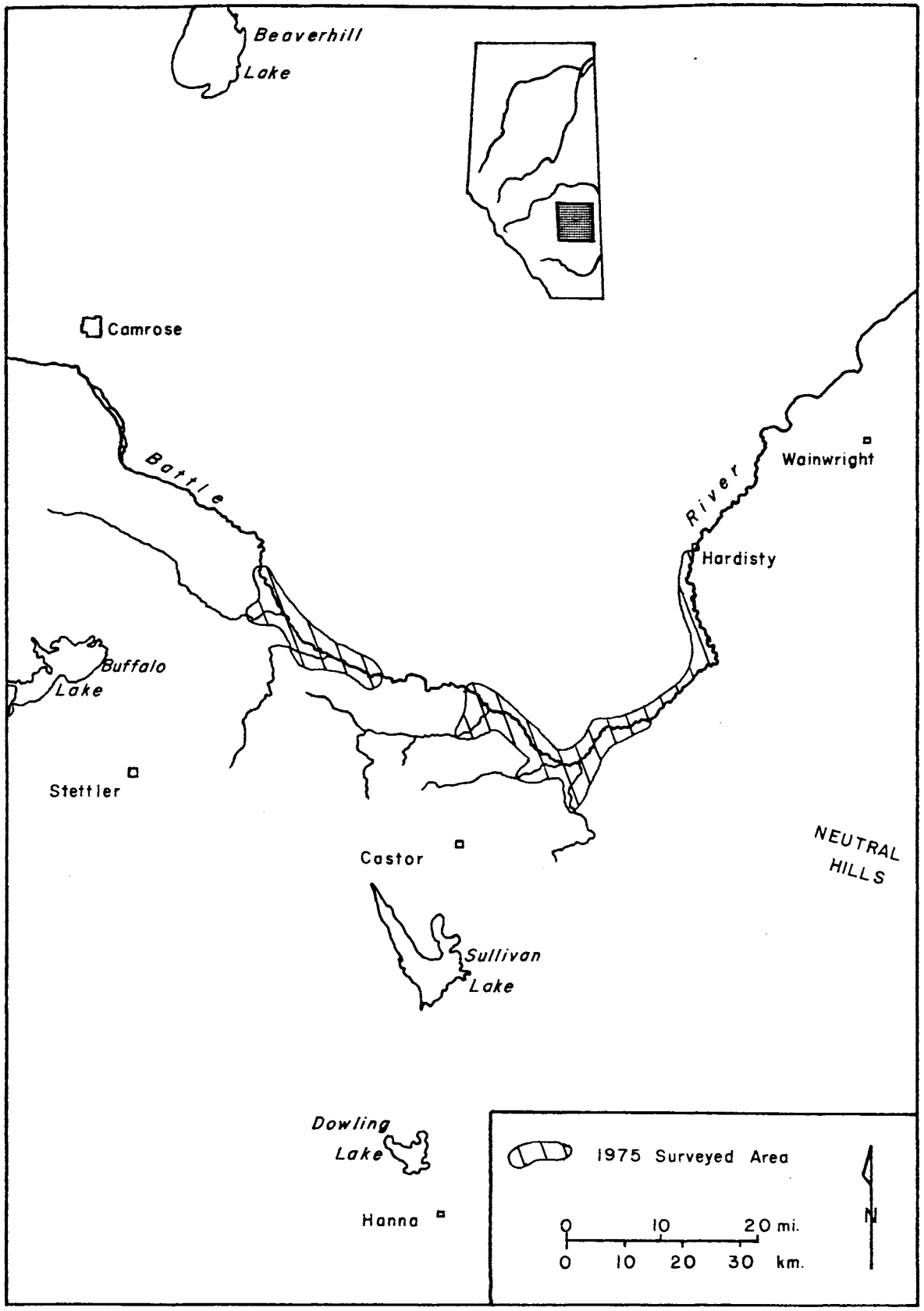


Fig. 17: 1975 Survey of the Battle River Region in east central Alberta.

Figure 18: West end of survey in the Meeting Creek valley exhibiting a post-glacial outwash channel.

Figure 19: East end of survey in the Battle River valley with meandering river and gently sloping valley walls.

Figure 20: Battle River Valley at the big bend area revealing poor terrace development and brush covered valley.

Figure 21: Example of well buried tipi ring with numerous stones at the edge of the valley rim.

LAC LA BICHE ARCHAEOLOGICAL SURVEY

E. McCullough

Project 75-23

INTRODUCTION

During the period June 15 to August 31, 1975 an archaeological survey of the Lac La Biche Region was undertaken by the University of Calgary under contract to Alberta Culture. The boundaries of the Lac La Biche Region have been arbitrarily defined as that area which surrounds the town of Lac La Biche, between Latitudes 54 30' and 55 20' North and Longitudes 111 20' and 112 30' West - a total area approximately 2250 kilometres square.

The area is situated in the Boreal Forest Region of Canada (Hosie 1973: 16-17). The topography ranges from gently rolling to rolling (Lindsay, Pawlak and Odynsky 1962:61-62) and there are numerous small lakes. The greater number of these lakes are poorly drained and rest in small depressions in impervious boulder clays (Allen & Rutherford 1934:10-11). Lac La Biche, the largest lake covers 56 square miles and is 70 feet at its maximum depth (Borneuf 1973:3).

PERSPECTIVE

The primary reason for the choice of the particular survey area was that there had previously been no systematic archaeological investigations of any kind within the region. A second reason, which is directly related to the first, is that as of 1965 the vast northeast region of Alberta represented a complete void archaeologically (Syncrude 1973:11). It is only in more recent years that archaeologists have begun to explore areas of Northern Alberta. However, to date relatively few sites have been reported North of the 54th Parallel. The third and final reason for undertaking this survey is that the recent paving of Highway #46 from Edmonton to Lac La Biche has made the Lac La Biche area a major tourist centre in the region. As a result, there has been an increase in both seasonal and permanent populations to the area. These populations have placed an enormous demand on those areas adjacent to bodies of water.

It has been demonstrated that in forested and semi-forested areas of Alberta, prehistoric archaeological sites tend to be located near water bodies such as lakes, rivers or tributary streams (Syncrude 1973:11). Historical records also indicate the same settlement patterns for the early historical populations of the region (Thompson 1798-1799; Merk 1931; MacGregor 1966;

Whiteney 1896). As a consequence, these areas were considered to be potentially of high archaeological value.

Because these same areas are in great demand by modern populations and because development projects were being undertaken without any effort to preserve or salvage archaeological remains, it became evident that prompt action was necessary to insure the management of this unrenewable resource.

The Lac La Biche archaeological project was conducted with this aim in mind and was designed to obtain a comprehensive inventory of the archaeological resources in the area and to evaluate the potential and destructive status of individual sites and make recommendations for the management of this resource.

METHOD OF INVESTIGATION

The survey had been initially designed to follow Ruppe's (1966) Type IV Survey (i.e. intensive in nature). However, because of the time limitations, size of the survey area, density of the vegetative cover in combination with the fact that the survey began in mid-summer (at a time when crops were beginning to mature and at a time of high water) meant that many areas were inaccessible.

As a result, it became necessary to reformulate the survey strategy for it soon became clear that only a small percentage of the total survey area could actually be traversed. Thus the decision was made to traverse only those areas which were known to have exposures (e.g. lake shores and banks, river banks, road cuts, ploughed fields, deflated areas, gardens). Generally speaking, the survey took the form of Ruppe's (1966) Type I Survey in that it was extensive rather than intensive in nature. Reconnaissance or exploratory would describe such a survey.

The dense vegetative cover, in addition to making areas inaccessible, often made it difficult to establish continuity between exposures rich in archaeological remains. In cases where exposures of this nature occurred in close proximity (however, always more than 150 metres) the areas were designated as distinct sites rather than consolidating the material on the basis of an educated guess or intuition. This minimized the risk of mixing cultural material which may be representative of separate units of settlement. Hopefully, excavations in the future will be conducted to determine the actual status of these questionable areas.

SUMMARY

A total of 195 prehistoric sites and 50 historic sites were located during the months of July and August 1975. The majority of the historic sites recorded in the region were either trapper's cabins or log cabins dating back to the early 1900's. Many of these cabins are still occupied by native peoples in the region.

Particular attention was given to locating the more important historic sites in the region such as Greenwich House built by Peter Fidler and Red Deer House built by David Thompson. The exact position of these site areas could not be ascertained. However, with the assistance of Mr. R. Chipenuik, a local historian, a reasonable approximation of their localities was determined. Extensive testing would be required to verify these positions.

Other important historic sites in the region have largely been destroyed by the expansion of the town of Lac La Biche and by development projects along the waterfront. The Lac La Biche Mission (founded by the Oblates prior to 1850) is the last of the historic sites in the region which remains relatively undisturbed. I would recommend that an effort be made to preserve this site.

Most of the prehistoric sites located were representative of the Middle Prehistoric Period. The Early Prehistoric Period was recognized by a sample of two lanceolate projectile points - one too badly water worn to identify and the other identified as a Lusk. The Late Prehistoric Period was recognized by a small sample of arrow points and pottery sherds (cord marked/punctate).

The majority of the sites located during the 1975 field season are surface sites with scattered lithic debris. The sites tended to be located on beaches and in the embankments of Lac La Biche. It is evident that spits and bays, sheltered from prevailing winds were preferred camping areas. Other lakes in the region were not as productive in comparison. However, in these areas there was general absence of exposures and this no doubt biased the sample. The sites which were located can generally be tenatively classified as workshop/campsite situations with the exception of one site (GfPa-2) which appears to have also functioned as a kill area.

Within recent years, the water levels of the lakes in the area have fluctuated between six and ten feet. As a consequence, many sites near the shoreline have been badly disturbed. In the early spring, when the water levels are

low, cultural debris can be observed strewn over many of the beach areas. From the time-diagnostic artifacts, it is evident that some of these sites were multiple occupation sites and that the components have been mixed by erosional factors. The cultural debris in these areas should be systematically collected in the near future, before the material becomes so badly water worn as to render any type of analysis impossible.

Sites located in the embankments are also in danger of being destroyed through erosional factors such as bank slumping. Of particular concern in this regard is GfPa-32 where the cord marked pottery sherds were located, for this site is situated on an island where slumping has already destroyed much of the site area. This site should be tested within the next year in order to determine its potential and to retrieve the valuable data which might be contained therein.

In addition to natural factors which have already disturbed numerous sites, there are a number of workshop/campsite areas which are being threatened by ongoing development projects and will be destroyed within the next year or two. GeOx-9, GeOx-22, GfOx-7 and GfPb-8 are situated in areas which are being subdivided and GeOw-8 is situated in an area which is being developed by the Department of Highways for a gravel pit operation. Testing and excavation of these sites is also recommended.

A further note is appropriate concerning the need for further surveys in the region. In the present instance, it was only possible to conduct an exploratory type survey. In future years, the region should be kept under surveillance in order to take advantage of any newly exposed surfaces which could reveal the existence of further sites within the region. It is advised that surveillance be conducted in conjunction with the above recommendations. This would constitute the initial phase in the proper management of the archaeological resources in the Lac La Biche Region.

Figure 22: A road cut on Shelton's Point (GeOx-22). Flakes and FBR are clearly visible.

Figure 23: A typical type of beach in which sites were located. This site extends approximately 10' into the water (GfPb-13).

Figure 24: A close up of a beach showing FBR and flakes. (GfPa-2).

Figure 25: Black Fox Island (GfPa-32) where pottery was found, illustrating erosional features on the east side.

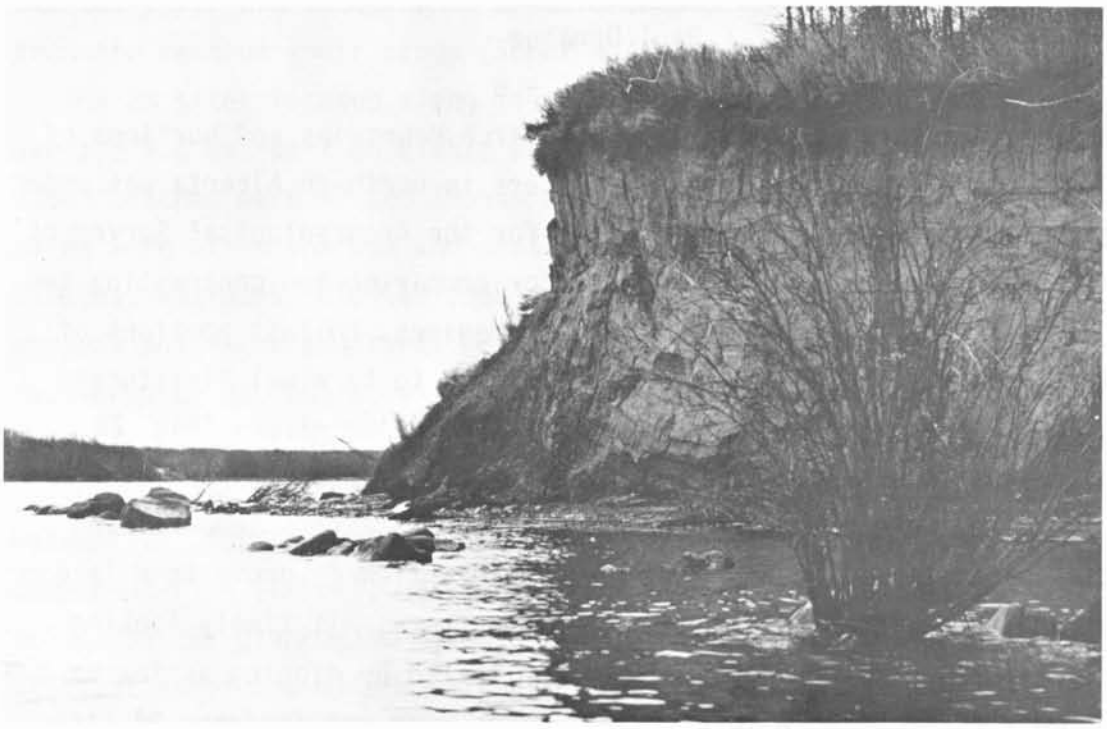


Figure 26: Black Fox Island (GfPa-32) illustrating erosional features on the west side.

Figure 27: Typical erosional feature (Maccagno's Point). North side shooting east.

ALBERTA NORTH

Paul Donahue

Project 75 - 8

A site inventory of the Caribou and Birch Mountains and portions of the Peace, Athabasca and Clearwater Rivers in northern Alberta was undertaken between mid-June and late August for the Archaeological Survey of Alberta. Our aims were to obtain data for comparing and contrasting two northern uplands having different biotic regimes, to test portions of their slopes for shorelines and camps related to terminal Pleistocene proglacial lakes, and to evaluate segments of major rivers (Fig. 28). Emphasis was on obtaining a quick overview of a large area and even productive sites were only test excavated enough to assess temporal and spatial parameters. The four man survey party flew or drove to a lake or river and then either walked or canoed the shore. All likely looking places (stops) were surface surveyed and tested by digging as few as two or as many as 72 pits. A total of 233 stops were examined and 94 sites encompassing a potential of 5000 years were recorded. Evidence for differential utilization of the uplands was obtained as was data for areal preferences of raw material.

Sparse ethnohistoric accounts, a fisheries report, the observation that Indian Reserves are present on the Birch but not the Caribou uplands, and published environmental reports were taken as indicative that the prehistoric situation would reflect greater utilization of the Brich than the Caribou Mountains. Our research focused on these plateau remnants, the surficial geology of which was shaped by glacial mass wasting, and whose biomes are distinctly different.

The Caribou Mountains is classified as a modified Hudsonian province (Soper 1941) dominated by black spruce, tamarack, lodgepole pine, and balsam poplar. Much of the 3000' high upland is poorly drained, offering suitable moose and caribou habitats. The Birch Mountains have a milder environment due to being located further south and at a lower maximum elevation (2900' A.M.S.L.). Common trees in this Boreal Forest mixedwood [region B.18a (Rowe 1972)] are white spruce and balsam fir mixed with trembling aspen, balsam poplar, and white birch. Jackpine is present on dry sandy soils and black spruce-tamarack in poorly drained localities. Moose and Wood Bison inhabit the region. The Birch Mountains became a

sanctuary for the latter when by 1875 they were virtually exterminated from the rest of their range (Soper 1941:362).

The 23 sites located along five Caribou Mountain lake shores were an average 4.8 km apart on either well-drained terraces or beaches. Many other beaches were tested though and yielded no evidence for occupation. Sites were often shallow and contained a sparse archaeological inventory; bifaces, unifaces, bipolar pebbles, core and spall tools, and flakes were present but never abundant. No temporally diagnostic artifacts were recovered by us, but a collector obtained a late prehistoric side-notched point from a bulldozed airstrip on Margaret Lake. An obsidian retouch flake found at Pitchimi Lake has been sent to E. Nelson (Simon Fraser University) for source area identification. A 2 m. deep stratified multi-component site (IfPo-1) was located on the south end of Wentzel Lake (Fig. 29). No diagnostic items were uncovered although ample evidence for utilization of the site was found in the form of debitage. Cultural material occurred 25 to 98 cm. below surface in this possibly active beach area.

Charcoal samples from organic lenses at 25 cm., 60-65 cm., 40-45 cm., and 85-87 cm. below the surface were submitted for radiocarbon assay and resulted in dates of 1440 $\pm$ 100 B.P. (RL - 529), 2260 $\pm$ 110 B.P. (RL - 530), 4100 $\pm$ 130 B.P. (RL - 531) and 5220 $\pm$ 100 B.P. (RL - 532) being obtained. The last date is 10 cm. above the lowest cultural stratum. All dated strata either contained or were directly associated with cultural material. Deep stratified sites are not common to the Boreal Forest and, as such, IfPo-1 merits further research.

A six mile survey of the Peace River left bank near Fort Vermilion produced eight sites. Situated on the upper terrace about 50' above river level the most productive site (Fig. 30) yielded a small lanceolate biface of black chert, probable pebble hammerstones, quartzite and chert fragments, split chert pebbles, cortex spall tools of quartzite, and ample quantities of large and small cobbles of black and grey chert and quartzite. Black chert was most frequent. The site was probably a camp as evidenced by chipping debris, unifaces, and a hearth. A radiocarbon sample from the hearth is thought too small to yield a reliable date.

A long walk up (1600' in 6 miles) a bulldozed road on the south slope of Caribou Mountains to the Foggy Mountain fire tower to look for terraces and

associated artifacts related to proglacial lake levels resulted in recording ten terraces but only one questionable artifact (Fig. 32). The ground facet and abraded edges may be intentional or, equally plausible, the result of being caught in a bulldozer track. It was, though, below surface in what looked like an undisturbed A horizon. Although no other possible artifacts were found, these terraces merit further, more extensive testing.

The second half of the summer was spent on surveys of the Clearwater and Athabasca Rivers and the Birch Mountains. Fifteen sites were located on well-drained upper terraces 30-50' above the Athabasca and Clearwater Rivers. No recent alluvial terraces contained sites. Predominant raw material was a fine grained lithic generally referred to as Beaver Creek quartzite (Syncrude 1974-2). Outcroppings of this or a similar lithic are readily found along those portions of the two rivers examined. Black chert and other lithics, especially grey quartzite, infrequently occurred. The few finished tools recovered included small end scrapers, a split pebble, a heavily battered core, and two large flakes, one of which is considered to be a core rejuvenation flake, and a chert biface.

Survey results were even more rewarding on the Birch Mountains where we surveyed from Eaglenest to Gardiner Lakes inclusive. We concentrated on five lake shores, stopped 114 times, and recorded 48 prehistoric and historic sites located an average 1.21 miles apart.

Bifaces, unifaces, cortex spall tools, hammerstones, cobble tools, large blade-like flakes, and possible evidence for burins were noted. Grey quartzite was the favored raw material; rosy quartzite, black chert, and Beaver Creek Quarry material were less frequent. The near absence of Beaver Creek quartzite is curious, given proximity to the source and the ethnohistoric usage of both the Athabasca River region and the Birch Mountains by the same people. It appears that while Beaver Creek quartzite is nice when it's handy, the quartzite available on the upland is of sufficient quality that it is not necessary to carry the Beaver Creek material up the hillside. Projectile point forms include stemmed, corner-notched, side-notched and small triangular.

One of the more productive sites yielded stemmed, corner to side-notched points, a Pelican Lake-like point, and ample debitage as well as some historic items. The site, on a terrace associated with a narrows where two rivers meet, is spatially extensive and has been occupied, at least inter-

mittently, for roughly 2000 years.

A shallow but rewarding site (HjPc-4) at the outlet of Big Island Lake produced historic and prehistoric artifacts. Tests excavated toward the site rear yielded greater frequencies of artifacts and, in one test, a small pit containing charcoal, a scraper and some flakes was uncovered. The charcoal was radiocarbon dated 3610 ± 120 B.P. (RL - 533).

An argument for occupation of the Birch Mountains by ca. 3000 B.C. is supported by an Oxbow-like point (Fig. 31). Points similar to those associated with Pelican Lake, the Middle Prehistoric and Late Prehistoric Periods on the Plains are also present (Fig. 31). Point forms comparable to some from northern forest assemblages include stemmed and corner to side-notched (Fig. 31). A stemmed point was recovered at the Pointed Mountain site dated ca. 1500-1000 B.C. (Millar 1968:303), but stemmed forms are not common until the Mackenzie complex dated ca. 300 B.C. to A.D. 500. The corner to side-notched points are similar to those occurring in late Taltheilei Tradition complexes beginning with the Lockhart River complex ca. A.D. 1100 (Noble 1971:113, MacNeish 1951:Plates III-IV).

COMPARISONS

Superficial comparisons of material gathered during this summer with other assemblages suggest that elements usually associated with the northern boreal forest and northern plains are intermixed in the northern Alberta mixedwood forest. At the present stage of analysis it does not appear that one or the other predominates.

Wright's (1975) work at Lake Athabasca evidences data pertaining to Arctic Small Tool tradition, Taltheilei Tradition, and Plains assemblages. He infers an east-west dichotomy between forest and plains assemblages based on the high frequency of Taltheilei material from the Saskatchewan end of the Lake and a "Besant" related site (IgOo-1) at the west end. I consider the "Besant" affinities equivocal in terms of formal characteristics and suggest that the item referred to is more comparable to late Taltheilei corner to side-notched points that, in turn, are analogous to some recovered on the Birch Mountains this summer.

West of Lake Athabasca at Peace Point on the lower Peace River is the Penner site. Material from there has been classified as Agate Basin Plano as evidenced by Mackenzie points (Fedirchuk 1975). My own examination of the artifacts leads me to suggest that the one complete point is not Agate

Basin Plano but something else. An approximately similar artifact was recovered by Cinq-Mars at Yellow Lake, N.W.T.

South on the Athabasca River and on the lower two lakes of the Birch Mountains research has been conducted by Tim Losey and Cort Sims. The Beaver Creek Quarry site is significant within itself and for extra-areal comparative information. Agate Basin-like and Besant artifacts were recovered as well as large bifaces, a possible chi-tho, and unifaces. Some tools were of black chert. As befits a quarry, debitage occurred most frequently.

Across the river and downstream were recovered a notched transverse and longitudinal burin with four burin spalls removed, a possible Besant point base, a Hennessey point base, and a possible Kamut or Acasta point base. The latter have been dated 5000 B.C. in N.W.T. by Noble (1971), and burins are associated with this early assemblage but not later ones. Thus, along this stretch of the Athabasca River good evidence for occupation from ca. 5000 B.C. to the historic period is present.

Up on the Birch Mountains Sims recovered stemmed bifaces comparable to those found by us on more northerly lakes in the same chain (Sims, pers. comm.).

In summary, first occupation of northern Alberta is evidenced by plano points. The north shore of Lake Athabasca was occupied by 6500 B.C., has evidence for Arctic Small Tool tradition material dated ca. 1000-700 B.C. and later, perhaps by 400 B.C., Taltheilei Shale tradition assemblages. There is no substantive data for Plains assemblages on the north shore of the lake, but data is present on the south shore. In south western and central Distric of Mackenzie, N.W.T., and by extension northwest Alberta, Oxbow-like points are present. Evidence for early Taltheilei Shale tradition occurs at Fisherman Lake in the Mackenzie complex and in eastern Alberta near the community of Fort MacKay. Clearly, the distribution of forest-and plains-associated artifacts is transitional in this broad belt. The pressures may have involved population fluctuations or direct and indirect socio-economic interaction, but neither may be construed as the cause.

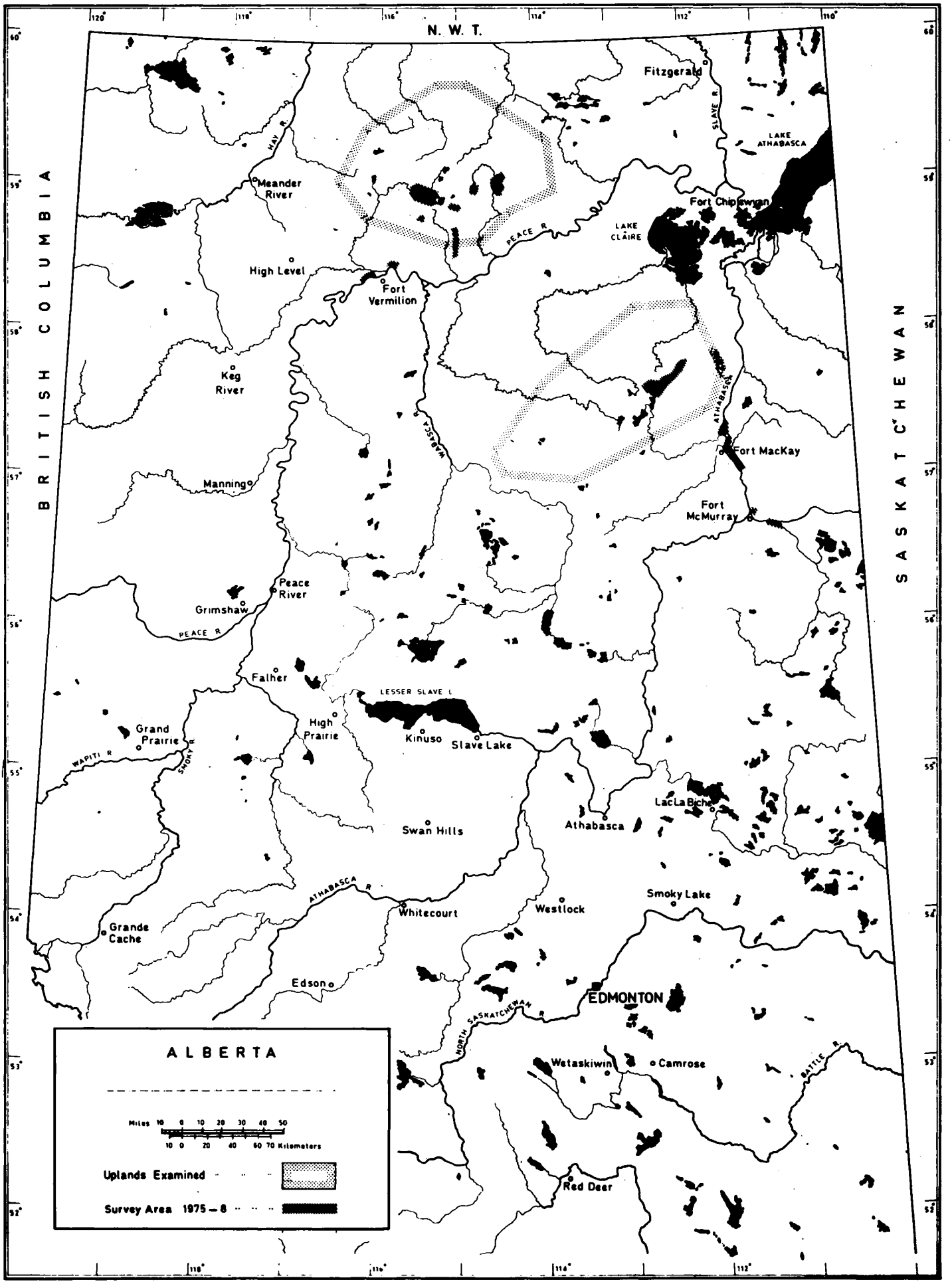


Figure 28: Areas of Survey, Contract 75-8

Figure 29: Stratified test pit at IfPo-1.

Figure 30: Peace River Site IcPx-1. View of test pits.

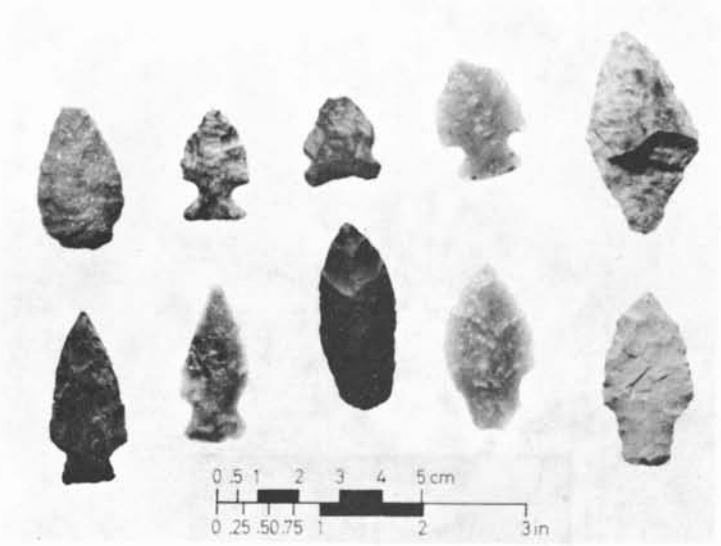


Figure 31: Projectile points. Bottom centre biface from Peace River (IcPx-1). All others from Birch Mountains

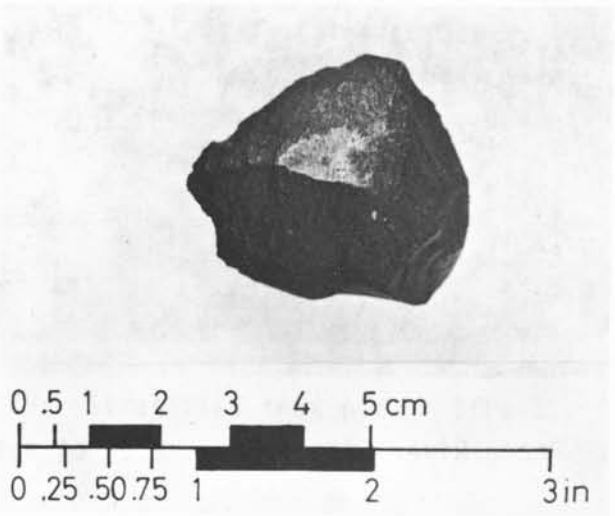


Figure 32: Abraded lithic artifact (?) from south slope of the Caribou Mountains.

LITHIC SOURCE SURVEY IN THE CROWSNEST PASS AREA

Bea Loveseth

Project 75-21

During the field seasons of 1972-1974, a salvage excavation program and a survey of archaeological sites was undertaken in the Crowsnest Pass. The excavations and surveys, as well as private collections, revealed a large amount of Etherington chert (Reeves:1974b). The absence of cortex suggested that the material was derived from outcrop rather than river cobbles. As this chert composed a considerable percentage of the lithic assemblage of the Crowsnest area, it was decided to conduct a one month's search for new quarries and also a re-examination of previously located quarries (Reeves:1974b). The lithic source project was conducted during the month of August by a crew of two (Diane Malmberg and myself) under the expert guidance of B. O. K. Reeves.

Etherington chert comes from the Etherington Member of the Rocky Mountain Group and is Late Mississippian in age. The Etherington Member consists of "arenaceous, finely crystalline, cherty dolomites and limestones, with some brownish and greenish shales" (ASPG:1960). Douglas (1953:68) has suggested that the Etherington Member be the lower part of the Rocky Mountain Formation.

During the survey, previously recorded quarries were relocated, mapped, geologically and archaeologically sampled. The mapping was done on a generalized scheme - the main features were noted and the size of the quarried area was roughly approximated. The quarries were mainly situated on high ridges and steep upper slopes, which made it difficult, and at times virtually impossible, for precise mapping with cumbersome equipment.

A large area of Etherington outcrop in the Livingstones was traversed (Figure 33) by foot. As well, we spent one day (unsuccessfully) following the Etherington outcrop on the west side of Bluff Mountain above Blairmore (Figure 33). Although no quarry was found, I feel that with further surveying it is likely that a significant quarry may be located in this vicinity.

This report only briefly describes each of the sites. Complete interpretation awaits analysis of the samples collected.

PREVIOUSLY LOCATED SITES

The following sites were located by B. O. K. Reeves between 1972-1974

and mapped and sampled this year.

DjPo-62 (AGTL Quarry)

This is a localized quarry, little debris of good quality chert, most of which is highly brecciated. Slight depressions in the talus appeared to be unnatural.

DjPo-72 (Bellevue Quarry)

A minor quarry in comparison to DjPo-137, 138 and 139. Debris was located within the talus and one mined pit was found just north of the talus slope. This pit could be compared with a miner's test hole in relation to the main quarry. The chert outcrop was minimal on the southwestern slope of Quarry Mountain.

DjPo-110 (Green Creek Quarry)

It is located on the northwest side of Green Creek, near the base of the mountain, about 50 meters east of the junction of Gold Creek and Green Creek. The outcrop was minimal, but was quarried for workable material.

DjPo-128 (Rock Creek Quarry No. 1: Figure 35)

It was much more extensive than previously recorded. A significant difference in the chert colour was noted. More of the purer red chert and, in particular, white Etherington was evidenced. A high degree of patination suggests that this may be one of the older quarries. The quarried area extended 15 meters in width and 100 meters up the slope. Flakes, pieces esquillees and cores were located among the debris.

DkPo-4 (Morin Creek Quarry)

This is located in the dry bed of North Morin Creek on the northwest side. This outcrop is unusual in that all three beds of the Etherington Members (Lower, Middle and Upper) outcrop here. The Lower Member consists of mainly dark grey and maroon chert nodules and some minor chert beds in a limestone matrix. The middle bed is highly brecciated pinkish white and muddy grey chert in a dolomitic limestone. Cherts in the Upper Member are extremely variable, ranging from white to green to red and brown. Some of the brown chert is very similar to Montana chert (Quigg and Reeves:1975,44), and a chalcedony-like material could almost be called Knife River Flint. These materials occur as nodules in the limestone matrix. Because

of the variation in quality of the material, only the Upper and Lower Etherington outcrops had been utilized to any great extent. Lithic material was derived from an area of ten meters in width and 80 meters (minimal) in length.

DkPo-15 (Caudron Creek Quarry)

Other than the main Livingstone Quarries (mentioned later in this report), this quarry had to be one of nearly virtual inaccessibility. A 550 meter climb to the top of the ridge preceeded the locating of this outcrop, but was well worth it to take advantage of the spectacular view. The outcrop was extensively used to obtain fairly good quality chert. A gully west of the quarried outcrop served as a sheltered workshop. Considerable debris was found in this area. The outcrop extended northeast down the ridge into an unnamed creek valley. A trail appeared to follow the outcrop and although no extensive amounts of debitage were found, we picked up isolated artifacts, such as a quartzite hammerstone and chert cores.

NEW SITES

Seven new quarry-workshop sites and one workshop overlook were located during the survey.

DjPo-137, 138 and 139 (Livingstone Quarries - previously registered as Bellevue Quarries, but to be renamed: Figure 34).

These three sites combine to make the largest known prehistorically mined area in the Alberta Rockies. They are located on Quarry Mountain (not recorded name, this mountain is unrecorded on maps), a distance of approximately 1.6 km south of the AGTL line and north of DjPo-71, which is an historic coal mining hoist shaft. DjPo-137 consists of 25 major pits, 14 minor pits and 19 scattered depressions within an area of 116.9 meters north-south and about 50 meters east-west. East of the pits is a protected gully, which served as a workshop. Quarrying has occurred west and north, where the Etherington Member outcrops along the slope face. The workable nodules and beds had been removed with hammerstones of local chert and imported materials, such as diorite and quartzite. The limestone residue is left in deep mounds around the pits, and also over the western slope of the mountain.

DjPo-138 extends south from DjPo-137 along the slope face. The outcrop is extensively worked, sometimes as far in as seven meters from the original face. As well, 29 pits were located, photographed and mapped. East of this entire area is a meadow which served as a workshop, and possibly as a transitory camp. About 45 meters downslope (west) is another broad flat workshop area. A large Blairmore Conglomerate (chert conglomerate) boulder stands at the north end of this alpine meadow. The erratic had been battered to remove some of the chert pebbles.

DjPo-139 has been destroyed somewhat by a recent seismic cut and coal mining operations but two pits have been preserved. The open area south of the pits probably was a workshop area. From the amount of shatter and flakage located in the seismic cut, the sod and tree roots, it is suggested that at least one pit was destroyed in the process of bulldozing the line.

The chert in all three of these areas is very similar, ranging from light to dark grey into the maroons and reds. Flakage is extremely abundant - possibly best to describe in thousands of pounds. Little material was collected other than a diagnostic archaeological sample of the types of artifacts present at each quarry, plus a geological sample for petrographic analysis. Artifactual material beneath a rock was collected because of its unusual colour - possibly an indication of heat treatment of the chert. All three sites are interconnected by a well worn trail, which is most obvious even though deadfall now covers much of it.

DjPo-140

A workshop quarry in a gully northeast of DjPo-137 and north of the AGTL on top of the ridge of North Quarry Mountain. Very little outcrop was present. It appears that nodules were picked up from the talus to obtain lithic material.

DjPo-141

Similar to DjPo-140, but located 20 meters northwest of it in another gully near the top of the ridge. This gully sloped northwest, whereas the previous one sloped southeast.

DjPo-142 (Rock Creek Quarry-Workshop No. 2: Figure 35)

It is an extensive slope talus quarry. Most of the workable

Etherington was obtained from nodules eroded from the limestone outcrop, although some worked outcrop was present. Located on the east slope of North Quarry Peak, southwest of DjPo-128, the area extended 80 meters downslope (starting at about 30 meters below the ridge crest and for a distance of approximately 0.5 km). The chert was of particularly good quality, non-brecciated, and maroon to red in colour.

DjPo-143

Quarry located on west slope of North Quarry Peak, approximately 100 meters north of the AGTL cutline. The Etherington outcrop was exploited for workable material on a fairly steep slope 30 meters below the top of the ridge. Grey chert predominated, with flakage and chert fragments scattered amongst the limestone debitage.

DkPo-20

An isolated find on a ridge above Morin Creek. One Etherington flake was found in an open area south of the Morin Creek Quarry, overlooking Morin Creek Valley - possibly a lookout or workshop.

RECOMMENDATIONS

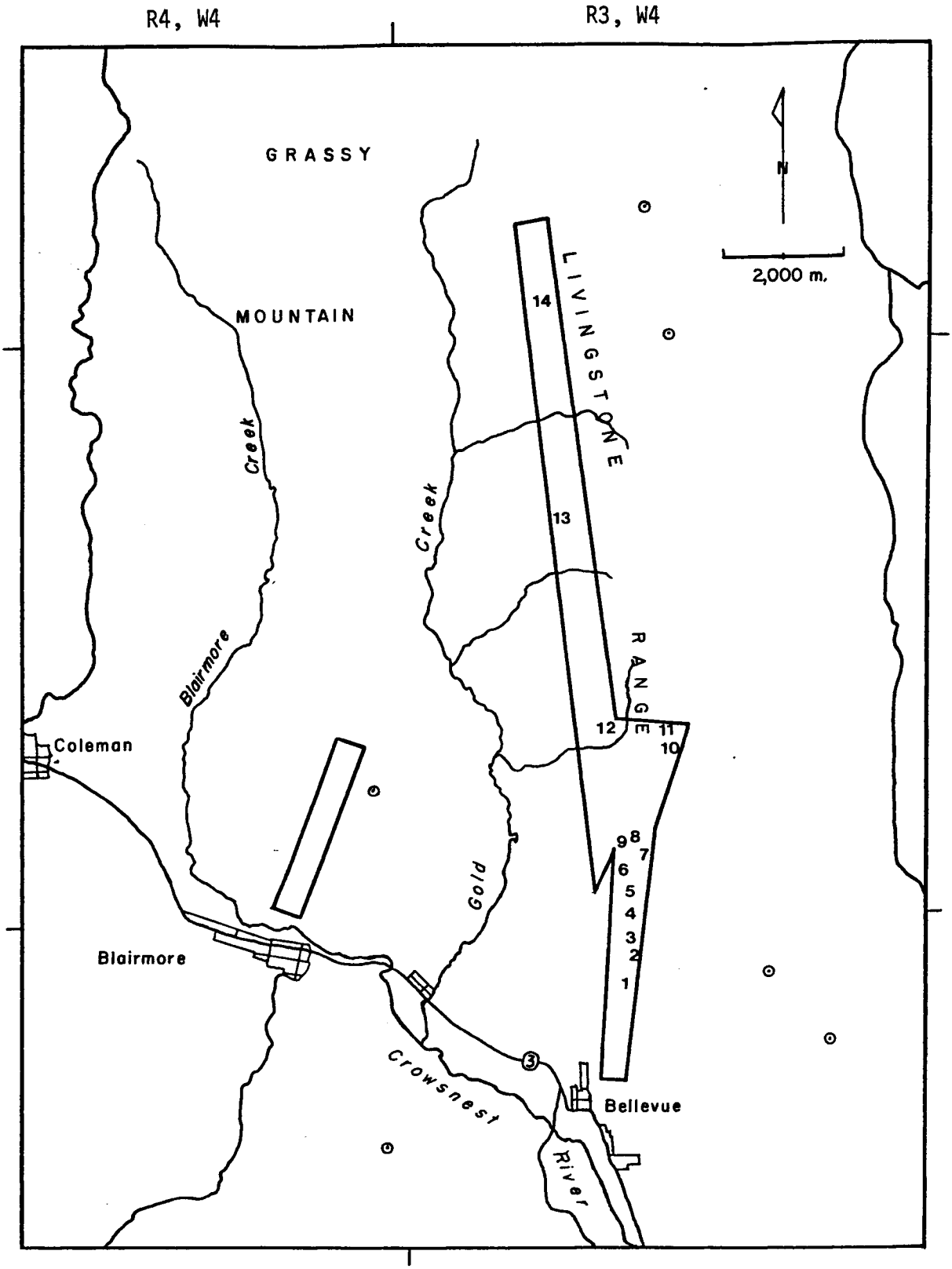
All the sites found prior to 1975 have been photographed, geologically and archaeologically sampled. Precise mapping would serve no useful purpose. Hammerstones and datable diagnostic materials appear to be absent; extensive excavation work is unnecessary.

DjPo-137, 138 and 139 are significant, and extensive sampling should take place at a later date. A Calgary Power stake indicated construction of a tower on top of DjPo-137. Fortunately, Dr. Reeves contacted Calgary Power and the tower may be relocated. It seems unlikely, because of the location at a high elevation, that the destruction status is high. A thorough sampling and excavation, however, would shed considerable light on quarrying methods of our prehistoric Crowsnest Pass inhabitants. Analysis of amateur collections and material from archaeological excavations throughout a broad area (probably extending into British Columbia and the northern United States) will be carried out to hopefully determine the relative age of the quarries and the trade patterns involved

No further work needs to be done on any of the other new sites, except possibly a search for hammerstones and other quarrying materials.

Recent surveys of the Livingstone/Oldman Valley have revealed

Etherington material appearing at most sites. Therefore, more quarries will probably be found north of the area traversed this year. The outcrops should be systematically followed in future summers to locate these lithic sources.



LEGEND:

Road

Mountain

Area Foot Traversed

Figure 33

Quarry Sites (1) DjPo-72 (2) DjPo-71
(3) DjPo-139 (4) DjPo-138 (5) DjPo-137
(6) DjPo-143 (7) DjPo-140 (8) DjPo-141
(9) DjPo-62 (10) DjPo-142 (11) DjPo-128
(12) DjPo-110 (13) DkPo-4 (14) DkPo-15

Figure 34: View southeast towards Bellevue, showing AGTL cut, DjPo-137 and 138.

Figure 35: View northeast with DjPo-142 in foreground and DjPo-128 in background.

PRELIMINARY ARCHAEOLOGICAL ASSESSMENT OF THE OLDMAN RIVER BASIN RESERVOIR STUDY

J. Michael Quigg

Project 75-45

INTRODUCTION

The Oldman River Basin Planning Commission in conjunction with the Alberta Department of Environment is conducting an assessment program on a number of proposed dam site localities in southern Alberta. They requested that a preliminary Historical Resources inventory be initiated immediately, thus the Archaeological Survey branch undertook a preliminary archaeological program in August of 1975.

A reconnaissance program of location and evaluation of archaeological resources at four of the proposed dam localities was implemented by a field party of four, under the direction of the author. This was achieved through a foot traverse of the valley rims and terraces of the selected reservoirs plus a cut bank inspection by canoe. All sites discovered were recorded, and preliminary assessments made as to their archaeological value and potential. The latter assessment was hampered and restricted due to the exclusion of a testing program due to lack of time.

FINDINGS

A total of approximately 180 historic and prehistoric archaeological sites were located and identified in the course of the survey of the four selected dam localities. Nearly 26% of these sites lay directly within the area destined to be flooded; the remaining 74% occurred at the proposed water's edge or on the rim of the vallev where auxillary activities could be detrimental to existent sites.

The most frequent site type encountered was the tipi ring camp, evidenced by one or more circular patterns of stones in a localized area. These camps varied considerably in the number of rings per camp, ranging from one or two rings up to 160 rings, with the average containing approximately twelve to fifteen rings per site. These camps, due to their location along the valley rims, and their surface orientation, are easily disturbed and destroyed by any type of surface alteration.

Another type of rock structure encountered, but with less frequency than the tipi rings, were cairn sites. These occurred along the edges of the valley, and occasionally were incorporated into drive lane complexes.

In some instances, the cairns were associated with tipi ring camps, one or two per camp, but more often as a single isolated pile of stones along the edge of the valley. Many of the latter were constructed on high points of ground commanding exceptional views of the surrounding area. These stone piles were usually comprised of anywhere from five or six field stones up to several hundred cobbles; generally these were less than 150 cm. in diameter and 60 cm. high.

Surface and buried campsites were also recognized and recorded during the survey. They were evidenced by a scattering of flakes, complete and broken artifacts, butchered faunal remains, and fire-broken rock. The few buried sites encountered were generally located in the valley bottoms where they are more susceptible to destruction from the flood waters and from controlled water flow downstream from the dam. These sites are generally considered more important archaeologically because of the quality and quantity of information contained therein, which contribute more to our overall knowledge and understanding of the past cultures and their activities.

The bison kill sites, such as jumps and pounds, were restricted in number throughout the valley areas investigated, but the author suggests that many more could eventually be located upon the implementation of a testing program. In a couple of instances, bison drive lanes were encountered on the valley rim but no indication of a bone deposit was detected below in the valley. Even with the limited number of various cultural artifacts generally recovered in these sites, they are important in placing the prehistoric activities into a seasonal and temporal continuum.

Several site complexes were identified by the existence of a number of different features in a single locality, such as tipi rings, cairns and small rock designs or effigies. These complexes were located on the valley rims; the importance of that particular area is increased, due to the integration of more than one activity at that site.

CONCLUSION

The large number of sites recorded, and the material accompanying them, indicates that considerable archaeological data would be lost in the advent of a reservoir constructed anywhere in the region. The even distribution of the sites and the preliminary nature of the data recovered makes it impossible to assess the archaeological potential between the reservoirs

surveyed. It would require more in-depth archaeological research before sufficient comparative data would be available to give an adequate evaluation and recommendation to select one reservoir over another. In evaluating the sites themselves which could be disturbed or destroyed by these circumstances, the importance of each individual site increases with its very endangerment.

Since the comparative evaluation of the numerous reservoirs involved is extremely costly and time consuming, it would be advantageous to select the reservoir and dam site first, then proceed with the conservation archaeological activities.

ARCHAEOLOGICAL STUDIES - CROWSNEST PASS

Lifeways of Canada Ltd.

Project 75-20

INTRODUCTION

Under contract to Alberta Culture, Lifeways of Canada Limited carried out archaeological studies at a series of prehistoric sites situated along proposed Highway 3 right-of-way realignments in the Crowsnest Pass. Two sections were investigated west of Coleman to Crowsnest Lake, and Maple Leaf-Bellevue.

An archaeological reconnaissance carried out in 1973 for Alberta Transportation (Reeves (Ed) 1974) located prehistoric sites in these and other areas along the proposed realignment/reconstruction of Hwy 3 between Burmis and Crowsnest, B.C. The first series of these, lying in the vicinity of Burmis in the 1974 construction zone were excavated in 1974 (Quigg and Reeves 1975).

SUMMARY OF 1975 INVESTIGATIONS

West of Coleman

Studies were conducted at six archaeological sites between Coleman and the west end of Hart Lake. Proposed realignment in this section consisted of easement of the curve at Iron Ridge, west of Coleman, which would destroy two sites: a campsite (DjPp-4) west of Iron Ridge, studied in 1972 (Reeves 1974); and a workshop (DjPo-26) on Iron Ridge. Two, two meter test squares were excavated at DjPo-26. Data recovered indicates the site was largely destroyed in earlier Hwy construction. It is of no further value. Further studies are not required.

Another curve easement is proposed for west of the Allison Creek Road; this would destroy a small rock cairn (DjPp-25). Excavation of this cairn indicated it was probably historic in age. It is of no further value.

The remaining four sites were situated on proposed Hwy 3 realignment between the east end of Crowsnest Lake and Hart Lake. Here the proposed route would impact sites in two areas. The first group of sites consisted of a campsite (DjPp-23) bisected by the present Hwy 3 at the east end of the alignment, and a large cairn (DjPp-28) to the west. While native artifacts were found at the campsite, excavation of

five two meter square tests, randomly located within the proposed right of way, produced no cultural materials. Excavation indicated the large cairn was historic in age. Perhaps it was a survey monument or triangulation station. No further study is required of these two sites.

The second group comprised two campsites adjacent to Hart Lake. These would be essentially obliterated in proposed construction. One, DjPp-29, was situated adjacent to a Summit Lime Works quarry on a high glacial bench overlooking Crowsnest and Hart Lakes. Here a total of 18, two meter squares were excavated. Data recovered indicated it was a small hunting camp occupied some 2000 or more years ago. No further studies are required. The second site, DjPp-30, lay to the west of DjPp-29, on a peninsula separating Hart and Crowsnest Lake. Excavation of six, two meter squares indicated it was also a very small campsite dating some 3000 or more years ago. No further studies are recommended.

In summary the archaeological studies on Hwy 3 on the proposed alignment west of Coleman are complete. No further excavations are required of the sites summarized above. Avoidance of major sites, e.g., DjPp-3 at the exit of Crowsnest Lake as recommended in earlier reports (Reeves 1974a, b; Reeves 1974), is required. We most strongly recommend the site be designated off limits to construction vehicles, and classified under the Alberta Heritage Act.

Investigations of proposed borrow and gravel pits, or other developments --e.g., visitor centers, turnouts, etc.-- for archaeological sites will also be required prior to construction, as will any alternate alignments.

Maple Leaf-Bellevue Area

Proposed Hwy 3 realignment in this area calls for relocation of the right of way south of the highway, along the edge of the Crowsnest Valley, in the vicinity of the abandoned Mohawk and Bellevue Collieries. This realignment would impact three prehistoric sites of value located in 1973 (Reeves (Ed) 1974).

The first site, a bison kill (DjPo-47), is situated east of the abandoned Mohawk Tipple, on a small bedrock terrace overlooking the

Crowsnest River. The site is impaired by borrow pitting, and historic remains of a homestead and corral, and coal stock piles. A series of eight, 2 x 2 m test excavations were spotted at various areas in intact deposits. Their excavation revealed a complex stratigraphic sequence of pond/peat deposits. Two death floors, represented by butchered bison bones were found in the peat. Few artifacts were recovered. The site probably is over 3000+ years old and requires further study of its cultural and geological deposits. It is a typical type of bison kill in this part of the valley (Reeves, n.d.), and one of those few still relatively intact today. A major excavation program of two or more months prior to Hwy 3 construction impact is required to thoroughly study the site.

The second site investigated (DjPo-9) is situated in a residential area of Maple Leaf, south of the present Hwy 3. Lying between Hwy 3 and the river, it occupies a valley, east of bedrock ridges, through which flow a series of springs. Two site areas (west and east) were identified, one on each side of the springs. In the west area, seven 2 x 2 meter test excavations were excavated, on associated land forms and in residential yards. Camp and a bison kill areas were differentiated.

The kill seems to be a single event, in which bison were trapped in the wetland area or in a corral. Time diagnostic artifacts indicate it dates ca 2000 years or more. The campsite, in constrast, in some areas is a multiple occupation, containing a series of superimposed living floors to a depth of 130 cm, dating back more than 5000 years ago.

The east site area is situated in the backyards and under the various residences. Six, 2 x 2 meter test excavations were excavated at random locations, along the site area behind the bedrock ridge. All contained cultural material to depths of 150 cm. Bone is well preserved and artifacts frequent. The site seems to have been a major fall spring base site, used both for camping and processing bison trapped nearby.

DjPo-9 dates from ca 2000 to perhaps 7500 years ago. It is of major value to Crowsnest Prehistory and will be obliterated in Hwy 3 construction. A major four month excavation program is required to

mitigate construction impact on this site.

In addition to the above, an artifact cache, perhaps a token burial, was found stuffed underneath a large 200 lb. rock on a sandstone ridge adjacent to DjPo-9. A number of secondary prepared flake blanks, an excellent blade manufactured from black chert, clam shell fragments and a point made up the cache. The ridges on the flakes were worn and polished indicating considerable travel in a skin container. The cache is similar to ones found in Waterton Lakes National Park and south in Montana.

The third site studied (DjPo-46) is a campsite/workshop situated on a bedrock ridge west and above DjPo-9, and east of the Bellevue Collieries Wash House. The site has two elevated areas, separated by a small hollow. Six, 2 x 2 meter units were excavated, two in the hollow and four on the elevated areas. Those in the hollow reached depths of 70 cm and contained two plus living floors. Those on the elevated areas hit underlying gravels/bedrock between 20-40 cm. The artifact yield was relatively high. Time diagnostic materials indicate the site dates from ca 2000-5000+ years ago. It represents a specific prehistoric use pattern of the high exposed valley floor, rather than the sheltered lows (such as DjPo-9). The site is one of few relatively unimpaired sites of this type. Of major value, it will be essentially destroyed in Hwy 3 construction. A major salvage program (4 months) is required to mitigate impact.

In sum the archaeological studies in the Maple Leaf-Bellevue section of the proposed Hwy 3 realignment further evaluated sites of value identified earlier (Reeves, editor 1974). These studies, carried out at two bison kills (DjPo-9, in part, and DjPo-47) and two multiple occupation campsites (DjPo-9, 46) indicate that all are of value, and require a major program of study prior to Hwy 3 construction impact. This impact will destroy the sites.

SUMMARY

Archaeological studies on proposed Hwy 3 realignments in the Crowsnest Pass investigated nine archaeological sites to further assess their values, to permit further studies if required prior to Hwy 3 construction, scheduled for 1976 and following years.

Sites in two areas of Hwy 3 were evaluated. The first consisted of six sites

on proposed Hwy 3 realignments west of Coleman. Two of these, rock cairns, upon excavation were determined to be of recent, Caucasion origin, associated perhaps with various legal surveys of the upper valley. One other, a prehistoric workshop on Iron Ridge, was largely destroyed in earlier construction. It is of no further value. Three campsites situated between the east end of Crowsnest Lake and Hart Lake were investigated. Two sites adjacent to Hart Lake are camps dated ca 2000+ years ago. They represent small summer camps. Data of value for study of the Crowsnest Pass Prehistory was recovered. No further studies are required at these sites.

The second site evaluation area was in the Maple Leaf-Bellevue area. Here, two bison kills and two campsites were studies by removing a series of 2 x 2 meter samples from each site. The studies indicated all sites are of further value. Two campsites, which date ca 2000-7500 (?) years ago are of major value to Crowsnest Pass Prehistory. These sites will be destroyed in Hwy 3 reconstruction. A major archaeological excavation is required to mitigate impact and retrieve the data of value which they contain.

The implementation of these studies at least one year in advance of construction will be very beneficial to proper heritage resource management, and it will permit adequate time lead for required extensive studies of sites of identified further value.

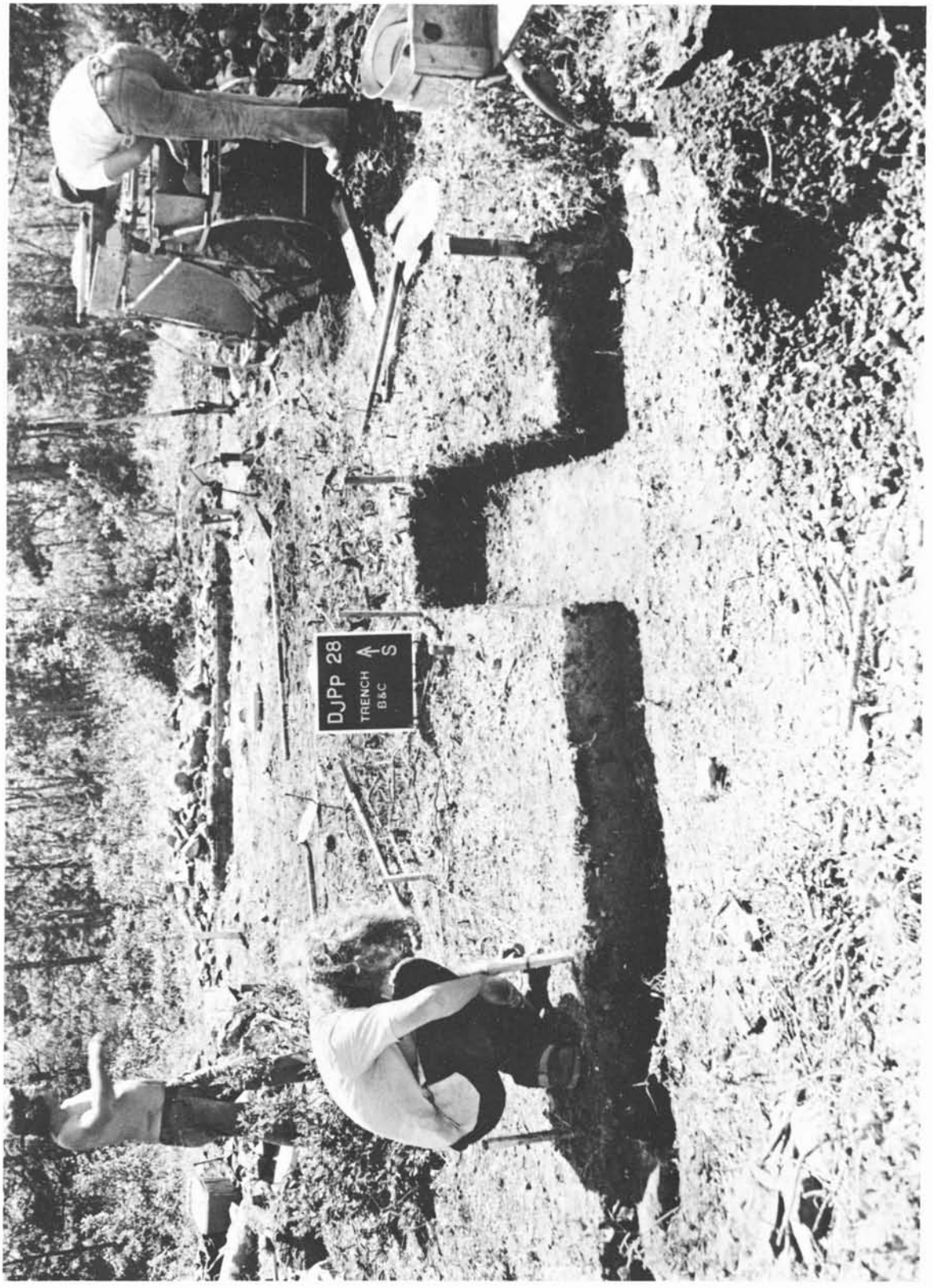


Figure 36: Shows completed excavation of Trenches A, B and C and cairn. Cairn site, DjPp-28, Crowsnest Pass.

Figure 37: Excavation in progress. DjPp-29, Crowsnest Pass. Crowsnest Lake in background.

EXCAVATIONS AND SURVEY OF THE CROWSNEST PASS

J.C. Driver

Project 75-24

INTRODUCTION

During July and August 1975 excavations were carried out at two sites in the Crowsnest Valley, DjPo-78 and DjPo-81. This preliminary report provides a brief description of the archaeological and palaeoenvironmental material recovered from both sites.

Selected creeks draining into the Crowsnest River from the south were reconnoitered for sites. A brief resume of this work is provided.

EXCAVATIONS AT DjPo-81

This site is located in the village of Bellevue and is known from the construction of basements, from the surface collections of local collectors, and from material recovered by Reeves from trenches dug to accomodate a sewer system. The excavations carried out in 1975 were the first systematic attempt to recover data on what is at present the oldest radiocarbon dated site in the Alberta Rocky Mountains.

Excavations were carried out with the following intentions:

a. To increase the collection of artifacts and bone from all periods of occupation;
b. To collect further samples for C14 dating;
c. To collect pollen samples and to expose buried soils.

Of a total of nine 2 by 2 metre units excavated, four were abandoned when old utility trenches were encountered. Of the remaining five, two - units A and C - produced evidence of occupation above the level of Mazama Ash (c. 6600 B.P.) which occurs throughout the site. Unit D produced no evidence of occupation. Units F and H produced artifacts above and below Mazama Ash, one of which may correlate with the earliest occupation previously dated by Reeves at ca. 10,000 B.P.

ARTIFACTS

No time - diagnostic artifacts were recovered from DjPo-81, although local collectors have found Agate Basin, Middle Prehistoric and Late Prehistoric projectile points on the site. The majority of artifacts were unretouched flakes. Two projectile point tips were found in Unit A, both of non-local material.

BONE

The amount of identifiable bone recovered was small. Bison is the most common genus. Cervus, Odocoileus and Ovis are also present.

POLLEN AND SOILS

Palaeoenvironmental data from DjPo-81 is still in the process of analysis. Over 100 pollen samples were taken from within and between buried soils, and analysis of these samples should provide the first environmental sequence for the Crowsnest Valley.

Soils from various units suggest that the site has had a varied vegetation cover, including coniferous forest, aspen parkland and marsh.

RESULTS

DjPo-81 is an area in which many small occupations were located from 8000 B.C. to historic times. These are probably scattered throughout the village at varying depths. The fact that the main area of the village is residential places considerable restrictions upon areas available for excavation. These restrictions are increased by the large number of utility trenches which have destroyed archaeological evidence.

Traces of at least six occupations were discovered at DjPo-81, dating back to approximately 8000 B.C. Radiocarbon dates taken from the site will provide more accurate estimates for the age of occupations and buried soils. Pollen samples will enable a palaeoenvironmental sequence to be set up, and this will have considerable value for all future projects concerning the Crowsnest region.

EXCAVATIONS AT DjPo-78

This site is located approximately ½ mile north of Frank, Alberta on property now owned by Mr. R. Koentges. The previous owner, Mr. Kotas, had indicated that well preserved Bison bone was present in the site, and also that lanceolate points had been found. It was decided that the main objective of this summer's fieldwork at the site should be to determine the extent of the occupied area and to attempt to date it.

The site lies between two low, parallel bedrock ridges which slope down gently towards the river terrace above Frank. The lower part of the area between the ridges is a deep swamp, and is impossible to excavate without pumps. It is not known if this area was utilized prehistorically, although it is possible that animals were driven into the swamp to be killed. The

central area between the ridges lies on a gentle gradient and is comparatively dry. The northernmost area between the ridges is also a gentle gradient, but quite wet.

Because the central area was the driest area, it was dedided that it was the most likely area for prehistoric occupation, and was accordingly tested. Of nine 1 by 1 metre test pits excavated, eight produced evidence of occupation. The occupation occurred at the level of the Ae horizon, 20 to 30 centimetres below the modern surface. Underlying the soil was a layer of fine gravel, through which bedrock penetrated near the ridges. Test excavations show that the occupation is concentrated along the base of the eastern bedrock ridge, and that the occupation becomes less concentrated towards the west.

The test excavations also suggest that further excavations of the site would reveal discrete activity areas. Hearths, a butchering area, and possibly a lithic workshop are present.

ARTIFACTS

Preliminary analysis suggests that at least ten varieties of stone were used in the manufacture of artifacts. Two projectile points were found. One of these is an undiagnostic tip. The other appears to be the base of an Agate Basin or Lusk point. A large bifacial knife and a number of retouched flakes were also found.

BONE

Bone from the site was heavily butchered. Bison is the only genus recognised in preliminary analysis. Bone occurs in all units which show occupations. Burnt and unburnt pieces are present. Unit G contains the greatest concentration of bone and probably represents a butchering area. The majority of bone in Unit G has been sent for C14 analysis.

RESULTS

Excavations at DjPo-78 were successful, given the initial aims of the excavations. If the radiocarbon date from Unit G suggests that the main occupation area is related to the Agate Basin or Lusk point, the site will be of considerable value in interpreting the early prehistory of Alberta as a large open area excavation would be possible. However, the shallow depth of the soil and the good preservation of the bone suggest that the point may be out of context.

EXCAVATION METHODS AT DjPo-78 and DjPo-81

Both sites were excavated in arbitrary 10 cms levels. At DjPo-81 all material was washed through a quarter inch mesh. At DjPo-78 a power screen with a quarter inch mesh was used on all material.

Lithics and bones are being catalogued separately.

All forms used were those of the University of Calgary.

All material is at present stored in the University of Calgary.

Pollen samples were collected from all buried soils below Mazama Ash in DjPo-81 units A, C, D, F, H and from above Mazama in units A and C. Pollen samples were also taken at regular intervals between the buried soils.

Soil samples were taken and are being analysed by J. Dormaar.

ARCHAEOLOGICAL SURVEY

Surveys by foot and vehicle were carried out on Byron, Star and Lyons Creeks as well as on smaller, unnamed creeks. Areas surveyed were principally the creek banks and terraces and any open areas along cut lines and wagon roads. With the exception of one very small site, no indications of prehistoric settlement were found on the south side of the Crowsnest drainage system after five days of surveying. In order to check survey methods, one day was spent surveying to the north of Sentinel. Three new sites were found and one recorded site rediscovered. (It should be realised that this survey was carried out in the main valley and not on northern tributaries of the Crowsnest River).

The apparent lack of sites in the Southern drainage area, when compared both with previously surveyed northern creeks and the main valley can be explained in three ways. Firstly, the southern creeks are shorter and steeper than those of the north, thus rendering them less conducive to settlement. Secondly, the southern creeks are north facing, have a higher percentage of dense coniferous forest, and are under snow for a longer portion of the year; all of these factors may have made the environment less attractive to prehistoric man. Thirdly, the dense forest cover in all areas makes surveying itself difficult.

The possibility that the alpine areas may have been occupied prehistorically was not investigated, but occupation may have occurred in the high cirques during the summer.

This survey can only be regarded as preliminary, and more intensive work

will have to be undertaken before definite ideas of settlement patterns can be formulated for the southern half of the Crowsnest drainage.

RECOMMENDATIONS

DjPo-81

a. Excavations at DjPo-81 were carried out for eight weeks this summer. While confirming the existence of early occupation in the area, they produced no large samples suitable for analysis of these components, suggesting small dispersed settlements at this time. Excavations did delimit the most probable area for future study: 3rd St. West of Pine Avenue. Recommendations for further work cannot be made until C14 and palaeoenvironmental results are available.

DjPo-78

a. Although only two weeks were spent in excavation by a crew of two, this site exceeded expectations as to the amount of material produced. If radiocarbon dates suggest that the occupation is Agate Basin in age a large scale excavation is recommended.

SURVEY

In order to understand the prehistory of the Crowsnest area an intensive survey programme of the Southern drainage and all highland areas is necessary, involving exploration of the high cirques, open ridges and all open areas around creeks in the Alpine/Sub-Alpine areas.

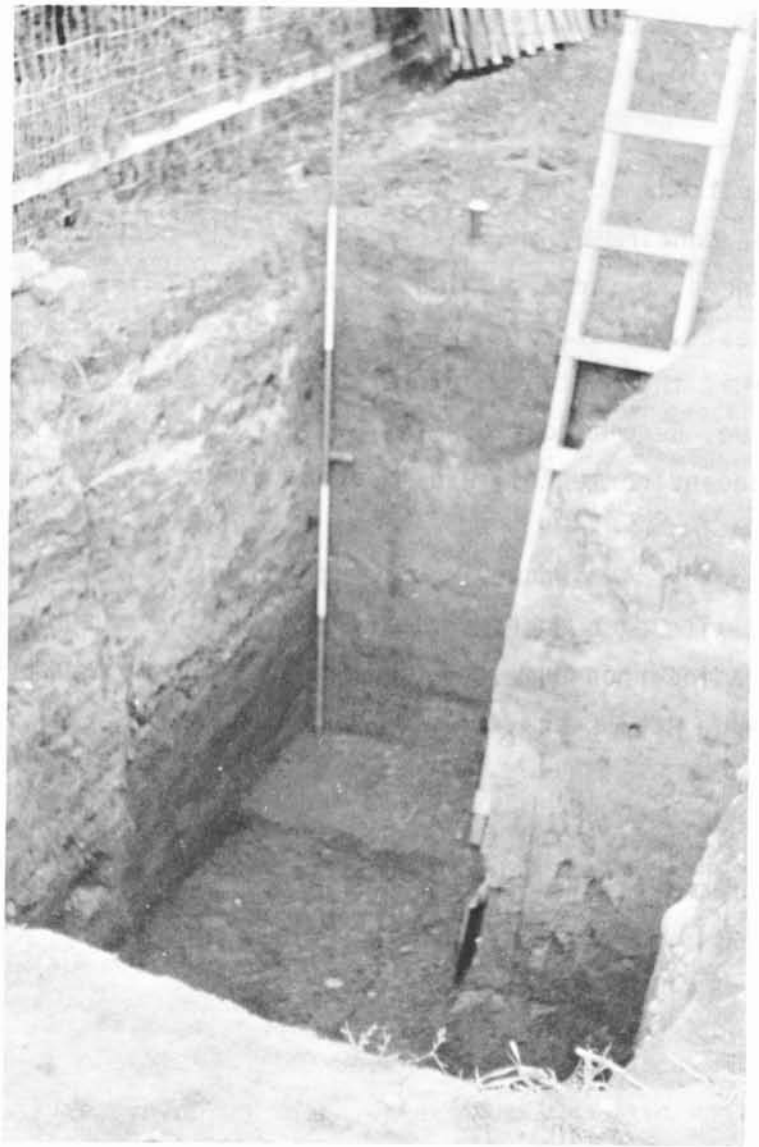


Figure 38: DjPo-81 Unit F. Range pole rests on lowest cultural level. Mazama Ash @ 1.25 m. below surface.

Figure 39: Lower levels of DjPo-81 Unit A.

HIGHWAY ARCHAEOLOGICAL CONSERVATION PROJECT (CHIN COULEE)

James M. Calder

Project 75-17

INTRODUCTION

DjPb-2 and DjPb-3 are adjacent tipi ring sites situated on the south side of Chin Lake adjacent to Highway 36. The sites lie on the eroded remnants of a high proglacial terrace overlooking Chin Lake. They are separated by an erosional gulley, along which a realignment of Highway 36 is proposed. Construction of this would destroy portions of both sites.

On-site studies were carried out during October, 1975. Individual features were examined and documented. Excavations were concentrated on those features located within the proposed Highway 36 realignment right of way. Two features outside the right of way were also excavated to provide additional interpretive data.

PROCEDURE

A step by step procedure was undertaken to maximize data recovery on individual features and their inter-site relationships.

1. Site surfaces were examined to isolate and identify individual rock features. Each feature was pegged and numbered.
2. All features were individually photographed and the sites photographed from the ground.
3. Site contour maps were made and each feature peg location was positioned using a transit.
4. Rocks in each feature were exposed and white washed.
5. Scale plan maps of each feature were prepared.
6. Each feature was studied and described individually. Observations made include: location of hearths, doorways and rock piles; number, orientation, size and depth below surface of rock; feature anomalies--e.g., rings with double rows of rocks, evidence of ring disturbance, etc.; and the position of features relative to adjacent features.
7. Sites were photographed from the air.
8. Two by two meter excavation grids were laid out over areas to be excavated. Grids were sampled and excavation expanded when required.

EXCAVATIONS

A grid was laid out over a cluster of four features within the right of way

in DjPb-2. Cultural material was found to extend to the base of the soil, a depth of 15-20 cm below surface. A total of 22 units were excavated. Only one time diagnostic artifact, a projectile point, was recovered. Two additional features outside the right of way, a ring and an isolated hearth, were excavated. Five 2 x 2 meter units were removed. The ring was characterized by a "pavement" of fire cracked rock over part of its floor, suggesting a possible use as a sweat lodge.

Only one tipi ring in DjPb-3 was excavated. Sixteen units were excavated to a depth of 15 cm below surface; no time diagnostic artifacts were recovered.

CONCLUSION

Fifty features, including tipi rings, rock alignments and cairns, were identified in DjPb-2 and two tipi rings in DjPb-3. A total of 40, 2 meter excavated squares yielded a limited amount of cultural data. One time diagnostic artifact suggesting the Middle Prehistoric Period was recovered. However further analysis may uncover additional data.

Preliminary analysis of the features suggest at least two occupations occurred at DjPb-2. Both are younger than that at DjPb-3, which could be of considerable antiquity, as its rings were very deeply buried.

The study, the first detailed study of tipi rings in this area of southern Alberta, will upon completion of analysis provide information of value on this common cultural phenomena of the Alberta Plains. The excavations were restricted primarily to those rings subject to impact in Hwy 36 construction. As such they provide a biased sample of the rings in the sites. This problem should be rectified in future salvage studies by extending representative sampling to other rings outside direct impact zones. Such studies at DjPb-2 would have aided considerably in overall interpretation.

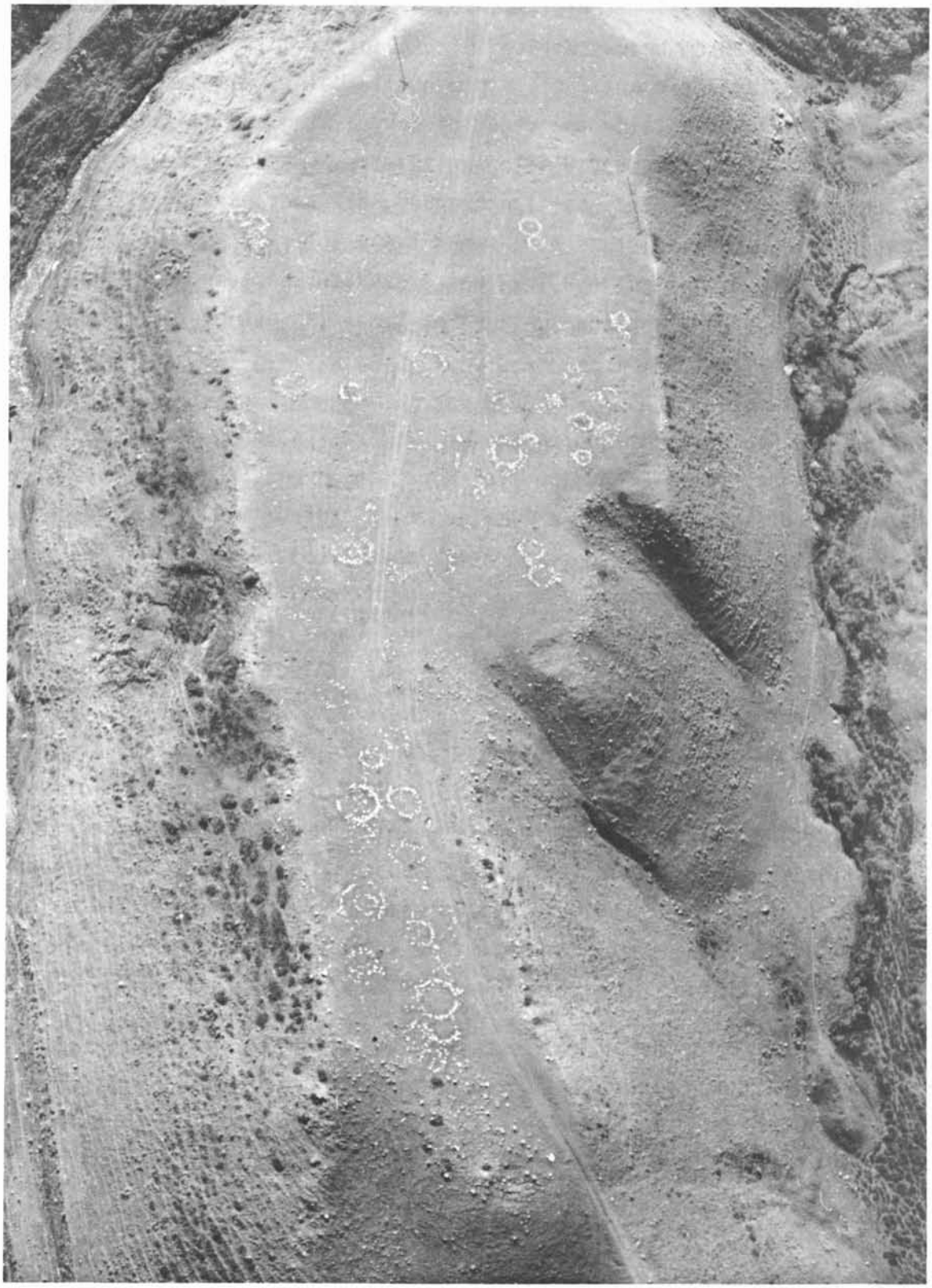


Figure 40: Aerial view of DjPb-2. Chin Lake Tipi Ring Site.

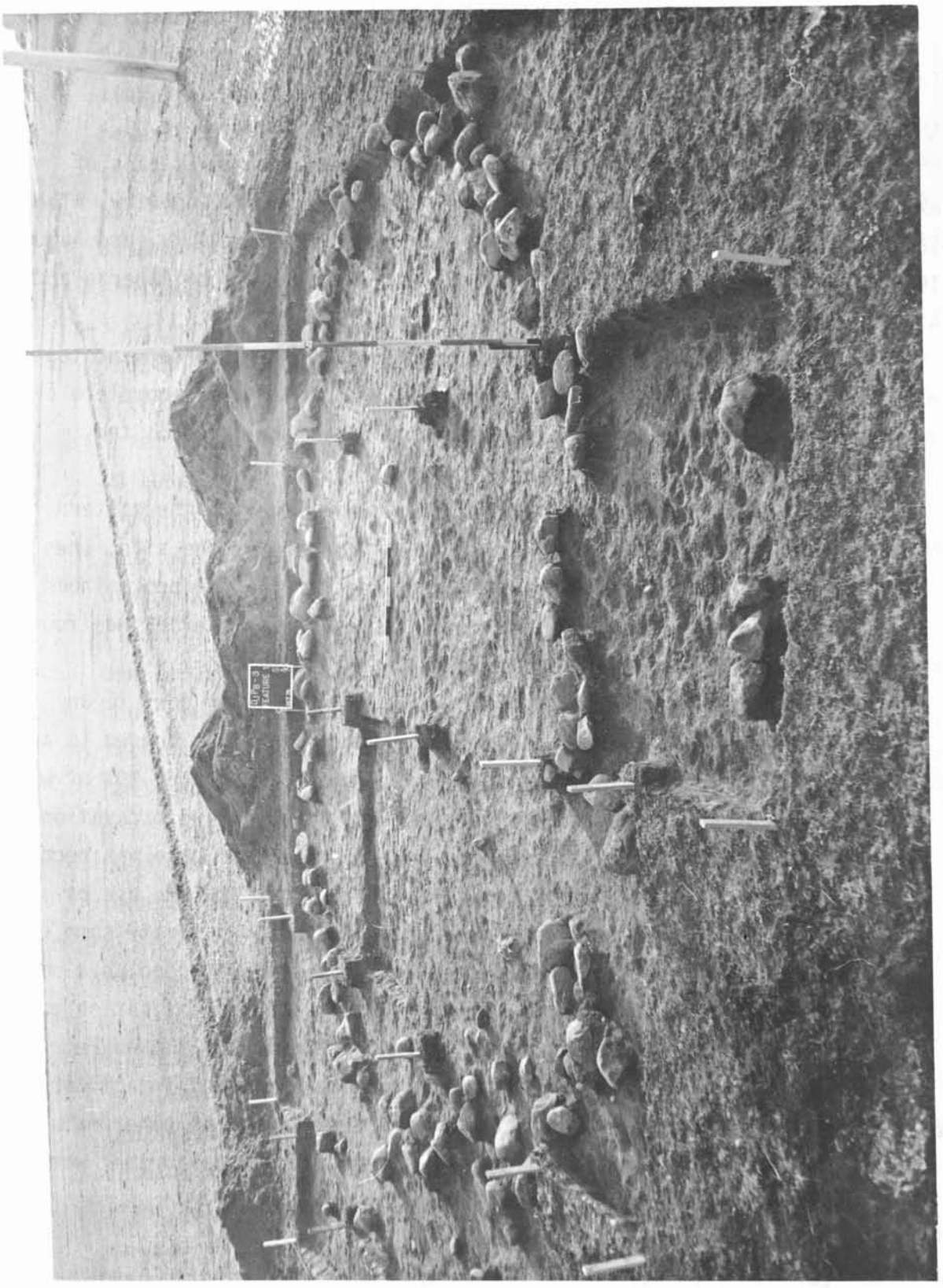


Figure 41: View of excavated tipi ring, feature 1, DjPb-3, Chin Lake Site.

ARCHAEOLOGICAL SALVAGE PROJECT ON SR922 NEAR LONGVIEW

Colin Poole

Project 75-16

INTRODUCTION

The following is a brief discussion of the findings of a series of excavations carried out at seven sites in the vicinity of Longview, Alberta. These excavations were carried out in the months of June, July, and August, 1975. The project was funded by the Archaeological Survey of Alberta and Alberta Transportation.

Five sites (EcPn-1, EcPn-3, EcPn-5, EdPn-6 and EdPn-9) underwent test excavations and two sites (EdPn-8 and EcPn-2) underwent more complete salvage work. The sites are discussed individually in the order listed.

EcPn-1

This site, EcPn-1, was located on prairie level on the eastern rim of Pekisko Creek Valley (See Figures 42 and 43). The site, when located, had consisted of a surface scatter of fire broken rock and a great number of large quartzite flakes. This material was found exposed in a ploughed field and in a road cut.

Four excavation units, 2 meters square, were taken down to an average depth of 30 centimeters. Cultural materials ceased to appear below this depth. Approximately 230 large flakes, over 90% of which were coarse grained quartzite, were retrieved during excavation and surface collection. No features were found and no bone was recovered. However, the presence of some fire broken rock and the use of some quartzite flakes as choppers and scrapers would indicate some campsite activities. It is suspected that the site was used as a source of quartzite but that only the most rudimentary modification took place on site. It is probable that the majority of flakes retrieved were unselected pieces left after the shattering of intact cobbles. No time-diagnostic artifacts were recovered, and no other materials which could be used in dating were encountered. No further work is considered necessary at the site.

EcPn-3

EcPn-3, a transitory campsite, was located on prairie level west of Pekisko Creek. (See Figure 42). The site is on gently sloping land between a small tributary of Pekisko Creek to the south-east and a

prominent hill to the north-west.

One test unit was excavated which yielded 34 quartzite and chert flakes, one chopper, and considerable fire broken rock. No dateable material was recovered. Several small surface depressions on the south side of the tributary creek were to have been examined also, but due to unforeseen circumstances this was not possible. It was assumed that these were either natural features or related to early ranching activity in the area.

EcPn-5

This site was located on the east bank of Pekisko Creek in flood-plain deposits between two and eight feet above the present water level (See Figure 42 , and Figure 43). The cut-bank containing cultural material extends for about one third mile and in various sections it is obvious that at least six occupations of the site took place. These cultural layers are discontinuous over the length of the site and it is possible that a greater number of living floors are present. (See Figure 45).

One test unit was excavated in the area to be disturbed by highway construction. Although several bone fragments were discovered, no lithic materials were recovered and no living floors could be defined. The evidence suggests that the material found was redeposited from other parts of the site further to the south and upstream. Geological evidence at the site indicates relatively recent occupation.

EdPn-6

This site was located on prairie level on the south side of the Highwood River, one quarter mile from the valley rim. (See Figure 42). It consisted of several indistinct cobble configurations in a saddle of land between two low hills.

Ten shallow excavation units of various sizes were opened up in an attempt to better define the pattern formed by the cobbles. The association of various stone tools with the cobbles and their general distribution indicate that they were placed by man, and that they are most likely badly disturbed tipi rings. One small cairn was also excavated (See Figure 46) at this site. No time diagnostic artifacts, nor other dateable material, were recovered.

EdPn-9

This site was located on prairie level on the south rim of the Highwood River Valley. Cultural material was found eroding out of a ploughed field and a road-cut. However, in the area which would be disturbed by highway construction, 4 test units produced no prehistoric cultural material. This area of the site had been disturbed during oil drilling activities. (See Figure 44)

EdPn-8

This site was located on prairie level on the north rim of the Highwood River Valley, just south of the town of Longview. (See Figure 42). The site covered both edges of a steep ravine which joined the main valley at this point. (See Figure 44). Much of the surface had been disturbed during oil exploration activities and in road construction. What originally were thought to be two small cobble lined hearths turned out to be, on excavation, parts of complete tipi rings. (See Figure 47). A total of thirty irregularly shaped excavation units, averaging 2 meters square, were opened up, completely exposing three well preserved tipi rings. Other rock clusters in the site, but outside the highway construction zone, may also have been parts of rings, but due to the depth to which these were buried it was not possibel to determine this without excavation.

Six smaller features were found associated with two of the rings. These consisted of 3 concentrations of fire broken rock and 3 light-use hearths also containing fire broken rock concentrations. Approximately sixty artifacts of prehistoric manufacture were recovered including one chert corner notched projectile point. The latter would suggest an age assignment of the Late Middle Prehistoric Period.

EcPn-2

This site was located on the east side of Pekisko Creek on the earliest of a series of recent valley floor terraces. (See Figure 42). The site area is relatively flat, measures about 300 by 100 meters, and is situated at the base of the east valley wall. The site has a south and west exposure.

A considerable amount of fire broken rock and other cultural material

was found eroding out of a cattle salt lick. A series of test excavations failed to locate areas of intense cultural deposits away from this area so the main excavation grid was laid-out adjacent to it. (See Figure 48). A total of 32, 2 meter square units, were excavated to an average depth of sixty centimeters.

One shallow, basin-shaped unlined hearth and one elliptical basin-shaped hearth filled with large fire broken rock fragments were discovered. Several concentrations of fire broken rock and several placed clusters of river cobbles were also exposed. For the most part the living floors were characterized by a random scatter of cultural materials. (See Figure 49). Six separate occupations have been identified. However, due to the undifferentiated stratigraphy and the disturbance to the site by rodent burrowing, it was not possible to identify all occupations in all excavation units. In some cases correlations of levels between units have not yet been possible.

Approximately 800 artifacts were recovered from the site, the majority of tools being formed from cherts and quartzites. The cherts represented include both local and exotic varieties. Faunal analysis indicates that heavy butchering was carried out prior to transporting meat back to the site and would indicate a relatively small group occupying the site for only a limited period of time. If an absence of foetal bone can be taken as an indicator of seasonality then the site would have been occupied in late summer to early fall. Several projectile points of small side notched varieties were found throughout the site suggesting an age assignment of the Early Late Prehistoric to Late Late Prehistoric Period.

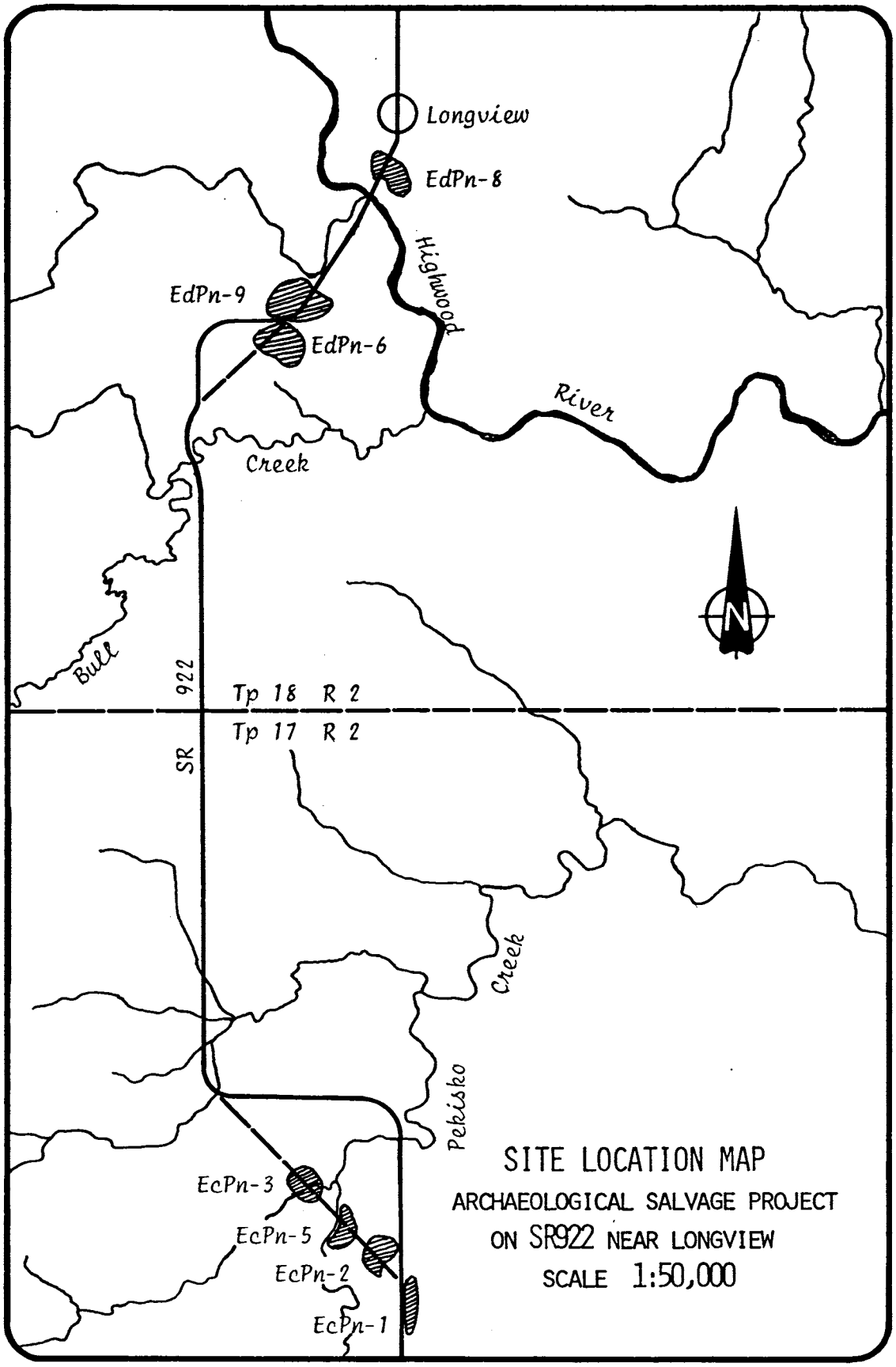

Longview
EdPn-8
Highway
EdPn-9
EdPn-6
River
Creek
N
Bull
922
Tp 18 R 2
Tp 17 R 2
SR
Creek
Pekisko
EcPn-3
EcPn-5
EcPn-2
EcPn-1
SITE LOCATION MAP
ARCHAEOLOGICAL SALVAGE PROJECT
ON SR922 NEAR LONGVIEW
SCALE 1:50,000

Figure 42.

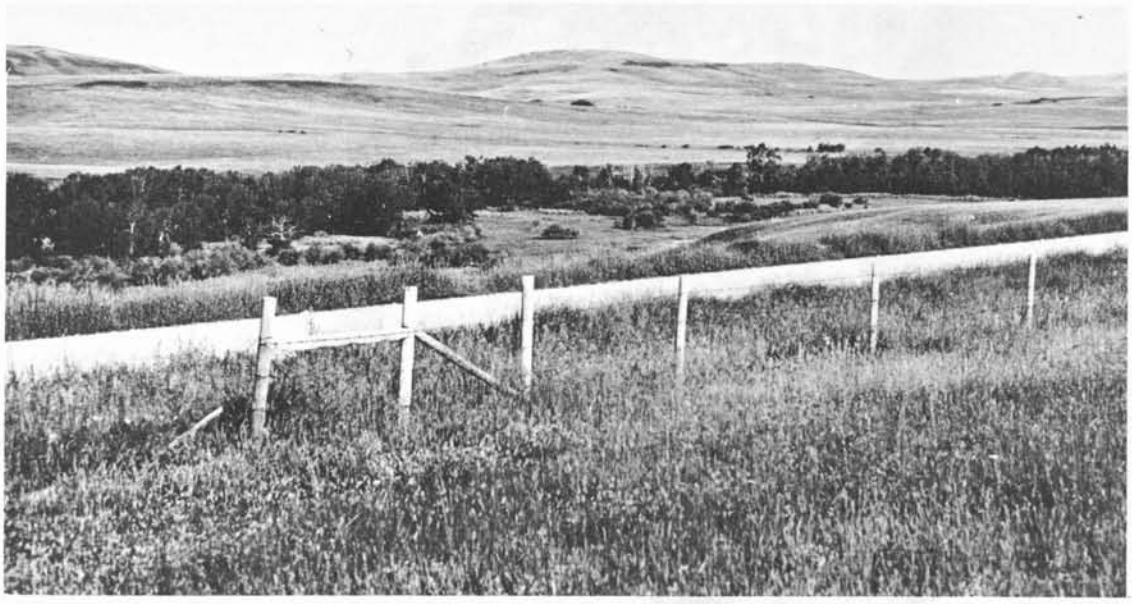


Figure 43: Site EcPn-1. View looking NW from site. Sites EcPn-2 and EcPn-5 are located in the valley bottom.

Figure 44: Site EdPn-9. View looking north over site towards EdPn-8 on each side of the gully through which SR922 ascends from the valley.

Figure 45: Site EcPn-5. View of stream-exposed stratigraphy looking SE. Cut face approximately 6 feet high.

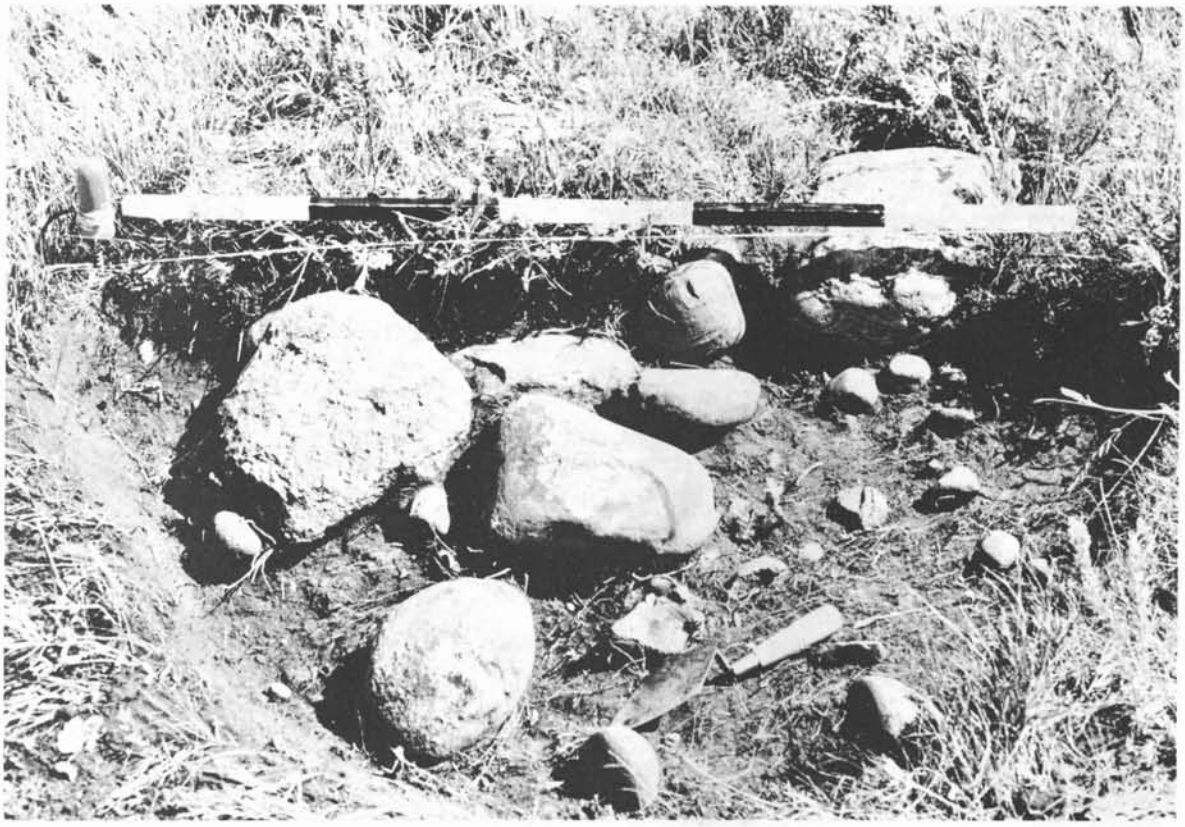


Figure 46: Site EdPn-6. Showing small cobble cairn, partially exposed. Looking SE.

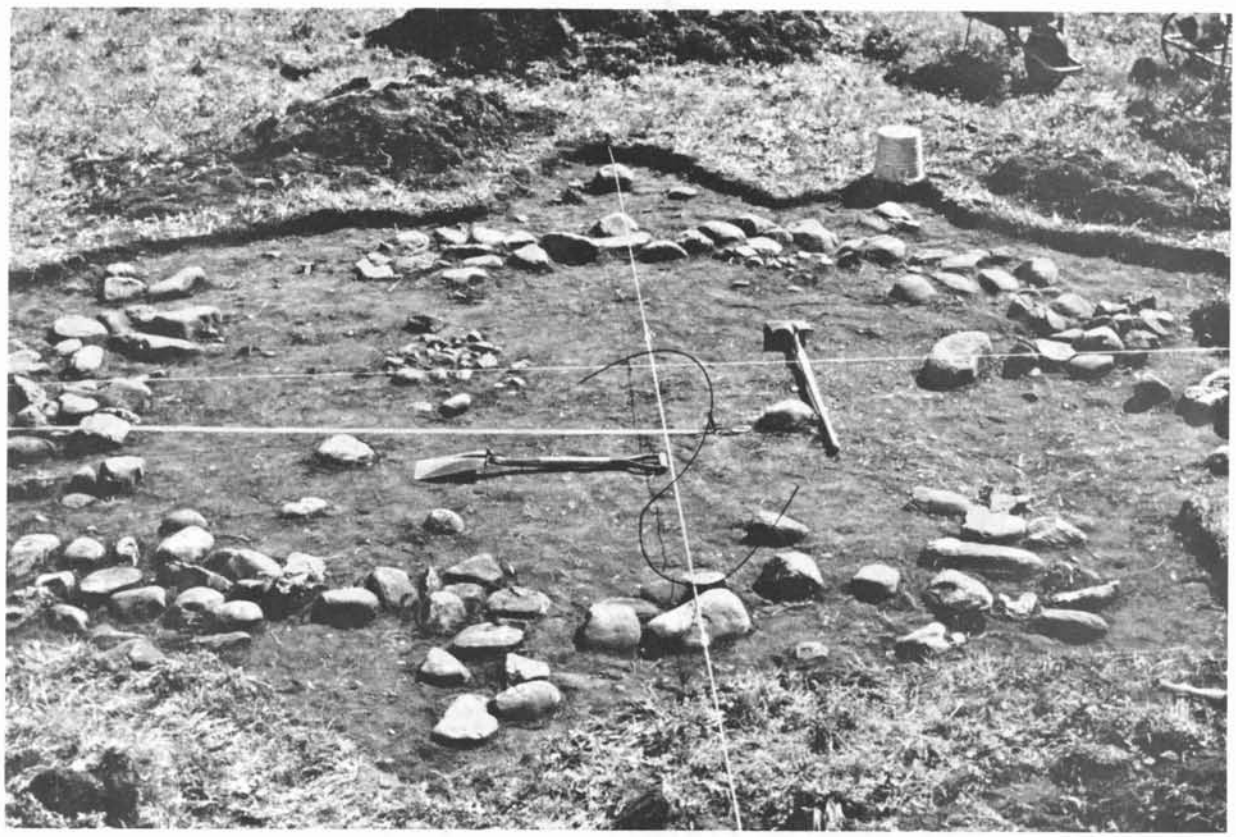


Figure 47: Site EdPn-8. General view of tipi ring #1 showing one fire broken rock feature to left of centre and a second to the right rear. Looking south.

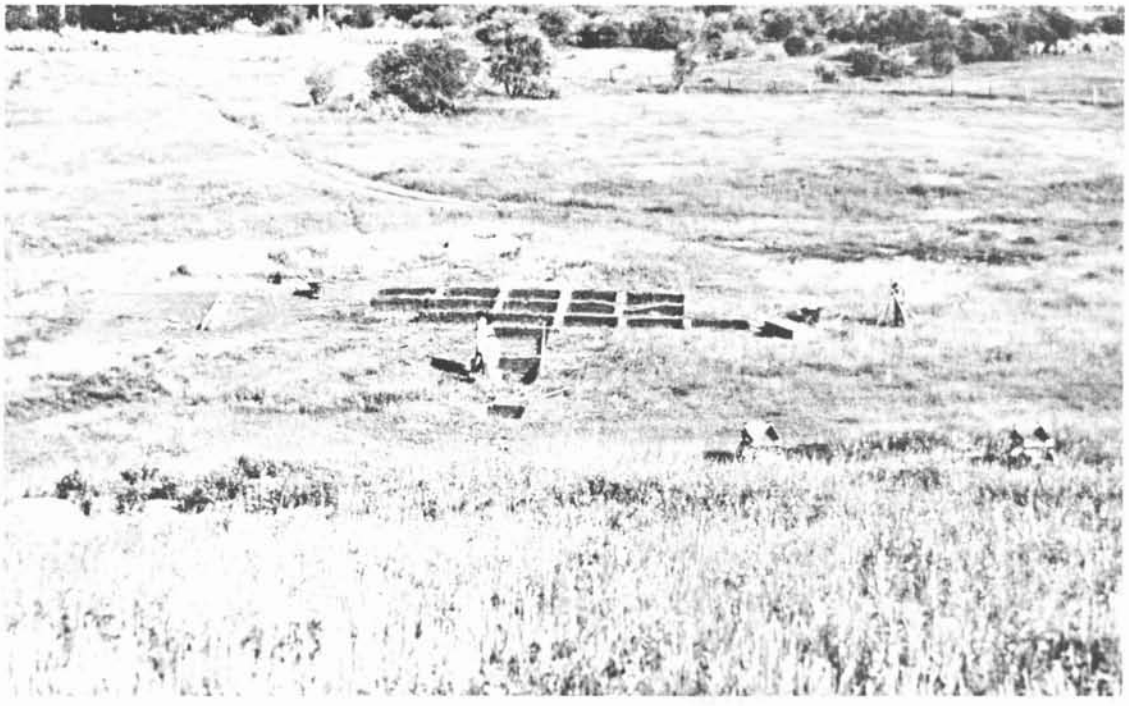


Figure 48: Site EcPn-2. General view of site area showing main excavation area. Old creek bed to rear of grid. Looking west.

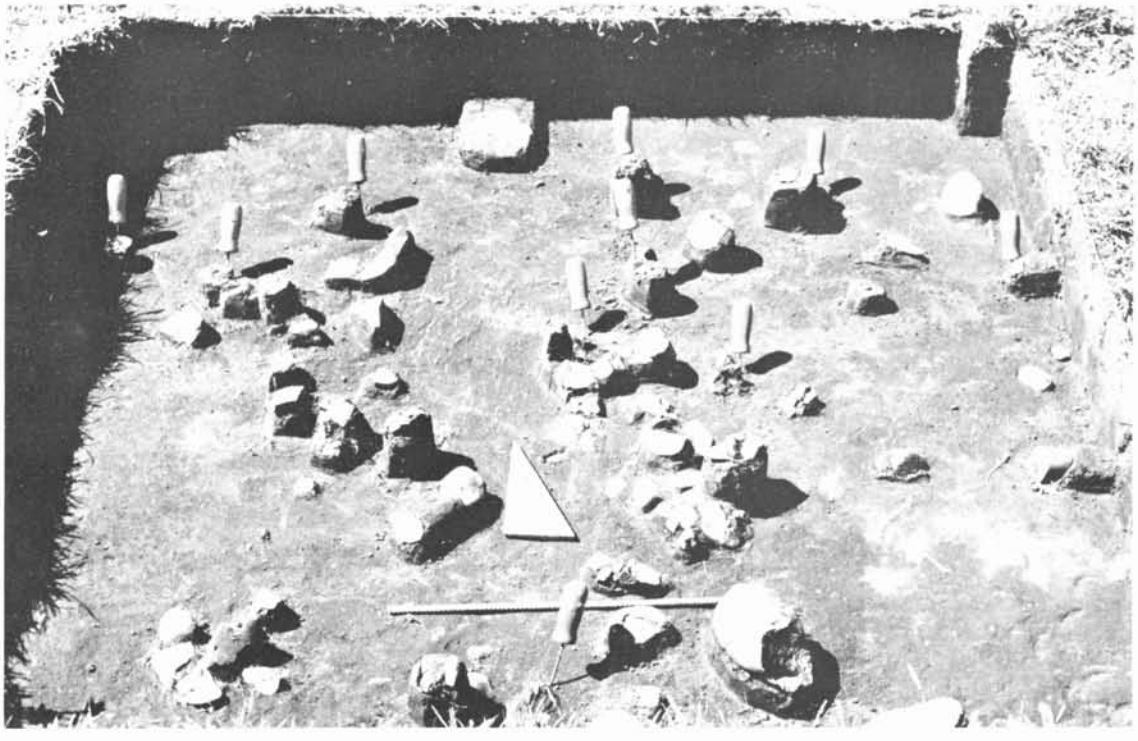


Figure 49: Site EcPn-2. Close-up of living floor materials in level 2, central area of site. Looking west.

HIGHWAY ARCHAEOLOGICAL CONSERVATION PROJECT (CONSORT AREA)

Lifeways of Canada Ltd.

Project 75-19

INTRODUCTION

In May 1975 archaeological studies, under contract to Alberta Department of Culture, were carried out at two "sites" situated along the planned route of Hwy 41, south of Monitor, Alberta. These "sites" were to be impacted in planned highway construction, which according to information supplied had not yet been completed. The following report briefly summarizes the "sites", their characteristics, state of impairment at time of investigation, and results of the study.

PROJECT AREA

The Hwy construction project consists of 12 miles of new road, beginning eight miles due north of New Brigden and ending at Hwy 12 about two miles east of Monitor. The study area is situated in rolling lands, on the northern fringe of the mixed grass plains. The most important stream is Monitor Creek on which one of the "sites" --ElOp-3-- was situated.

THE SITES

Archaeologically, the area was unknown prior to a highway inventory undertaken in summer 1974 by C. Poole (Poole and Reeves 1975). This inventory located eleven sites, of which two ElOp-3, a "prehistoric campsite" and ElOp-11, a cairn, were recommended for further study.

ElOp-3

a. ElOp-3, supposedly a prehistoric campsite situated on Monitor Creek, was recommended for test excavation prior to highway impact. Construction was imminent according to information provided by the Archaeological Survey of Alberta (May 16, 1975). However, upon arrival on May 19, we found the site to be 90% destroyed in bridge construction completed the previous winter.

On site studies consisted of excavation of two, 2 x 2 meter tests in relic "site" areas, adjacent to the hwy grade and Monitor Creek. These terminated at ca. 1.5 meters below surface. No cultural remains were found, either in the tests or on the surface. Cultural remains -- "fire cracked rock" -- were supposedly present.

ElOp-11

b. This site consisted of two small field stone cairns, rather than one as cited in the report (ibid:126), situated 10 miles north of New Brigden, at the corners of ¼ sections. On site inspection suggested they were section markers, constructed during the legal survey of the area. Excavations not only recovered a flattened tin can beneath one of the rocks, but also indicated they were not "cairns" but rock-filled pits, the surfaces of which had deflated through the years. This construction is typical of legal survey cairns.

THE EARLY SIDE-NOTCHED COMPONENT AT SITE DjOn-26

Eugene M. Gryba

INTRODUCTION

Following Reeves' timely article (Reeves 1973) and the earlier site reports by Agogino and Frankforter (1960); Kivett (1962); Brown (1967); Gryba (1968); Wedel, Husted and Moss (1968); plus others, the notion for an Altithermal cultural hiatus has waned among Northern Plains archaeologists. The belief that is becoming generally accepted is that people whose tool assemblage contained large, essentially square-based, side-notched projectile points, entered the Northern Plains, possibly from the east (Husted 1969:88), and displaced the people of the Plano tradition, a tradition which had prevailed in the area for the preceeding several thousand years.

Sites yielding these early side-notched points are known for the eastern and western peripheries of the Plains. Along the eastern margins these points are frequently referred to as Logan Creek; to the West, along the Rockies and in the Plateau where they are usually more recent than their eastern counterparts, as Bitterroot. Reeves (1973) has placed the occurrences under the Simonsen and Mummy Cave complexes, respectively.

Now another site bearing an early side-notched point component has been discovered. This is Site DjOn-26. It differs from many of the previously discovered sites of similar affiliation in that it is located toward the middle, and not near the periphery, of the Plains.

DjOn-26 is a deep, well-stratified, multi-component site situated at the base of the north slope of the Cypress Hills within Cypress Hills Provincial Park, Alberta. Discovered by the author in 1971 during a survey of the park, this important site, tested later that season and again in 1972, proved to contain no less than 14 culture-bearing layers. Based on the data retrieved from an estimated 0.03% to 0.60% of the horizontal extent of the site, it appears that DjOn-26 served primarily as a habitation site rather than a kill or quarry station. The variety of artifacts and other cultural material (i.e., features and activity areas) points to the fact that domestic activities were of a diverse nature. Only a number of components represented at DjOn-26 have been identified. These include Besant, Pelican Lake, Oxbow and Bitterroot (Logan Creek).

Although a comprehensive report on the findings of the two seasons'

investigations has been prepared (Gryba 1975), publication of it is postponed on the expectation that testing at the site will be resumed. Nevertheless, in view of the importance of its contribution to Northern Plains prehistory, it is felt that a statement on the Bitterroot component should be made available. Not only is the Bitterroot layer the most prolific layer at DjOn-26, but a radiocarbon date of 5,295+255 years B.C. (NMC-571) obtained on charred bone taken from a hearth from this culture layer makes the assignment of the cultural affiliation undisputable.

THE SETTING OF SITE DjOn-26

The Cypress Hills form an east-west trending ecological outlier roughly 2,590 square kilometers in area straddling the Saskatchewan-Alberta boundary 80 kilometers north of the 49th parallel. Located in the middle of the Northern Plains 320 kilometers east of the Rocky Mountains and reaching elevations of up to 240 meters above the surrounding plains, the Hills contain biotic elements of both Short Grass Plains and Boreal Forest zones. Communities of lodgepole pine (Pinus contorta), white spruce (Picea glauca var. Albertiana), balsam poplar (Populus balsamifera), and aspen poplar (P. tremuloides) dominate the north slopes and sheltered valleys. Suppression of fires within the past hundred years has led to an increase in the extent of the forest communities.

Short grass prairie of rough fescue grass (Festuca scabrella), blue grama grass (Bouteloua gracilis), spear grass (Stipa comata), and other grasses surround the Cypress Hills and are dominant on the south-facing slope.

Most of the large game mammals and carnivores common to the Northern Plains have been reported for the Cypress Hills area within historic times (Soper 1964).

In terms of the physical environment, both the bedrock as well as the surficial geology has been covered in detail by Westgate (1968;1972). The Cypress Hills are an erosional remnant comprising essentially horizontal beds of Cretaceous and Paleocene sandstones and shales. These are mantled by as much as 15 meters of Oligocene conglomerate composed of predominantly quartzite cobbles, and to a lesser degree, of chert and other fine-grained material cobbles. The conglomerate in turn is covered by a thin deposit of loess.

A large portion of the Hills that escaped glaciation reflects the flat

peneplain character of the plateau. The land away from the Hills has been moulded by the actions of the continental glaciers and glacial meltwaters. Prominent meltwater channels, Elkwater along the north and Medicine Lodge Coulee along the west, flank the Cypress Hills and accentuate the local relief. Elkwater Lake, created when massive land slides occurred along the north slope of the Hills, occupies part of the Elkwater meltwater channel.

The Elkwater channel is carved into the Elkwater drift which surrounds the Cypress Hills and which is believed to have been deposited around 25,000 years ago (Westgate personal communication). Site DjOn-26 lies along the north edge of the channel, half a mile from, and close to 11 meters above, the waters of Elkwater Lake.

THE EXCAVATIONS

Because Site DjOn-26 lay in the path of a proposed access road to a group camping area in the park the initial test excavations were of a salvage nature. The general area of the site was staked out in a two meter grid system and a number of test pits were located in a non-random fashion in the vicinity of the proposed road in order to determine the extent of the site and its relation to the route of the road. In 1972 testing was continued in an attempt to sample the deeper layers which were shown to be present by means of an auger test.

The strategy used during both seasons involved exposing each living floor and recording the distribution of material in situ before proceeding to the next level. In the largest test unit, the Main Excavation Unit, a total of 14 culture-bearing layers was identified. Here excavations reached 3.85 meters below the surface before the end of the field season in September, 1972.

The Bitterroot component is associated with what has tentatively been assigned as Culture Layer 12A. (Figure 50). Culture layers 11, 12B and 12C, because of their stratigraphic position below the Mount Mazama ash band and close proximity to Culture Layer 12A, may also be manifestations of the Mummy Cave culture complex. The suggestion is tentative until these layers are adequately sampled.

STRATIGRAPHY

The matrix at Site DjOn-26 comprises almost exclusively fine-textured flood plain and slope wash deposits. A 5 cm. thick band of Mount Mazama volcanic ash occurred 3 meters below the surface. At the Main Excavation

Unit more than 24 buried Ah soil horizons, varying anywhere from one to several cm. thick occurred throughout a 3.85 meter vertical section (Fig. 50). Separation of the different layers was best developed toward the western part of the Main Excavation Unit. Not all of the buried Ah soil horizons contained traces of cultural material.

A small stream runs near the site and, undoubtedly, besides being the main agent in the transportation of the deposits, was a primary attraction for human groups to the general area.

CULTURE LAYER 12A

Culture Layer 12A was one of the most prolific layers sampled at Site DjOn-26 (Table 3). It was associated with a thin, well-developed Ah soil horizon that was separated from Culture Layer 11 by an average of 10 cm. of fine sand and from the underlying Culture Layer 12B by a maximum of 4 cm. of light-coloured sand. Seven square meters of this culture layer were sampled. However, despite this small area, a diversity of artifacts and activity loci was uncovered. The material ranged from stone and bone tools to lithic workshop debris and localized workshops, butchered and charred bone scraps, and a hearth. The radiocarbon date of 5,295+255 B.C. was obtained on a bone sample which came from the hearth.

LITHICS

Bifacially flaked Tools

1. Bifacially flaked tools comprised fragments of large bifaces made from coarse-grained materials, and projectile points and a drill fabricated from finer-textured materials. Workmanship appears to have been a factor of the lithics used.

   Projectile Points

   a. One reconstructed, unfinished point and six fragments were recovered from Culture Layer 12A (Figure 51). Their metric dimensions and qualitative attributes are given in Table 5 . The reconstructed example was found in three pieces. It and a base of an identical orange chert occurred in a concentration of debitage of this distinctive material. This association suggests that both points broke during the manufacturing process. The other point bases probably represent discarded points which snapped in two during use and which were replaced on the shafts by complete examples at the camp-

site. Although all point fragments display flaking over the entire surface and are lenticular in cross-section there is a significant variation in the size and shape of the base and notches (Figure 51). The diagnostic fragments are similar to the Bitterroot type which Reeves found in stratigraphic context both above and below Mount Mazama ash (Reeves and Dormaar 1972:333).

Large Bifacially flaked tools

b. Large bifacially flaked tools with relatively straight edges were represented by two examples (Figure 52). The quartzite biface, found in two articulating halves, came from the vicinity of the hearth. The tool has a maximum length of 61 mm., width of 39 mm., and a thickness of 11 mm. The biface is crudely flaked and displays no visible evidence of edge wear. The other biface is a portion of a large red argillite tool which has been finely step-retouched along one lateral edge. The fragment is 59 mm. long, 63 mm. wide, and 23 mm. thick and has a working edge 76 mm. in length. The bifaces have edge angles of 46^{o} and 50^{o}, respectively.

In addition there were two large pieces of quartzite which showed partial flaking of both faces. Both tools have a rather steep edge angle, in the order of 65^{o}. Battering, indicative of heavy use, is evident on one of the artifacts. The tools have the following respective dimensions; length 78 and 98 mm., width 69 and 71 mm., and thickness 32 and 34 mm.

Drill Fragment (Figure 51h)

c. One artifact of brown jasper (Figure 53) has been interpreted as a possible drill tip. It is roughly parallel-sided and bears short, broad, irregularly-spaced flake scars on both faces. There are no visible signs of wear at the tip. The broken artifact measures 25 mm. long, 9 mm. wide, and 4 mm. thick.

Unifacially flaked Tools

2. Two complete and 5 fragments of unifacially retouched flakes were recovered from Culture Layer 12A (Table 5). No significant dulling of the working edge was noticed on any of the examples.

Besides these examples there were two small pieces of dull-red

argillite which displayed unifacial flaking. One piece is 27 mm. long with a working edge retouched at a 51^{o} angle while the other is 98 mm. long and has a steep working edge of 64^{o} or more along 3 edges. On neither tool is there evidence of smoothing which is indicative of heavy use.

Flakes and Fragments

3. A grand total of 4,620 flakes and fragments was recovered from the 7 square meters exposed of Culture Layer 12A. These have been analyzed according to material and mode of production. In terms of mode of production, 1.30% were produced by hard hammer percussion, 2.68% by soft hammer percussion, 0.45% by bipolar technique, 14.19% by pressure. Unclassifiable miscellaneous fragments and workshop shatter accounted for 81.38% of all the debitage. Coarse-grained quartzites and argillites comprised 45.02% of all the reject lithic material recovered.

   In addition, there were 8 utilized flakes; 2 of quartzite, 1 of clear agate, 2 of brown jasper and 3 of chert. The largest is 74 mm. long, 60 mm. wide and 24 mm. thick. In comparison, the smallest one is 17.5 mm. long, 13.5 mm. wide and 2 mm. thick.

   Three globular cores and at least 11 bipolar cores, predominantly of brown jasper, were also recovered. The largest of the bipolar cores is only 25 mm. long. In contrast, the smallest of the quartzite cores is 67.5 mm. long.

FAUNAL REMAINS

The living floor represented by Culture Layer 12A was profusely littered with identifiable and non-identifiable faunal remains. Also found were two fragments of a bone needle. Preservation of the bone is exceptional.

Around 940 unidentifiable bone scraps were recovered. An additional 56 fragments were found in the matrix immediately above or below Culture Layer 12A. Identifiable bone fragments comprised elements of both bison and elk. The general distribution showed that the more fragmented bones occurred near the hearth. A few bones had cut marks produced by stone tools probably during the butchering process.

The bones of a small mammal were found in the matrix of Culture Layer 12A that was washed and sorted in the lab back at Edmonton. The 12 bones are believed to represent Citellus sp.

The hearth contained a large quantity of charred bone, most of which was submitted for radiocarbon dating.

The one bone artifact, two articulating fragments of a needle, was also found in the matrix that was sorted in the lab. It appears that the needle was manufactured from a splinter of a long bone by means of grinding. The combined length of the two fragments is 25.5 mm. It is rounded and tapers gradually to a point, being 1.5 mm. in diameter at the thickest end and 0.75 mm. thick at the other end. The extreme part of the tip is missing, as is an undeterminable portion of the base or eye part. There is no indication that the needle had an eye, although the fragment is too small to be suggestive for the presence or absence of this attribute.

Bone needles, rarely found due to factors of preservation and their small size, were apparently part of the domestic inventory of Paleo-Indian hunters. Wilmsen (1974:102) notes that 25 were found at the Folsom campsite at the Lindinmeier Site in Colorado. Some of the Folsom needles had eyelets (ibid: Figure 6.12).

FEATURES

The one prominent feature found in Culture Layer 12A was a circular, shallow, basin-shaped, unlined hearth. The hearth, found near the wall of the test pit, is 58 to 60 cm. in diameter and 8 cm. deep in the deepest part. The hearth contained, almost exclusively, charred bone, while scattered away from it in a rough arc were artifacts and debitage.

No boulders or post moulds were found that would suggest that the hearth was contained within a dwelling. In all probability it was an open-air feature.

DISCUSSION AND CONCLUSIONS

The date of 5,295+255 B.C. places the early side-notched point component at Site DjOn-26 well within the temporal range currently available for similar assemblages at the Mummy Cave Site, Wyoming and at sites along the eastern peripheries of the Plains (Fig. 54). Along the western periphery of the Northern Plains side-notched point assemblages have been found occurring both above as well as below the 4,650 B.C. Mount Mazama volconic ash (Reeves and Dormaar 1972). Still further to the southwest in the Snake and Columbia river basins they are "consistently found immediately superior to layers of Mazama ash" (Caldwell and Mallory 1967:47, emphasis mine).

The earlier eastern dates and the generally later western ones suggest

that the side-notched point tradition was in vogue in the Eastern Woodlands when people of the Plano tradition inhabited the Plains. Several examples support this notion. At the Modoc Rock Shelter in Illinois a side-notched point was found at the bottom part of Zone I which has been dated at 7,922+440 B.C. (Fowler 1959:258). At the Ranier Site, Wisconsin, a side-notched point was associated with an Eden Scottsbluff burial (Mason and Irvin 1960). The authors believe the Plano and Archaic elements to be contemporaneous; the association resulting from a culture contact situation. Paleo-Indian and early Archaic associations occur also at the Atasca Site in Minnesota (Shay 1971) and the Logan Creek Site, Nebraska (Kivett 1962) although it is not clear whether these two examples represent transitional situations or mixed associations.

A sharp break between Paleo-Indian and side-notched point traditions is evident at the Mummy Cave Site, although the available description of the material from this important site is by no means substantial. No recognizable Paleo-Indian material has yet been recovered from Site DjOn-26. However it must be brought to mind that, in terms of the estimated maximum horizontal extent of the site, the area sampled is, proportionately, very small. Furthermore, at this time it is unknown what the cultural affiliations of the components associated with culture layers 11, 12B and 12C are. By virtue of their close stratigraphic position to Culture Layer 12A they may be manifestations of the Bitterroot complex. Whether Paleo-Indian components occur below Culture Layer 12C can only be determined through future investigations.

At Site DjOn-26 the Bitterroot layer, Culture Layer 12A, rivals the Oxbow ones in abundance of cultural refuse and possibly in horizontal extent. In general, with 6 culture layers, layers 9, 10, 11, 12A, 12B, and 12C occurring below the Oxbow layers, and with the last 4 of these below the 6,600 year old Mazama ash deposit, the scope to which DjOn-26 can contribute to filling in the so-called Altithermal cultural hiatus is without exception for the Northern Plains.

TABLE 3: DISTRIBUTION OF STONE AND BONE ARTIFACTS AT SITE DjOn-26

Projectile Points	Drills	Bifacial Knives	Core Chopper	Cobble Choppers	Hammerstones	Anvils	Side Scrapers	End Scrapers	Scraper Planes	Retouched Flakes	Utilized Flakes	Bone Needles	Fire Fractured Rocks	Flakes, Cores & Fragments	Bone & Bone Fragments	Provenience		
													39	10	24	Plow Zone	(16)*	AREA A
2					3				1	1	5		75	120	102	1st Bur. Ah S. Hor.	(16)	
													5	88	199	2nd Bur. Ah S. Hor.	(16)	
		1		7	2	2	2		2	2			+100	488	255	3rd Bur. Ah S. Hor.	(12)	
10		2	1				2	4	2	8	4		+50	2,848	1,328	4th Bur. Ah S. Hor.	(9)	
																Plow Zone	(24)	AREA B
	1										4		39	16	130	C.L. 1	(24)	
1														8	6	C.L. 2	(24)	
													11	7	7	C.L. 3	(24)	
				1									2	6	66	C.L. 4	(9)	
1													9	46	104	C.L. 6	(9)	
9		1		6	1					7			32	5,317	705	C.L. 7 & 8	(9)	
1		1	1	2	1	1	2	2		8			16	1,467	62	C.L. 9	(9)	
											1			7	45	C.L. 10	(9)	
		1	2					1		2	2			360	544	C.L. 11	(9)	
7	1	2					2			8	8	1		4,623	989	C.L. 12A	(7)	
														23		C.L. 12B	(1)	
											1			34		C.L. 12C	(1)	

* Numbers in brackets indicate how many square meters of each culture layer were sampled.

TABLE 4: DIMENSIONS AND OTHER ATTRIBUTES OF PROJECTILE POINTS FROM CULTURE LAYER 12A

Cat. No. DjOn-26/	Location	Material	Length	Width (max.)	Width at Notches	Notches Width/Depth	Thickness	Weight	Base Shape	Ears Shape	Grinding	Basal Thinning	Condition
281	11E 22S NE ¼	grey chert	11*	19*	12		4*	1.1*	convex	rounded	base	weak	base fragment
288	SE ¼					4.5,							
293	11E NE ¼	orange chert	39	22	18.5	2.5	5	4.9	straight	rounded	none	moderate	complete,
516	22S NE ¼												unfinished
297	12E NW ¼ 22S	orange chert	11*	23*	16	2.5, 3	5*	1.6*	convex	rounded	base	moderate	base fragment
298	11E NE ¼	brown jasper	12*	12*	-	-	3*	0.5*	-	-	-	-	tip fragment
299	11E NE ¼ 22S	fine-grained grey quartzite	15*	22*	14	-, 4	5*	1.9*	straight	square	base, notches	prominent	base fragment
302	12E SW ¼ 22S	black chert	6*	19*	12	-, 3.5	3*	0.7*	straight	square	none	prominent	base fragment
540	11E	pink shale	9*	9*	-	-	2.5*	0.3*	-	-	-	-	tip fragment

Dimensions are in millimeters; weight is in grams.

* These are not the maximum dimensions that could have been obtained had the artifact been complete.

TABLE 5: RETOUCHED FLAKES FROM CULTURE LAYER 12A

Cat. No. DjOn-26	Material	Length	Width	Thickness	Length of Retouched Edge	Edge Angle	Placement
277	Tuff	49 *	24	6	45	55°	Bilateral
284	Clear agate	21 *	9 *	5 *	10	45°	Unilateral
287	Chert	27	19	4	44	39°	Unilateral and end
517	Brown jasper	7.5*	8.5*	3.5*	8.5*	41°	Unilateral ?
524	Clear agate	7 *	4.5*	3.5*	7 *	34°	Unilateral ?
539	Chert	12 *	5 *	2 *	5 *	45°	Unilateral ?

Dimensions are in mm.

* These are not the maximum dimensions that could have been obtained had the specimen been complete.

Table 6: Dated Sites with Early Side-Notched Point Components

SITE	DATE	REFERENCE
Simonsen Site, Iowa	6,480+500 B.C.	(Brown 1967:71 citing Walton et al 1961:58
Hill Site, Iowa	5,300+400 B.C.	(Brown 1967:71 citing Crane and Griffin 1962:195)
Turin Site, Iowa	2,770+250 B.C.	(Brown 1967:71 citing Crane and Griffin 1961:113)
Logan Creek Site, Nebraska		
Level B	4,683+300 B.C.	(Kivett 1962:5)
Level D	5,300+300 B.C.	(Kivett 1962:5)
Spring Creek Site, Nebraska	3,910+150 B.C.	(Brown 1967:71 citing Crane and Griffin 1964:107)
Hawken Site, eastern Wyoming	4,520+140 B.C.	(Frison 1974:12)
Site FbMi-5, Swan River, Manitoba	370+130 B.C.*	(Lowdon, Wilmeth and Blake 1970:475)
Stampede Site, DjOn-26, Alberta	5,295+255 B.C.	(to be published in Geological Survey of Canada Paper)
Gap Site, Alberta		(Reeves and Dormaar 1972:333)
layer above Mazama ash	4,110+140 B.C.	
layer below Mazama ash	4,770+140 B.C.	
Mummy Cave, Wyoming		(Wedel, Husted and Moss 1968:185)
Layer 20	3,850+120 B.C.	(later side-notched)
" 19	not dated	
" 18	5,190+170 B.C.	Bitterroot (Husted 1969:88)
" 17	not dated	
" 16	5,680+170 B.C.	
" 14	6,020+210 B.C.	(Plano)
Wilson Butte Cave, Idaho		(Gruhn 1961)
upper level of Zone C	4,900+300 B.C.	(mixture of Bitterroot and Pinto points)

* A date of 380+130 B.C. was later obtained on another sample of bone from the site. Both dates seem unreasonably recent for this point style. It is suspected that the peat bog environment in which the site was located had an affect on the bone.

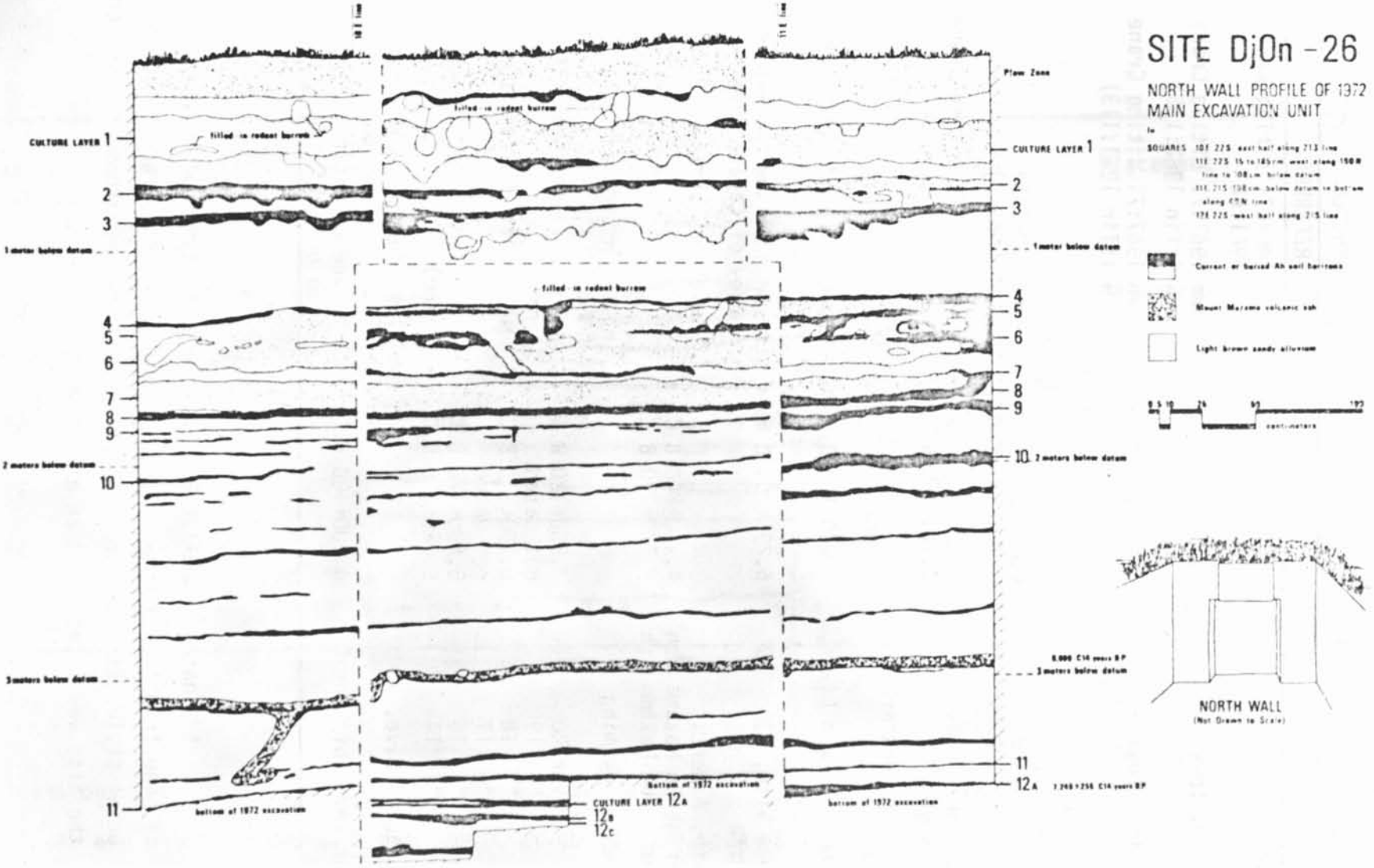

SITE DjOn-26
NORTH WALL PROFILE OF 1972
MAIN EXCAVATION UNIT
CULTURE LAYER 1
2
3
1 meter below datum
4
5
6
7
8
9
2 meters below datum
10
3 meters below datum
11
filled in rodent burrow
Plow Zone
CULTURE LAYER 12A
12B
12C
Bottom of 1972 excavation
NORTH WALL

Figure 50

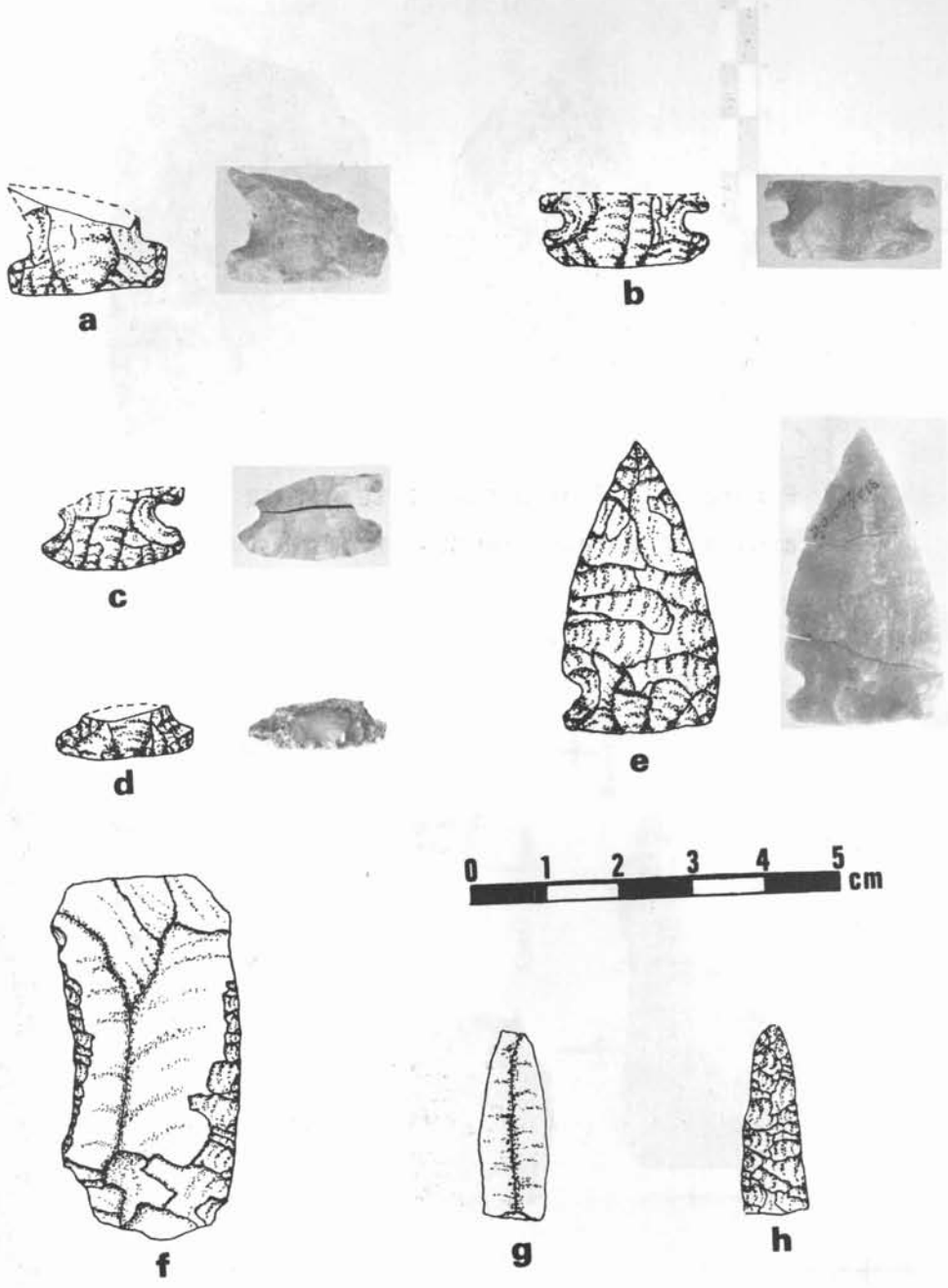


Figure 51: Point fragments, retouched flake, prismatic flake and drill tip from Culture Layer 12A.

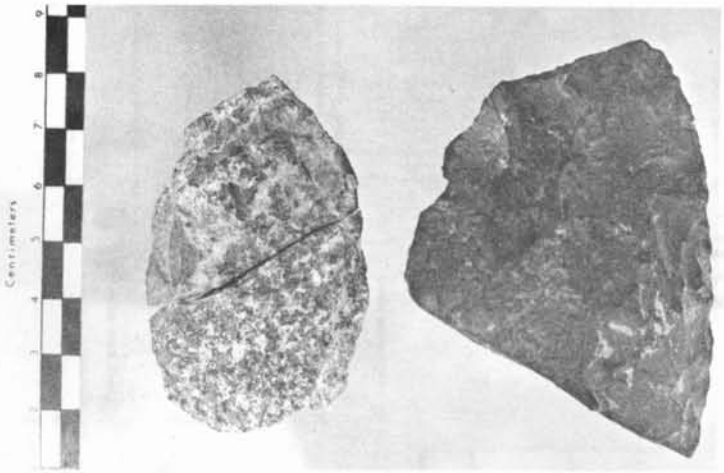
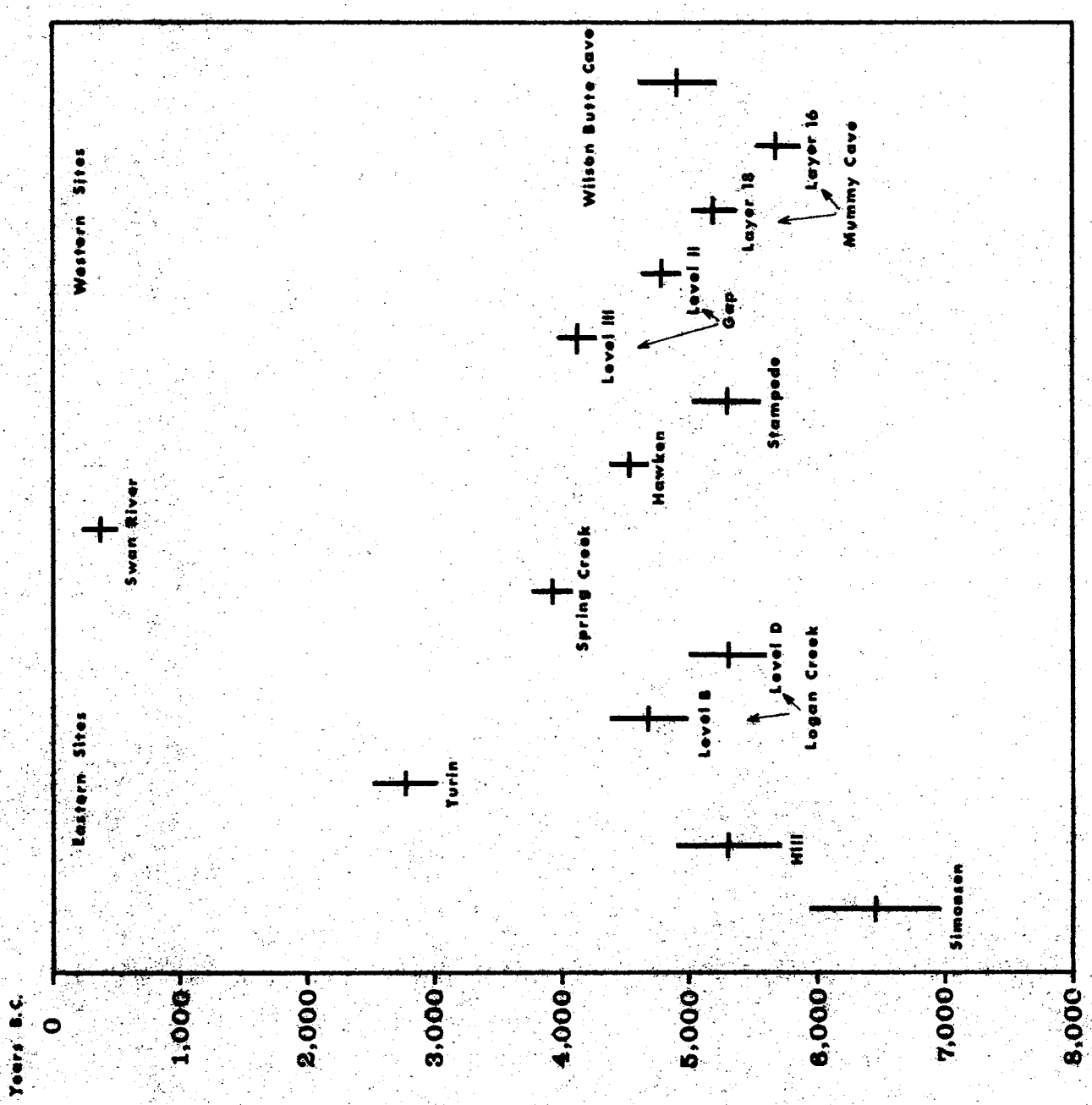


Figure 52: Broken quartzite biface and argillite biface fragment from Culture Layer 12A.

Figure 53: Artifacts from Culture Layer 12A. With the exception of the prismatic flake and drill tip in the upper right hand corner, all are retouched flakes.

Fig. 54: Dated early side-notched point components. Vertical bar illustrates date to one standard deviation.



A NOTE ON THE FLETCHER SITE

J. Michael Quigg

Project 75-46

In September 1975, a small crew of four archaeologists directed by the author undertook a testing program at the Fletcher Site (Forbis 1968) in southern Alberta. The objectives of the program were threefold: 1- to determine the present status of the deposits; 2- to discover the extent of the archaeological material; and 3- to secure sufficient bone material for radiocarbon analysis.

Five test pits (2 x 2 m) were scattered across the surface of the site, in order to fulfill the second objective, as the aerial extent of the deposits. Three of the units produced cultural material assumed to be indicative of the Alberta-Cody complexes, while the other units reached the water table before cultural material was found. No diagnostic material was recovered from any of the excavations, but butchered faunal remains were obtained from two closely spaced (2 - 5 cm apart) living floors. These were totally saturated from water immediately below the occupations or which had, throughout the years, percolated through the soil.

Five bone samples were collected, prepared and sent to the lab for analysis. Information concerning the preservations and contamination of each sample was supplied to the lab, in order that steps might be taken to clean the samples for the best possible date obtained.

The four samples submitted to the radiocarbon dating laboratory in Saskatoon have just been returned and are as follows:

S-1081	Bone, Test 1, level 8	1675±145 yrs. B.P.
S-1082	Bone, Test 1, level 9	4470±120 yrs. B.P.
S-1083	Bone, Test 5, level 11	4130±115 yrs. B.P.
S-1084	Bone, Test 5, level 12	7655±110 yrs. B.P.

In each case the sample consisted of unburned butchered bone fragments, approximately 600 grms per sample, from two closely spaced but distinguishable bone levels. A fifth sample was obtained by splitting the collection used to comprise S-1083; this material was sent to Radiocarbon Limited but as yet there is no report available on the results of its processing.

EXPLANATION OF SAMPLES

Sample S-1081 was taken from a mottled dark grey and rust coloured aeolin sand just above a thin, dark black Ah soil approximately 168-172 cm below the surface.

Sample S-1082 was abstracted from a very irregular, thin black Ah soil approximately 175-180 cm below the surface.
Sample S-1083 was taken from a mottled dark grey and rust coloured sand mixed with clay. Small snail shells were in association at a depth of 165-170 cm below the surface.
Sample S-1084 was retrieved from what is interpreted as a pond deposit of grey clay filled with snail shells. Bone was believed to be from one immature animal at a level of 178-183 cm below the surface.

As far as I could determine the bone samples came from the same occupations as described by A.M. Stalker (Forbis 1968) in his geological history of the site. The bone was identical to that described by Forbis (1968) but a single deer (Odocoileus sp.) phalange was also recognized from level 11, Test 5.

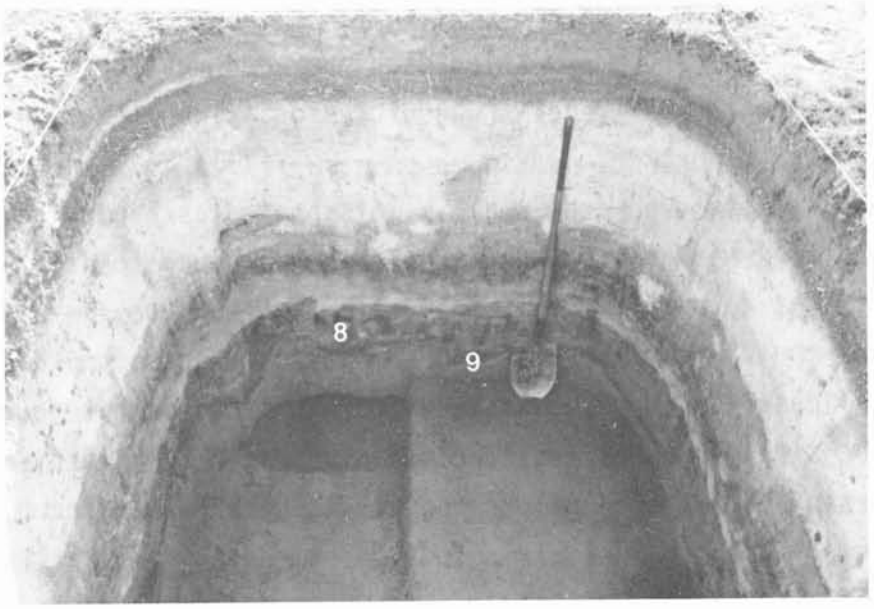


Figure 55: DjOw-1, Test 1 profile looking east. Ungulating dark band at bottom contain bone from level 9, 160-165 cm below surface.

Figure 56: DjOw-1, Test 5 profile looking east. Floor level at 180 cm below surface, level 12.

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