REPORT ON 1973 PROGRAM
ARCHAEOLOGICAL IMPACT STUDY
MACKENZIE HIGHWAY SYSTEM

For

Department of Public Works
Government of Canada

COMPOSITE VOLUME - FORT SIMPSON

TO M.P. 939

PART A

REPORT ON 1973 PROGRAM

ARCHAEOLOGICAL IMPACT STUDY

MACKENZIE HIGHWAY SYSTEM

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MACKENZIE HIGHWAY ROUTE - FINAL REPORT

A. PROJECT DESCRIPTION

1. Introduction:

1.1 Sponsorship - Preliminary archaeological survey of the proposed Mackenzie Highway was undertaken during the summer of 1973 as part of the total environmental research along the route commissioned by the Department of Public Works, Ottawa. Environmental impact studies were carried out by three consulting firms: F. F. Slaney & Company Limited, Vancouver; The Lombard North Group, Calgary; and Schultz International Limited, Vancouver.

1.2 Authorization - The survey and test excavations were authorized under Explorers and Scientists Permit Number 334, from the Northwest Territories Historical Advisory Board.

1.3 Reasons - Preparation of this report was requested by the Department of Public Works to consolidate the details of the summer's program and to summarize the results of the program with recommendations for handling the high impact localities on the route.

1.4 Format - The report will be broken down into five main sections. The preliminary section dealing with short project descriptions and recommendations for operations - i.e. archaeological salvage; three sections dealing with each of the survey areas and finally an appendix containing site report forms, maps, artifact texts and photographs, and pertinent prints and slides from the survey.

2. Highway Project:

2.1 Highway Divisions - For research purposes the highway has been divided

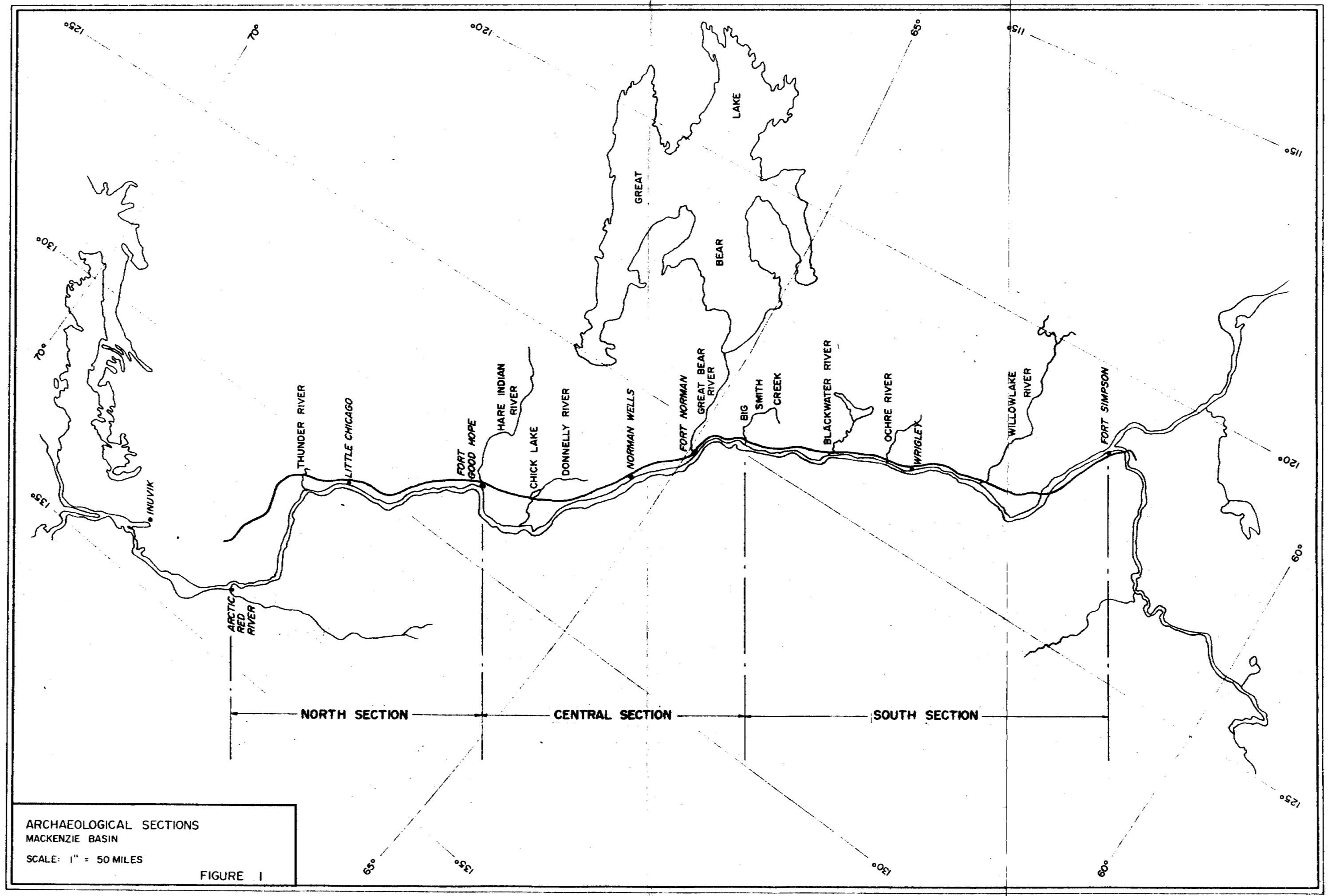
into three sections: the south section from mile 330, north of Fort Simpson, to mile 550, north of Big Smith Creek; the central section from mile 550 to mile 725, east of Fort Good Hope; and the north section from mile 725 to the junction with Dempster Highway of mile 939.

2.2 Physiography - The highway is located in the Mackenzie Lowland section of the Canadian Interior Plains covered with a continuous mantle of glacial and post glacial deposits. To the east of this lowland lies the Precambrian Shield, whereas to the west rise the Mackenzie Mountains of the Western Cordillera. This area consists of a typically Boreal Forest environment characterized by white and black spruce, larch, tamarack, trembling aspen, balsam poplar and white birch. The understory generally contains various shrubs and herbs with a ground cover of mosses, lichens and sedges.

2.3 Route - The highway alignment follows the west bank of the Mackenzie River for approximately forty miles at which point it crosses unto the east side of the bank, continuing on this side for the remainder of the route. Generally, the route parallels the Mackenzie River, departing from this location to follow favourable terrain and to cut across stream meanders (see map #1).

2.4 Schedule - Scheduling proposed for this project appears tentative at best. The original proposal of an operational highway by 1975 seems, at this point, unfeasible and unrealistic, as construction has occurred only in the southern section, and here only on short stretches of the highway.

2.5 Construction - The basic method of road construction to be followed will consist of laying a roadbed of crushed rock and dirt on top of the humic layer in order to maintain permafrost conditions. These sections will be of minimum archaeological concern unless sites are discovered during the preliminary survey. Areas of greatest archaeological impact and concern are those requiring


GREAT BEAR LAKE
INUVIK
THUNDER RIVER
LITTLE CHICAGO
FORT GOOD HOPE
HARE INDIAN RIVER
CHICK LAKE
DONNELLY RIVER
NORMAN WELLS
FORT NORMAN
GREAT BEAR RIVER
BIG SMITH CREEK
BLACKWATER RIVER
OCHRE RIVER
WRIGLEY
WILLOWLAKE RIVER
FORT SIMPSON
ARCTIC RED RIVER
NORTH SECTION
CENTRAL SECTION
SOUTH SECTION
ARCHAEOLOGICAL SECTIONS
MACKENZIE BASIN
SCALE: 1" = 50 MILES
FIGURE 1

surface disturbance through the organic matter, i.e. bridge crossings, access roads to borrow pits, recreation or rest spots, borrow pits, old lake terraces on gravel ridges and the mouths of rivers and streams.

3. Archaeological Project:

3.1 Introduction - Archaeological investigation is being carried out as part of a total environmental impact study of the highway route aimed at identifying the ecological hazards of construction and utilization of the highway. The terms of reference for the 1973 phase of the archaeological survey were specifically to:

(i) identify and inventory the archaeological sites within the highway right of way over those sections where the right of way had been decided, and an area extending over one-half mile to each side of the centre-line over the remainder of the route. This was modified in July, expanding the width to a one mile wide corridor over the entire route.

(ii) test those sites located on or adjacent to the actual right of way or situated in other affected areas for provision of adequate data to assess salvage priority.

(iii) recommend realignment of the highway where deemed necessary to avoid sensitive areas that could be identified as important archaeological sites or localities or locations of historic, or other value to the indigenous people.

3.2 Objectives - The objectives of the 1973 phase of archaeological surveillance were specifically to:

(i) find and locate with respect to the highway any archaeological sites

existing along the highway route.

(ii) determine which sites would be directly associated with the highway and would be affected by secondary activities.

(iii) undertake a limited amount of test excavation to delimit site extent and assess priority ratings of the two previously discovered sites; historic Fort Alexander at Willowlake River, and the prehistoric site at Chick Lake; as well as assess priority ratings of any sites found during the field season requiring more information for such assessment than that provided through survey techniques.

(iv) provide necessary field experience associated with actual construction for formulation of an archaeological surveillance program to be used during the period of highway construction.

3.3 Methodology - Priority areas were established based on the theory of a prehistoric utilization strategy of maximum efficiency or highest economic productivity in conjunction with areal photograph interpretation and analysis. Areas of maximum priority occur at high terraces associated with mouths of streams and rivers, both past and existing lake shorelines, high gravel ridges probably used as game lookout stations, and mouths of inlet and outlet channels for lakes.

These high and medium priority areas were then reconnoitered in the field for site probability and tested for archaeological materials. Field methodology was left sufficiently flexible to allow for extenuating circumstances encountered in the field and application of alternate methods left to the discretion of the area supervisor.

Basic methodology employed in test excavation for assessment involved establishment of a systematic metered grid, plotting of all visible features,

test excavation of all obvious features and random test excavation in order to delimit extent of site area.

During construction surveillance, potentially significant sites were located; some instruction was given to operators on the nature and probable location of archaeological sites. Actual field surveillance included walking of sections prior to construction, archaeological surveying during highway surveying and clearing procedures, as well as archaeological surveying during actual construction. The early clearing and borrow-pit location of the test section was not surveyed as they had been worked before the archaeological crew mobilized.

3.4 Organization and Personnel - Three survey crews and two test excavation crews were set up for the archaeological surveillance of the highway route; one survey crew for each section and an excavation crew for the south and central sections. It was required that periodic progress reports, perferably weekly, be provided by each crew to the project supervisor in order to maintain as strict control as possible of the entire project. Periodic reports were made available to the three consulting firms; Slaney in the south, Lombard in the central, and Schultz in the northern section.

Personnel: Project Supervisor: Dr. J.F.V. Millar

Field Supervisor: Miss G. Fedirchuk

Area Supervisors: Mr. D. Derry, Mr. D. Slaughter, Mr. I. Grant, Mr. R. Chambers, Mr. G. Hilderman.

Field Assistants: Mr. R. Stern, Miss K. Schreiber, Miss C. Biermann, Mr. M. Ingles, Miss V. Smith, Miss A. Crepeau, Mr. J. Cuthand, Mr. P. Edgi, Mr. J. Wilson.

External Consultants: Dr. W. Noble, Dr. W. Irving,
Dr. R. S. MacNeish.

3.5 Schedule:

Initial Mobilization in Edmonton	May 27
Arrival in Fort Simpson	May 30
Southern Crew leaves for Willowlake River ...	June 1
Rest of crews to Little Doctor Lake for briefing analysis of maps etc.	June 1
Central Crew leaves Little Doctor for Norman Wells	June 4
Central Excavation crew arrives Chick Lake ..	June 5
Northern Crew leaves Little Doctor for Inuvik	June 11
Completion of work at Fort Alexander excavations	July 12
Completion of work at Chick Lake excavations .	July 21
Move of northern and central crews to south section to finish survey	August 21
Demobilization to Fort Simpson of north and central crews	August 28
Demobilization of September southern survey crew	September 17

A finer breakdown of scheduling will be included for each section.

3.6 Facilities and Problems - The main problem encountered in the project related to the geographical extent of the area covered by the archaeological investigations. A total length of over seven hundred miles produced a communications problem between field crews and supervisors and environmental

companies. The nature of the archaeological survey made it necessary for the supervisor to be exceedingly and continually mobile, continually moving up and down the line. Similarly, the length of the route required that the most efficient mode of transportation be utilized. The most practical and most rapid method of personnel and supplies transportation on this type of project in the north involves use of helicopter and float plane. This problem is then associated with the problem of cost requiring that helicopter time used be kept down to a basic minimum.

Generally, however, very few problems were encountered in the field operations. This was primarily a result of the considerable assistance given to the survey by the various D.P.W. officials and personnel throughout the length of the route and to the three environmental companies who provided varying degrees of assistance throughout the summer to the three field sections.

3.7 Operating Recommendations - Generally the following operating recommendations are regarded as valuable guidelines for future archaeological investigations:

(i) undertaking of preliminary study involving both literary research and field reconnaissance for the provision of a land utilization matrix facilitating formulation of future field procedures.

(ii) adaptation of a preliminary survey. However, it was found that attempts at coordinating field operations with other research groups was generally unsatisfactory unless the plans originally defined (but not followed) by the Lombard North group were adopted.

(iii) adoption of test excavation for evaluation of site importance and priority rating.

(iv) adoption of close archaeological surveillance of borrow-pit and

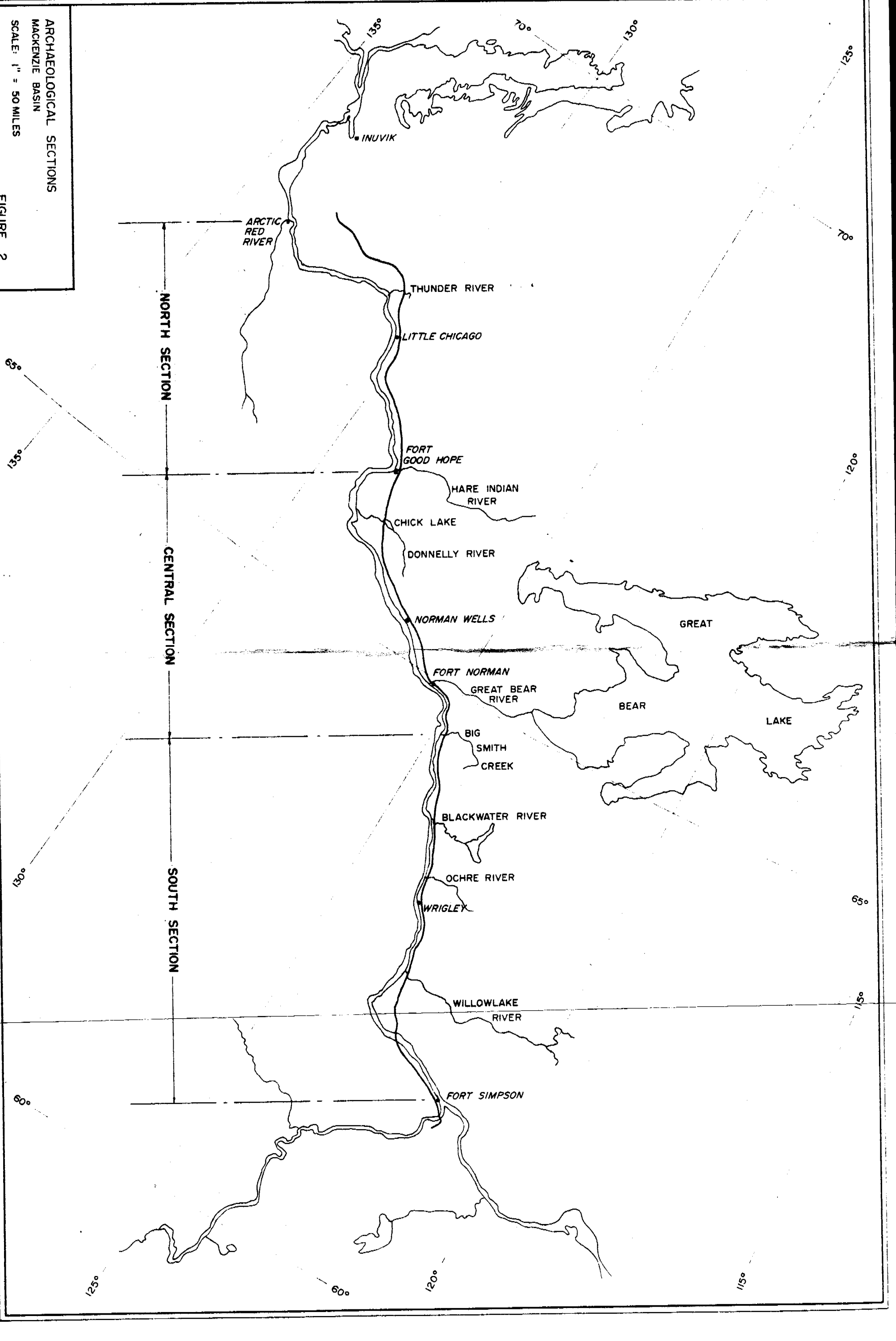
facility installation areas prior to disturbance of these areas.

(v) intensive survey of certain particularly sensitive areas.

(vi) surveillance of section during construction should omit those areas crossed where no ground disturbance will occur.

ARCHAEOLOGICAL SECTIONS
MACKENZIE BASIN
SCALE: 1" = 50 MILES

FIGURE 2



B. SOUTH SECTION REPORT

1. Introduction:

This section received the most attention during the 1973 field season because construction will be initiated here. Areas of high probability were determined prior to field commitment and a preliminary, low level, areal reconnaissance of this section was undertaken to confirm the original assessments and to give the archaeological crew a general overview of the area.

2. Objectives:

The initial objective entailed a general survey of the entire route for location of sites within a two mile wide corridor of the highway route. The second objective was the partial excavation and delimitation of the historic site of Fort Alexander at Willowlake River. Finally, the surveillance of actual highway construction to date and establishment of recommendations for future surveys during construction periods was undertaken.

3. Organization:

The crew for the 1973 field season consisted of the following:

Supervisors:	Mr. D. Derry	Survey
	Mr. D. Slaughter	Excavation
Assistants:	Mr. R. Stern	
	Miss K. Schreiber	
	Miss C. Biermann	

After August 21st, 1973, the crew consisted of Mr. Derry, Miss Biermann, Mr. I. Grant, Mr. R. Chambers, and Mr. G. Hilderman. Thiscrew continued

survey and testing until August 27th when they were demobilized to Fort Simpson. Mr. G. Hilderman remained in the field and was joined by Miss G. Fedirchuk and Mr. J. Wilson on September 1 in order to complete work in the south section.

4. Methodology:

4.1 Survey Methodology - The methodology described in the introductory section of this report was closely adhered to by all survey crews. Therefore, sections describing individual methodology are brief. As previously stated, high priority areas were established and two man survey crews spent three to five days surveying each one. The crews were taken out by helicopter and dropped in a location central to each area in order to cover as wide an area as possible each time. Once in the field, procedures consisted of walking over the area and randomly testing the areas of high probability. Upon discovery of a site, its location was noted relative to the highway; the site was given a consecutive number and was then reported to the testing crew for obtaining further information required for salvage priority assessment if it seemed necessary.

4.2 Excavation Methodology - The excavation crew was responsible for delimiting site extent which necessitates mapping of the site area. At Fort Alexander, a north-south reference line was shot in and a metred grid system established. Subsequently, every recognizable feature in the immediate area of the fort was put on a map. This resulted in a number of non-archaeological features being recorded, for example, tree falls.

Some time was spent testing the actual buildings of the fort but since these had previously been tested (Gordon, 1967) these excavations were kept to a minimum. Most time was spent testing the various features

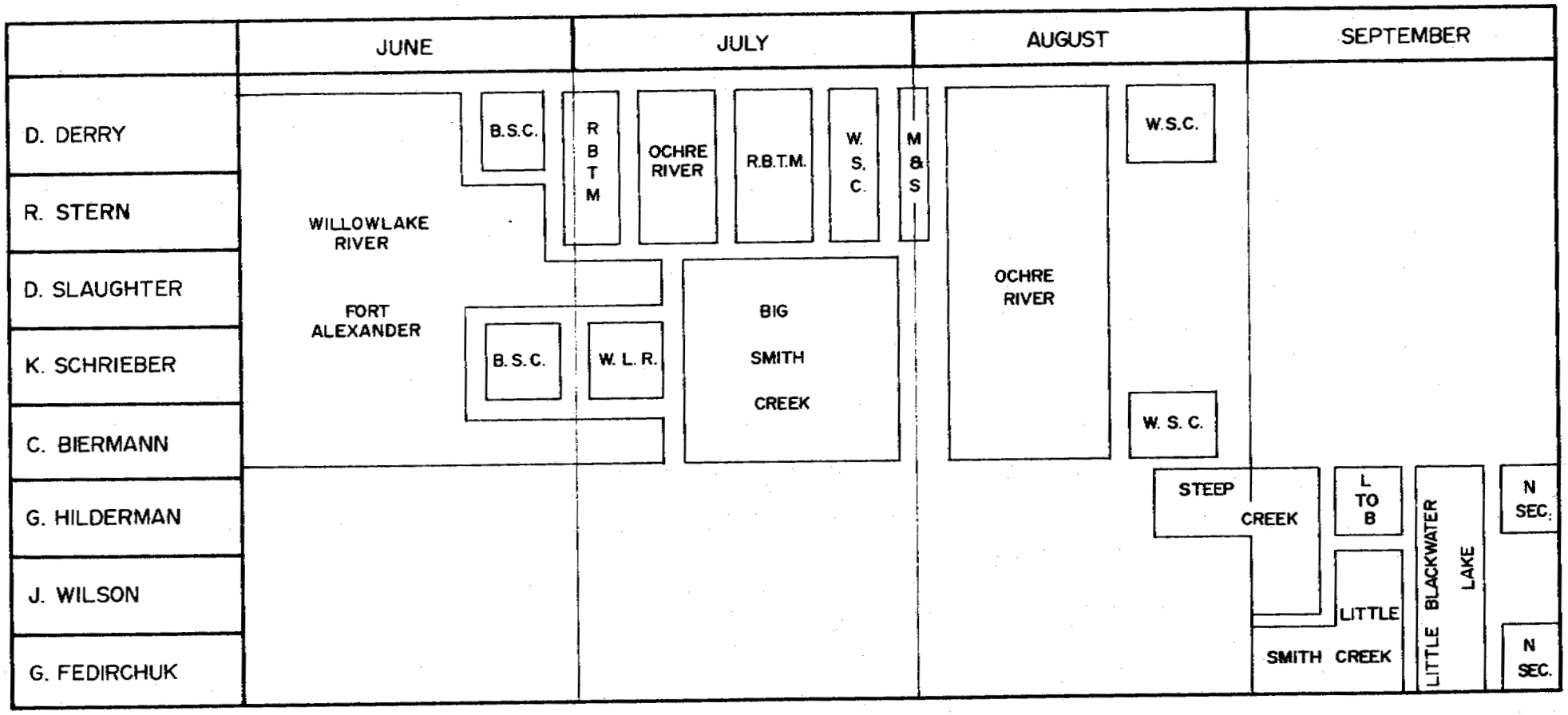
around the fort itself to determine whether there were any associated buildings or camps. Initial work involved testing the various visible features by excavating a trench either immediately adjacent to, or through the feature producing a profile of the feature relative to a control soil profile. Random test squares were excavated to determine the extent of the fort area. The results obtained from this work will be discussed later.

4.3 Construction Surveillance - The third phase of investigation in the south section concerned observations of the preliminary construction. During this phase, a two man team investigated two borrow pit locations near River Between Two Mountains, the road alignment at the junction with the CNT line and winter road between miles 417 and 421, and working with a D.P.W. survey crew as they hand-cleared a centre line. The latter two instances involved walking the route, testing at various intervals and checking the previously made cutlines. The borrow pit areas were surveyed by testing their peripheries, the topsoil pushed to one side and by examining the walls of the pit for any possible cultural evidence. The results and recommendations of the survey will be discussed later.

5. Schedule:

Figure 3 is a schematic diagram of the schedule for the southern section.

SOUTH SURVEY



W.C.S – WHITESAND CREEK
R.B.T.M. – RIVER BETWEEN TWO MOUNTAINS
L TO B – LITTLE SMITH CREEK TO BIG SMITH CREEK
B.S.C. – BIG SMITH CREEK
M & S – MARTIN AND SHALE CREEKS
W.L.R. – WILLOWLAKE RIVER

FIGURE 3

6. Survey Results:

The results of the survey in the south section are partially reflected in the discovery of a total of 76 archaeological sites 29 of which are prehistoric and 47 are historic or recent. The following represents a brief description of each site. For convenience only, areal groupings were made. A map for this section follows (map #3).

6.1 Martin River - The Martin River area, mile 306.5, contained three sites, two historic and one prehistoric. The first site, DE37, is a recent cabin that is still seasonally occupied (Sabrerra's cabin). It is on the north bank of the river right at the mouth of Martin River. A prehistoric site (N.W.T. #6) was found at the cabin during an archaeological survey in the early 1950's by MacNeish. The third site, DE38, represents a recent camp on the north bank of the river approximately one and one-quarter miles downstream from the bridge crossing.

6.2 Shale Creek - Two historic sites were found in the Shale Creek area, mile 337. DE39 consists of a recent hearth located on the north bank directly at the mouth of Shale Creek. DE41, an historic site approximately three-quarters of a mile downstream along the Mackenzie, consists of two historic cabins located approximately 125 metres from the edge of the Mackenzie.

6.3 Camsell Crossing - One prehistoric site, DE40, was found at Camsell Crossing (mile 347) on the east side of the Mackenzie. The site is about one mile upstream from the actual crossing and was probably redeposited from some other location. The site consists of a grey slate chi tho, which is a large, flat scraper used extensively by the inhabitants of the entire Mackenzie Basin.

6.4 Willowlake River - The Willowlake River area (mile 395) was surveyed quite extensively and a total of 22 sites were located adjacent to the river, around a small sulphur pond a couple miles to the north, and on Bell Ridge in the same area as the sulphur pond.

Two sites were previously discovered at Willowlake River. KeRj-1 is a prehistoric site found in one of the gardens in the village at the mouth of Willowlake River. It was found by MacNeish in his survey of 1952. The other site, KeRj-2, is Fort Alexander, and is discussed later. All sites, except DE12 and DE13, are situated on the north bank of the river.

DE1 is located on the north bank of Willowlake River, 75 meters east of the highway alignment, in the river embankment. The site probably represents redeposition. It consists of a single piece of long bone that had been cut and polished probably for use in the hide cleaning process.

DE2 is historic. It is located in a cut bank approximately one-half mile west of the Department of Public Works base camp location. This site consists of a badly rusted .22 calibre rifle barrel.

DE3, an historic site, consists of two pit caches that had been lined with wood. It is 250 metres north of the river on a small ridge, and is almost one mile west of the D. P. W. base camp.

DE4 is an historic site consisting of two deteriorating trappers cabins. They are 75 metres from the river and 300 yards west of the highway alignment.

DE5 through DE8 are all associated with the small sulphur pond just north of Willowlake River. DE5 is a recent fish drying rack; DE6 is a cache with an associated fish drying rack; DE7 is a wood-lined pit cache and DE8 is a recent campsite with a hearth and tent frame.

DE9 consists of a stone-lined pit cache on a small creek that flows between two small lakes just east of the highway alignment. The site is approximately five miles north of Willake River.

Sites DE10 and DE11 are both in the Bell Ridge area. DE10 is a

outcropping just east of the highway. DE11 is a prehistoric site consisting of two quartzite flakes. This site is on a small knoll in the Bell Ridge area, approximately one-quarter mile northeast of the sulfur pond.

DE12 and DE13 are located on the south bank of Willowlake River. They were found on a seismic test cut where the highway/CNT line follows a high ridge about two miles south of the river. The two sites, very close together, contained a total of six quartzite flakes and two bone fragments.

DE49 is a recent camp one-half mile west of the highway on a low terrace. The camp is about 200 metres north of the river bank. DE50 is another recent site, consisting of a trapset, on a low terrace three-quarters of a mile west of the highway.

DE51, DE60, and DE61 are all sites containing piles of cut logs. DE51 is one mile west of the alignment on a recent trapline and DE60 and DE61 are within 200 metres of the east side of the highway.

DE62 and DE63 are both recent campsites and are situated on a recent trapline. DE62 is 80 metres west of the highway and DE63 is 200 metres east of the highway.

6.5 River Between Two Mountains - Two sites were located in this area, DE18 and DE32. DE18 is a prehistoric site on the north bank of the river right at its mouth. It contained two chert flakes and a fragment of burnt bone. DE32 is a recent camp on the south bank of the river, 120 metres south of the mouth and 50 metres up from the Mackenzie. The site consists of a hearth and a tent frame.

6.6 Old Fort Island - The area of Old Fort Island here includes the island itself as well as the bank opposite the island to the east. DE20, an historic site, on the very north end of the island on a low terrace, consists of several pit caches. Site DE25 is on a high ridge directly across from the island and consists of two recent burials. As was the case in all instances burials were merely recorded and mapped.

6.7 Wrigley Airfield - Wrigley Airfield contains two sites located at the southern end. KhRk-1 was found by MacNeish in 1952; this site is prehistoric and is located at the southeastern corner of the field. Another prehistoric site, DE19, was found at the southwestern corner of the field, actually located between the field and the edge of the river bank. This site contained a quantity of burnt bone and one large coarse flake.

6.8 Hodgson Creek - Hodgson Creek is just north of Wrigley. One recent site (DE52) was found at the mouth of the creek on the north bank, consisting of a brush shelter and an old stove.

6.9 Mount Gaudet - Two historic sites were located at the base of Mount Gaudet on the western flank of the mountain. DE21 is a small hearth from which a .25-.35 cartridge shell casing was recovered. A very tentative date of at least 40 years can be attached to this site because shells of this type have not been used for at least this length of time. The other site, DE22, is approximately one mile south of DE21 and consists of a rundown cabin and tent frame.

6.10 Ochre River - Ochre River was one of the most productive areas, in terms of prehistoric sites, in this section. Nine sites were located near the mouth of Ochre River; six of these are prehistoric. All sites are

on the north bank of the river. DE26 is an historic site situated directly on the CNT line, ten metres up from the river. The site consists of a large cache pit.

DE27, 28, 29, 30 and 65 are all prehistoric sites. DE27 is on the high terrace 300 metres from the Mackenzie. The site consists of three large flakes, one of which has been reworked. DE28 is located on a lower terrace about 75 metres from the Mackenzie, very close to the mouth of Ochre River. This site consists of eight flakes. DE31, another site on the high terrace is about 50 metres west of the highway alignment. It is quite large and contains over 130 flakes. DE30 is the largest site at Ochre River, producing over 800 flakes and about 70 artifacts. The site is 30 metres west of the alignment on the high terrace. DE29 is an historic cabin on a lower terrace, 20 metres from the Ochre River and 25 metres west of the alignment. DE65, on a low terrace, is three-quarters of a mile east of the highway alignment. The site is quite small containing only four flakes. One final site at Ochre River was found by MacNeish (KiRl-1) and is at the mouth of the Ochre River; the site consists of flakes only.

6.11 Whitesand Creek - Five sites were discovered at Whitesand Creek; all of them are prehistoric. DE33 is a prehistoric site on the north bank of the creek, just west of the CNT line on the high terrace. It contained three flakes. DE34 is also on the north side of the creek. It is on the most westerly point of the high terrace (just east of the highway alignment). The site contained nine flakes. DE35 is on the same terrace as DE34, 20 metres north along the edge of the terrace and containing three flakes. DE36 is the largest site at Whitesand Creek; 30 metres west of DE34, it contained over 100 flakes and several artifacts. The last

site, DE43, is situated on a low terrace on the south side near the highway alignment. This site contained five flakes, one of which was worked.

6.12 Rainbow Creek - Three historic sites were found on the north bank of this creek; one prehistoric site was found on the south bank.

DE45, an historic site, is 250 metres east of the alignment on the high terrace. It consists of a recent trapset. DE46, on the same terrace, is one-quarter mile east of the alignment. The site consists of a shelter and a firepit. DE47 is on the same terrace, three-quarters of a mile east of the alignment. The site consists of a recent hearth.

The one prehistoric site, DE53, is located on the south bank of the creek, near the mouth on a low terrace. It is in dense underbrush and contained two flakes.

6.13 Unnamed Creek - Mile 473.5 - A single prehistoric site was discovered at the mouth of the creek. Although not in situ, but in an eroding terrace slope on the north side of the creek, it is particularly frustrating as it consists of a microblade core and three possible microblades. No further site evidence was obtained from testing along the top of the terrace.

6.14 Blackwater River - The Blackwater River area was not very productive in terms of prehistoric sites, although seven historic sites were found: DE24, 48, 54, 55, 56, 57, 58, and DE68 which is the only possible prehistoric site. Again, all sites are situated on the north bank of the river.

DE24 is located one and one-half miles upstream from the mouth of the river. It consists of four cabins and related structures 150 metres north of the river. DE48 is the most interesting site at Blackwater,

consisting of an historic cabin outline with rocks used in construction of a fireplace the only clearly visible feature. This site is 100 metres east of the highway alignment and only a few metres from the edge of the river.

DE54, 55, 56, 57, and 58 are all historic sites found on the north side of Blackwater River. DE54 is a recent hearth, 200 metres east of the highway. DE55 consists of two recent cabins just east of the CNT line situated on a low terrace. DE56 is a recent cache 40 metres east of the highway alignment. DE58 is a recent shelter 30 metres west of the CNT line.

DE68, the one possible prehistoric site, is located three metres down in an eroding embankment on the north side of Blackwater River. The site consists of a shallow, bowl-like hearth area with charcoal present.

6.15 Steep Creek - This creek area was surveyed in September; two historic sites were found at its mouth, HILD42 and 43.

HILD42 is a recent cabin 50 metres south of the creek and a few metres east of the highway alignment. HILD43, a recent cabin on the north side of the creek, is 150 metres north of the creek and ten metres west of the highway alignment.

6.16 Saline River - Two historic and two prehistoric sites were discovered on the north side of Saline River.

HILD44 is a prehistoric site on the high terrace, 400 metres west of the highway alignment; the site contained six flakes. HILD45 contained four recent marked burials situated on the most westerly point of the high terrace. HILD46 consists of two recent cabins on the low terrace right at the mouth of Saline River.

6.17 Unnamed Creek - Mile 528.8 - Site DE23, is located on a rocky point on the north side of the mouth of this creek. The site consists of a small hearth.

6.18 Little Smith Creek - One site, HILD50, was found in the Little Smith Creek area. It is located between the two arms of the Little Smith, approximately one-half mile northeast of the highway. It is a prehistoric site containing over 100 flakes and is located on an eroding high terrace.

6.19 Big Smith Creek - Six prehistoric sites were found near Big Smith Creek.

DE14 and 16 are two closely associated sites found directly on the CNT line within 200 metres of the edge of the creek. DE14 contained over 400 flakes and 20 artifacts whereas DE16 contained over 150 flakes; quantities of bone and charcoal were obtained from each of the sites. DE15 was found in the shoreline of the creek and was probably redeposited. The site consists of a large flake core. DE17 was found directly on the highway cutline approximately one-half mile south of the creek. This site is probably disturbed and consists of a single flake. DE42 lies directly on the highway alignment, on the north bank, 30 metres from the edge of the creek. It consists of a single worked flake.

HILD48, a site found in the later survey, is located on the south bank of Big Smith approximately 300 metres south of the creek and five metres east of the CNT line. The site consists of a fragment of a projectile point and six flakes.

The preceding has contained brief site descriptions; artifact lists, interpretations and recommendations concerning this material will follow in later sections.

7. Construction Surveillance Results:

The purposes of observing construction techniques were two-fold: 1) By actually seeing the various construction methods in operation and observing the machinery and techniques used, the archaeologist is in a better position to help machinery operators recognize potential archaeological site, 2) It was hoped that as a result of this experience, a program for the surveillance of construction operations would be developed. Specifically, a method for monitoring proposed locations of the right of way, bridge locations, access roads, rest areas, borrow pits, etc.

Resulting from this activity, techniques were formulated to aid both archaeologists and field engineers. Initially, location of high potential areas from aerial photographs followed by field excavation of these and known sites prior to any highway construction operations is required. Subsequently, instruction to heavy equipment operators and highway surveyors regarding the nature and likely location of archaeological sites is necessary to acquaint these individuals with the possiblity and significance of the occurrence of archaeological sites during construction activities. Thirdly, archaeological survey along the right of way after initial clearing operations, but prior to full scale road construction (for medium and low priority areas) is required. Fourthly, surveillance and monitoring during clearing operations seems warranted only when a site has been located but only the actual presence of a trained archaeologist will prevent further disruption of the site or damage to other sites in the vicinity. Finally, constant communication between the archaeological survey and the highway engineers is necessary for a successful program. Once sites are located,

decisions as to their significance and importance must be made by the archaeologist; this information must be communicated to the highway engineers in order that revisions can be made in the road alignment if the site merits being preserved for excavation. If not possible, partial excavation may be sufficient for the archaeological assessment and highway construction may continue.

8. Test Excavation Results:

The location of Fort Alexander made test excavation imperaitve. As previously discussed, the objectives included the delimitation of the site and evaluation of its importance as accurately as possible as well as determination as to whether any native habitations were associated with the fort.

Fort Alexander was a Northwest Company trading post occupied from 1817 to 1821. The site had been previously tested in 1967 by Bryan C. Gordon and his short report provided background material upon which present testing was based. Fort Alexander is located on the north bank of the river immediately west of the highway alignment and it appears that the route may possibly pass over a portion of the site. The visible area of the site was cleared of brush and a metred grid set up, all visible features were plotted unto a map (see map #4).

Initial testing was carried out in Feature 1 in an attempt to determine the extent of the main building and also, if possible, to discover any earlier occupations at this site if they existed. The cabin represented in Feature 1 is 30.5 x 16.5 metres and is made, at least partially, of hewn timber. It contained two fireplaces at opposite ends of the east wall. These were identified by the mound of collapsed chimney rocks. The bases of these fireplaces were formed by large river cobbles enclosed in a wooden

cribbing. A mortar of river mud was probably used, as shown in the quantities of fire hardened clay throughout the feature. It is also suggested that mud was used for chinking the walls of the cabin.

In total, 19 squares were dug in Feature 1, of these 15 contained structural members of the cabin; excavation stopped when these were exposed. The remaining four squares were excavated beyond this level and the results from these will be discussed later (see Figures 4 a-d).

Little else than a better idea of the cabin outline and a few artifacts were recovered from Feature 1. All artifacts were of iron, three of them nail fragments, one a small buckle possibly from a boot or shoe and two unidentifiable peices.

Faunal material was generally distributed throughout the cabin but complete identification is difficult because most of the bone is smashed or burned. General observations made on the material, however, indicates that caribou, bird, small mammals and fish are represented.

A general description of soil stratigraphy in the site area is helpful in understanding the results obtained from the four squares in Feature 1 which were excavated to a level below that of the cabin. Upper silt deposits around Willowlake River are underlain by a layer of white ash. Gordon previously speculated that this ash represented an extension of the eastern lobe of the White River Ash fall which had previously been dated to A.D. 750. Samples of this ash were collected for dating purposes in verification of this hypothesis. The four squares excavated below the cabin level cut through the white ash, but only one of the squares produced any cultural material. A single piece of burnt bone was found in the ash, and two pieces of bone were found at four and

eight centimetres below the ash horizon. One bone fragment was found in the southwest corner of the square near three rocks, which appeared to have been intentionally piled together and which protrude through the ash layer.

It was originally planned to completely excavate Feature 1, but a rescheduling of field time made this unfeasible. It was felt that more information could be collected through testing some of the other features at the site and also some of the areas beyond the actual site area. In most cases the features tested were shallow round or irregular depressions. To expose sufficiently large areas within these features a series of two metre by one-half metre trenches were dug. The results of these trenches were as follows:

Feature 2 - a recent hearth adjacent to the riverbank containing tin foil, aluminum cans, etc. scattered through the hearth. Probably used by Gordon during his testing.

Feature 3 - undoubtedly a refuse pit as it contained large quantities of bone, charcoal, and ash. A single artifact, a square cut nail, was found in the square. (see Figure 4e)

Feature 4 - another refuse pit filled with artifacts, bone, charcoal and ash. Ten artifacts were found including: two strips of sheet copper, one piece of riveted copper sheeting, one small fragment of sheet iron, a small glass bottle fragment, three square nails, one piece of dark brown cloth and a grey chert end scraper. The latter is the only demonstrably non-EuroCanadian artifact recovered from the site (see Figure 4f).

Features 5, 6, & 7 - no cultural material was found in any of these pits. Feature 5 contains some evidence that it was once lined with birch bark and probably represents an empty cache pit. Feature 6 is either a cache pit or

a deadfall scar. Feature 7 has almost vertical walls and also probably represents a cache pit.

Feature 15 - very similar to Feature 7, a shallow pit that may have served as a cache pit.

Feature 17 - this consisted of an oxidized earth lens in the river bank at a point where the highway right of way crosses the river. The lens is 60 centimetres wide and is located in an exposed vertical wall of the river bank, 21 centimetres below the surface. Numerous fragments of burnt bone were found in the lens although no other cultural material was recovered. This feature is undoubtedly a hearth, but complicated stratigraphy make correlation with the rest of the site difficult (see Figure 4g).

Feature 18 - consists of three short cut spruce logs, definitely hand cut. Judging from their preservation it is unlikely that they are as old as Fort Alexander itself.

Feature 19 - turned out to be a refuse pit, very similar to those in feature 3 and 4. Again there occurred a layer of bone, ash and charcoal and also a piece of melted glass and a piece of sheet iron.

Feature 20 - another shallow pit with only a single piece of bone in it. Possibly an empty cache pit.

Feature 21 - this feature is another refuse pit (similar to 3, 4 and 19). It contained two metal buttons, a square nail, and a small piece of sheet iron, in addition to the usual bone, ash and charcoal.

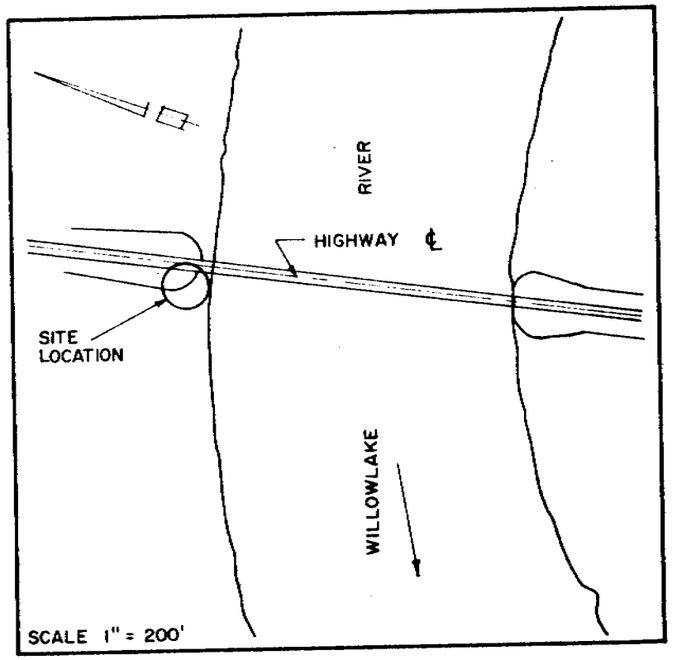
A complete list of all features accompanies the map of the site.

WILLOWLAKE RIVER

DETAIL — FORT ALEXANDER SITE

SCALE : 0 5 10 m.

FIGURE 4



F 16 (GORDON G)

F 15 (GORDON D)

F21

F 18

F 26 (GORDON F)

F 14 (GORDON E)

F19

F 20

F 27

F 13 (GORDON C)

F 8 (GORDON B)

60 m

50 m

40m

30m

20m

10m

F 28 (GORDON 5)

HIGHWAY ℄

F 32

F 31

F 30

F 25

F12

F5

F6

F11

F 1 (GORDON A)

F7

F4

F10

F 22 (GORDON 7)

F 23 (GORDON 8)

F3

F 24

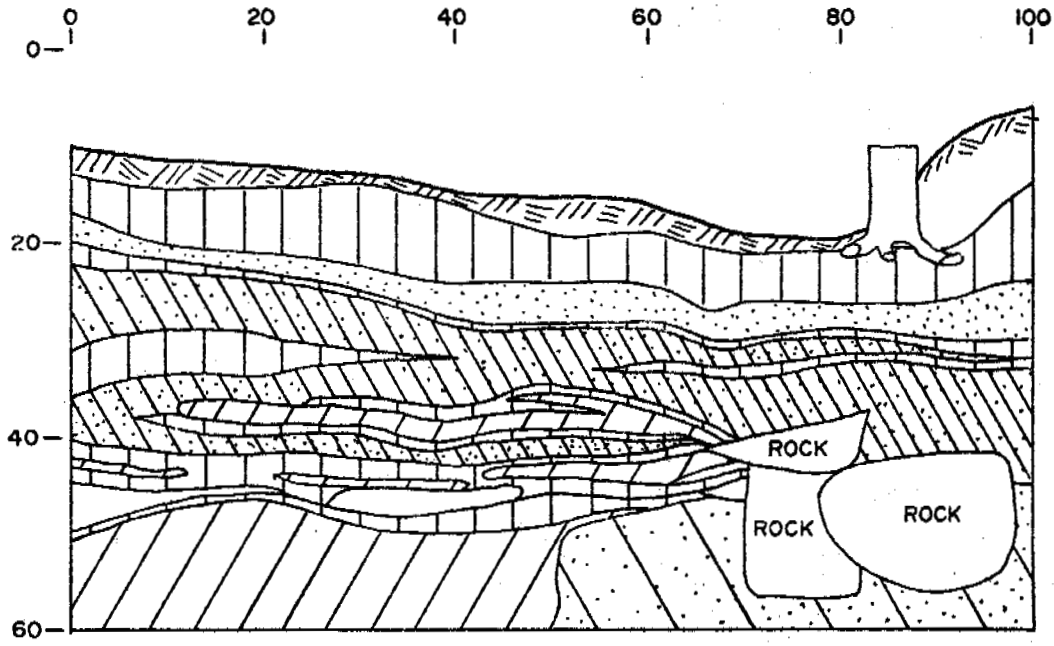
F 2

WILLOWLAKE RIVER

F 29 (GORDON 6)

F 17

PROFILE - FEATURE 1 - SOUTH WALL



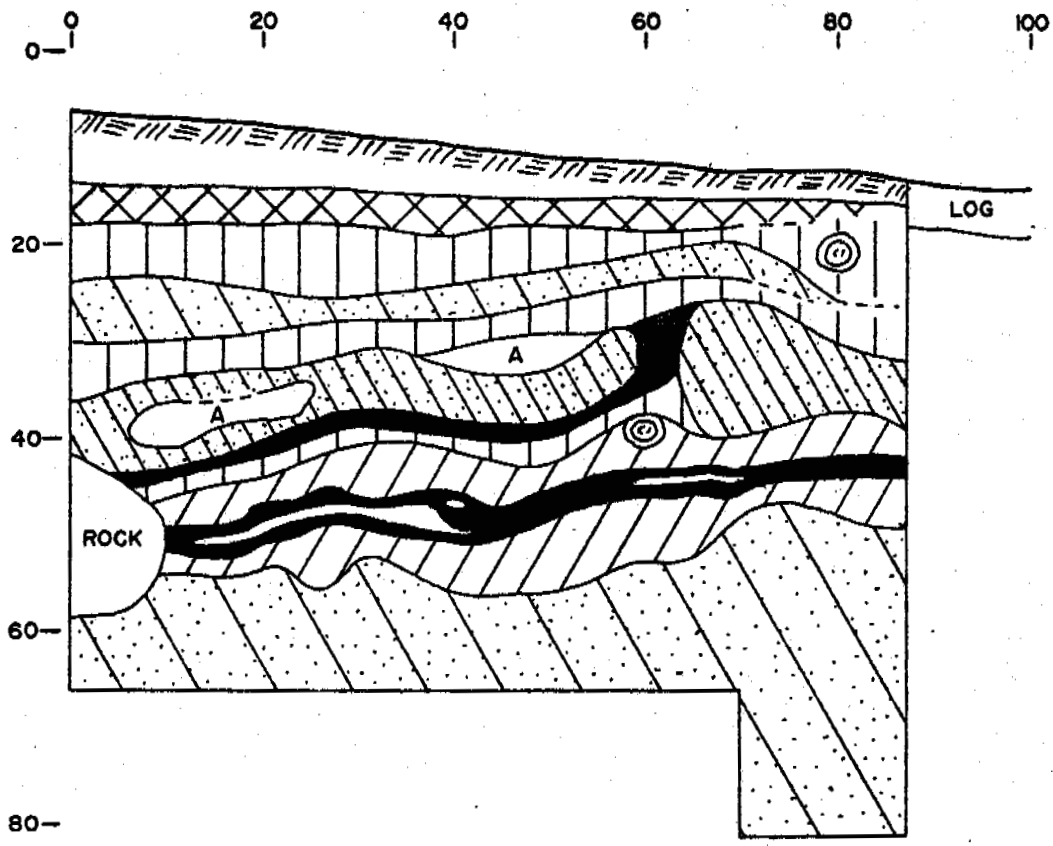
FORT ALEXANDER N.W.T. KeRj 2
PROFILE - FEATURE 1 - SOUTH WALL

BACK DIRT
HUMUS
SILT
DARK GREY SILT
YELLOW GREEN SILT
RED - BROWN SOIL
WHITE ASH

DISTANCES AND ELEVATIONS SHOWN IN CENTIMETERS.

FIGURE 4 - A

PROFILE - FEATURE 1 - WEST WALL



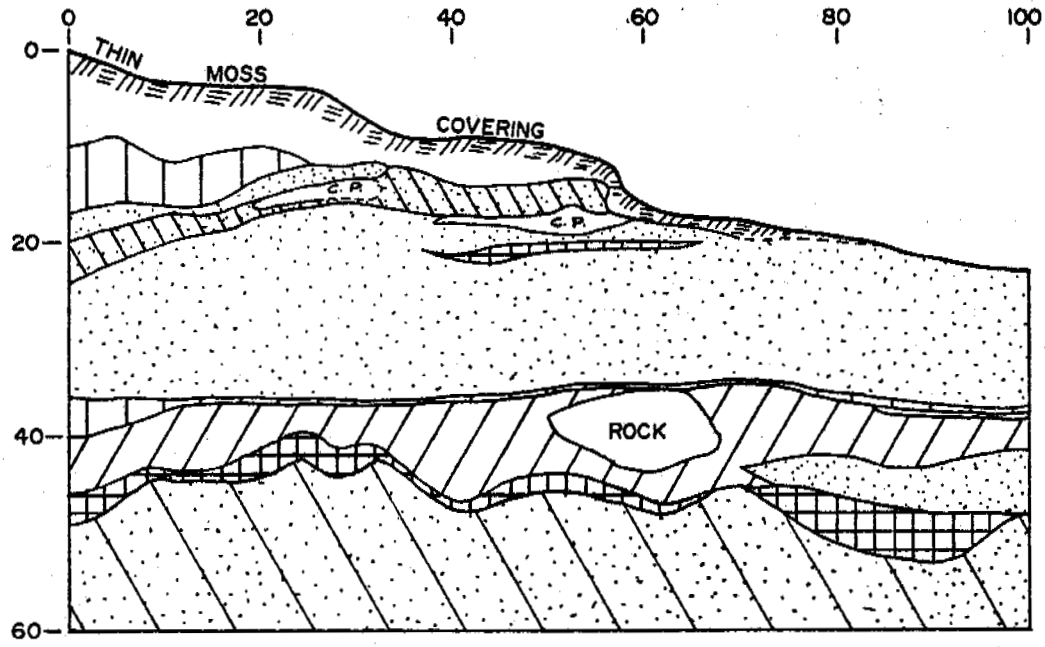
FORT ALEXANDER N. W. T. KeRj 2
PROFILE - FEATURE 1 - WEST WALL

BACK DIRT	LIGHT GREY SILT	RED - BROWN SOIL
SOD LAYER	YELLOW - GREEN SILT	ROOTS
HUMUS	CHARCOAL BAND	A — ROTTING CARBONIZED WOOD
DARK GREY SILT	WHITE ASH	

DISTANCES AND ELEVATIONS SHOWN IN CENTIMETERS.

FIGURE 4 - B

PROFILE - FEATURE 1 - WEST WALL



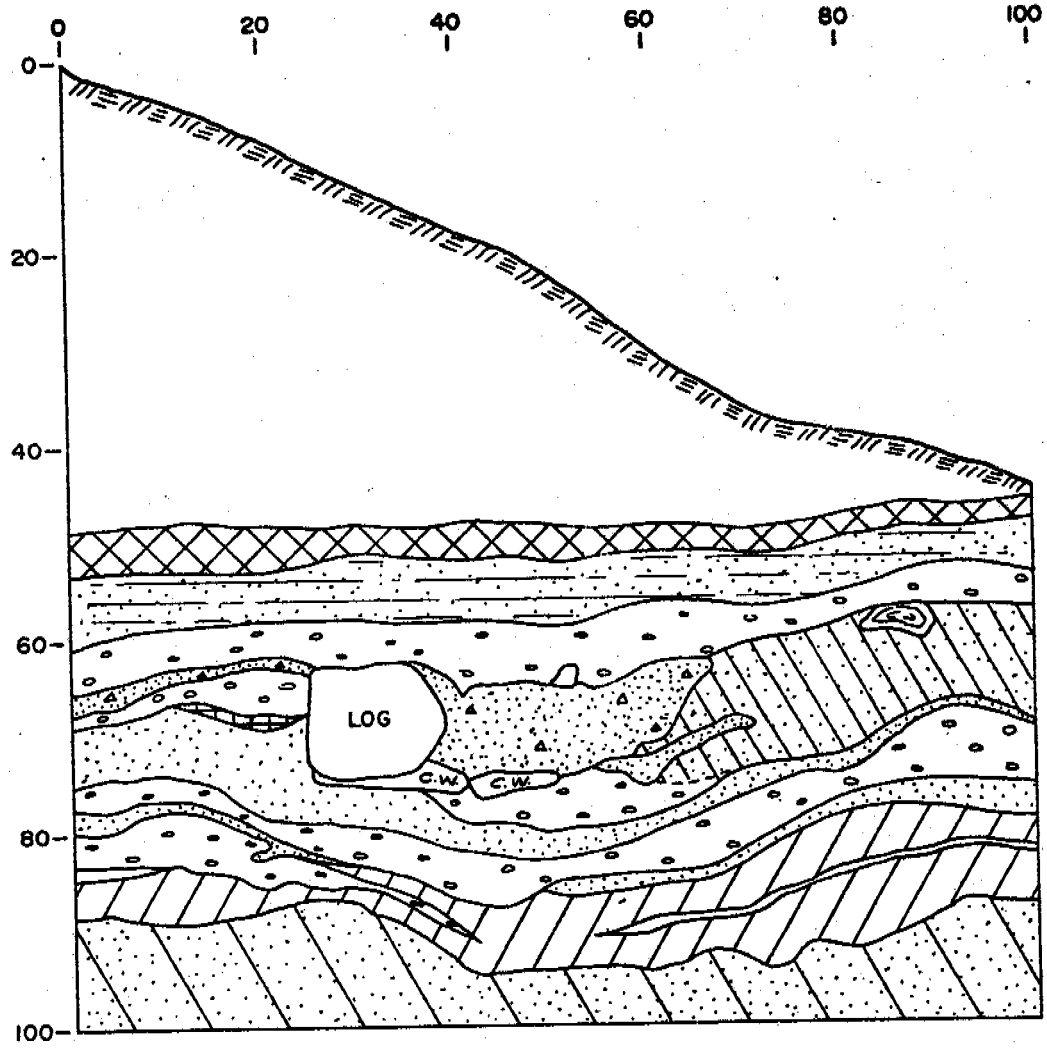
FORT ALEXANDER N.W.T. KeRj 2
PROFILE - FEATURE 1 - WEST WALL

BACK DIRT
HUMUS
SILT
DARK GREY SILT
YELLOW - GREEN SILT
RED - BROWN SOIL
RED SOIL
C.P. CHARRED PLANK
WHITE ASH

ELEVATIONS AND DISTANCES SHOWN IN CENTIMETERS.

FIGURE 4 - C

PROFILE - FEATURE 1 – WEST WALL



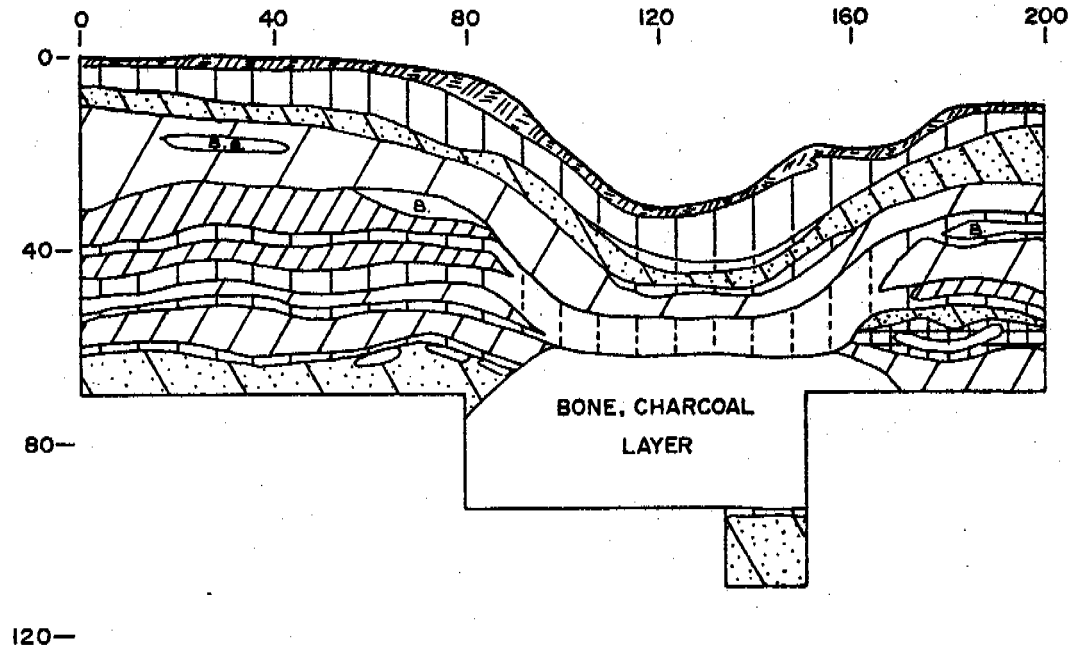
FORT ALEXANDER N.W.T. KeRj 2
PROFILE - FEATURE 1 - WEST WALL

BACK DIRT
SOD LAYER
SILT
DARK GREY SILT
YELLOW - GREEN SILT
BANDED SILT
ORGANIC
HARD CLAY
WHITE ASH
RED - BROWN SOIL
RED - ORANGE SOIL
ROOTS
C.W. CHARRED WOOD

DISTANCES AND ELEVATIONS SHOWN IN CENTIMETERS.

FIGURE 4 - D

PROFILE - FEATURE 3 - WEST WALL



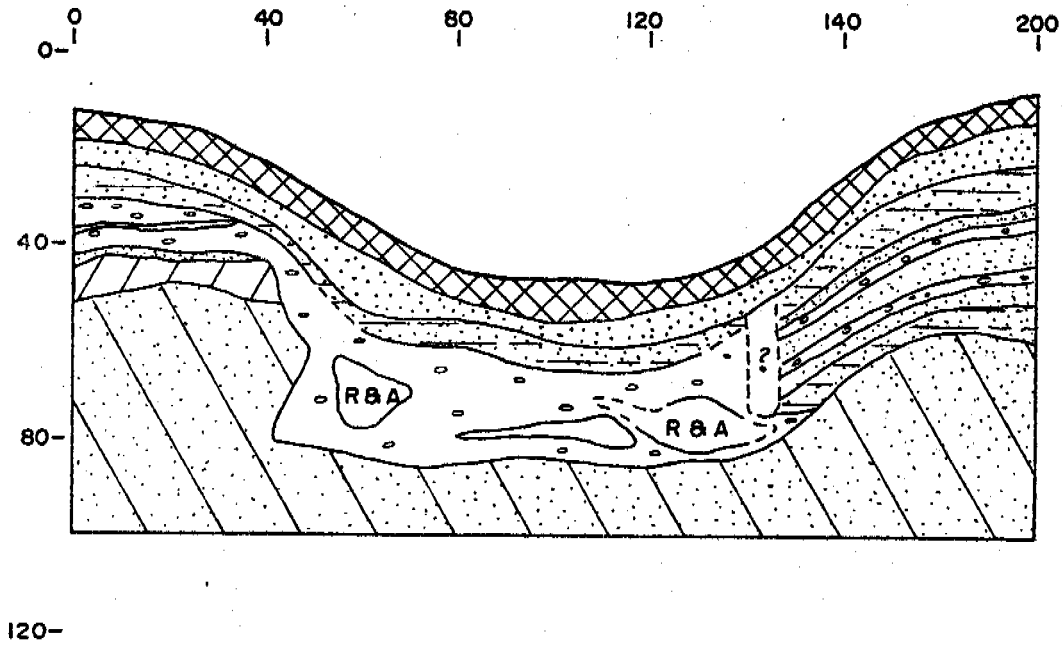
FORT ALEXANDER N.W.T. KeRj 2
PROFILE - FEATURE 3 - WEST WALL

	TOPSOIL		LIGHT BROWN SOIL		WHITE ASH
	HUMUS		DARK BROWN SOIL	B	BONE LAYER
	LIGHT GREY SILT		RED - BROWN SOIL	B B	BIRCH BARK
	YELLOW - GREEN SILT		RED - ORANGE SOIL		

DISTANCES AND ELEVATIONS SHOWN IN CENTIMETERS.

FIGURE 4 - E

PROFILE - FEATURE 4 - WEST WALL



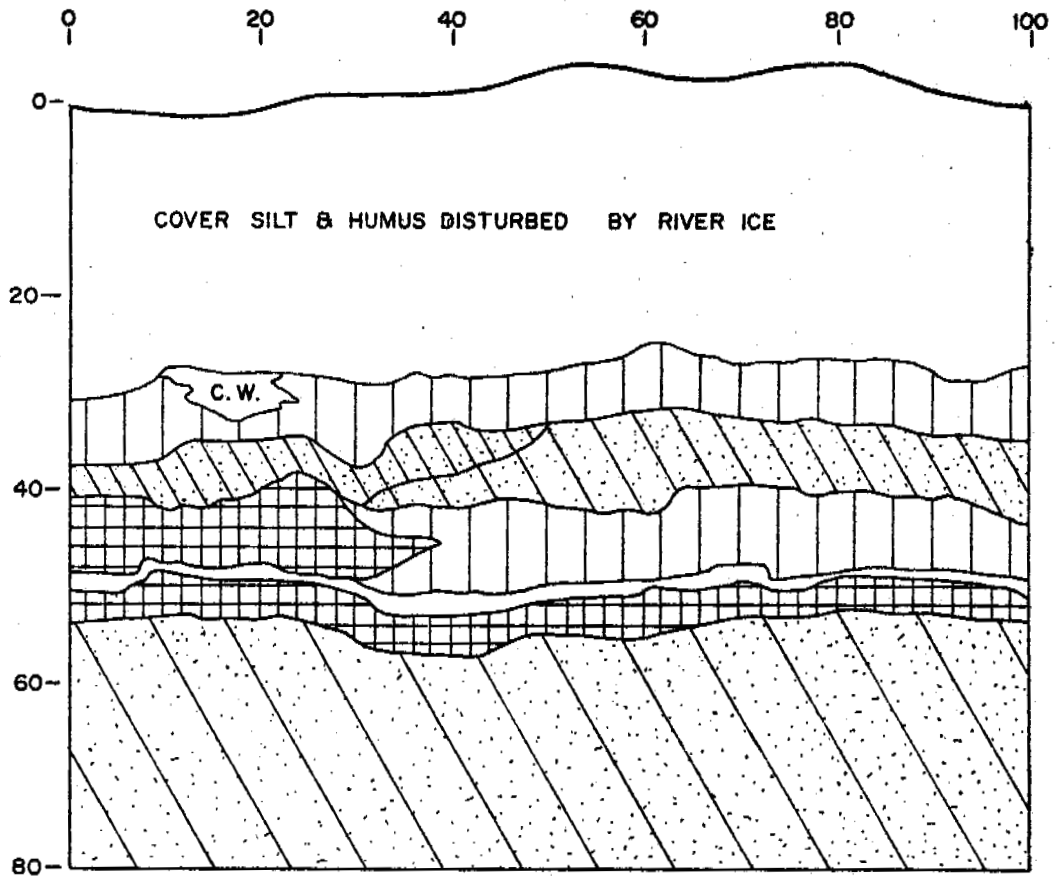
FORT ALEXANDER N. W. T. KeRj 2
PROFILE - FEATURE 4 - WEST WALL

SOD
SILT
BANDED SILT
YELLOW - GREEN SILT
ORGANIC
RED - BROWN SOIL
WHITE ASH
R & A
RED SOIL & ASH

DISTANCES AND ELEVATIONS SHOWN IN CENTIMETERS.

FIGURE 4 – F

PROFILE - FEATURE 17 - NORTH WALL



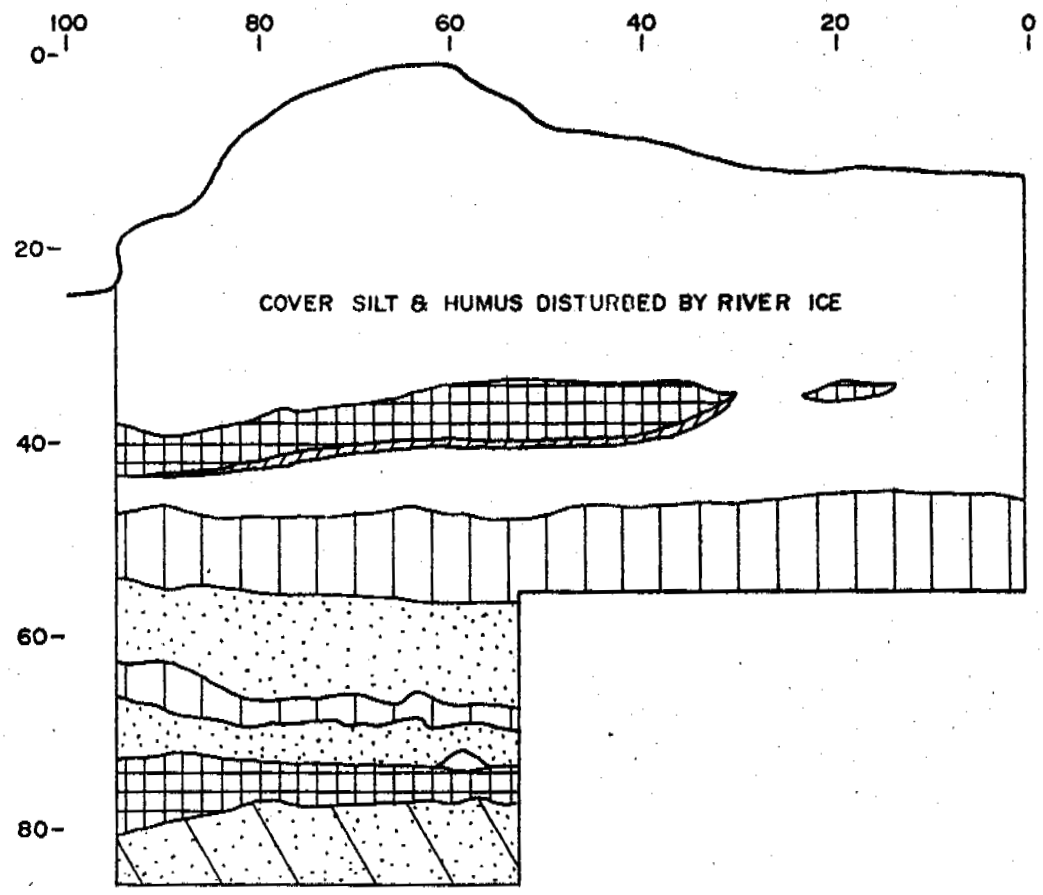
FORT ALEXANDER N.W.T. KeRj 2
PROFILE - FEATURE 17 - NORTH WALL

HUMUS
DARK SILT
LIGHT SILT
YELLOW - GREEN SILT
RED OXIDIZED SOIL
WHITE ASH
C.W. CHARRED WOOD

DISTANCES AND ELEVATIONS SHOWN IN CENTIMETERS.

FIGURE 4 - G

PROFILE - FEATURE 17 - WEST WALL



FORT ALEXANDER N. W. T. KeRj 2
PROFILE - FEATURE 17 - WEST WALL

HUMUS
SILT
YELLOW-GREEN SILT
DARK STAIN
RED OXIDIZED
ASH

DISTANCES AND ELEVATIONS SHOWN IN CENTIMETERS

FIGURE 4 - H

9. Analysis:

Some very obvious site distributions were noted in this section. It appears that recent and historic as well as prehistoric peoples all preferred to live at or near the mouths of creeks and rivers where they join the Mackenzie River. This type of situation enabled them to utilize the Mackenzie as a transportation system and the streams and smaller rivers for fresh water supplies, fish resources and animal resources.

There also appears to be a clustering of sites on the north side of these streams and rivers as well as on high terraces if these were available. This information relating to settlement pattern systems will be beneficial for future survey work done in this area.

These sites also provide some information relating to prehistoric utilization strategies. The area at the crossing of Big Smith Creek yielded five prehistoric sites on the south bank and one on the north bank. This general site area may represent a caribou or other large mammal creek crossing which was taken advantage of by the inhabitants. Whitesand Creek and Ochre River both yielded a total of ten prehistoric sites, and the Saline River and the Unnamed Creek at mile 473.5 also contributed material that seems promising. All of these areas had obviously been heavily utilized in the past, with the following implication to future archaeological survey: if this large number of sites were discovered during the limited time period they were investigated, these areas should be considered as extremely sensitive archaeologically and warrant further investigation.

The sites found during this survey represent all periods of occupation, from last year's fishing camp to late historic settlements to early Athabaskan Indians to early plains type hunters.

10. Recommendations:

Discovery of 76 archaeological sites during the field season of 1973 would result in fairly extensive recommendations if each site were dealt with separately. Therefore, rather general recommendations dealing with similar site situations or site areas follow.

(i) Considerable effort must be made to either preserve or salvage the site of Fort Alexander in view of the proximity of the highway to the site affording distinct possibility of disturbance either by secondary highway construction or by highway users after construction.

(ii) Should an access road be built to the Mackenzie River in the vicinity of Willowlake River the site KeRj 1 may be threatened.

(iii) Considering the limited data obtained from the Ochre River sites it is possible to postulate a relatively early occupation of the area which may have been occupied in later periods. However, the information obtained through testing procedures does not allow for such conclusions. The artifact sample (microblades, microblade core remnants, burins, scrapers, bifaces) reported on indicate that this site is important archaeologically and therefore, the entire Ochre River area warrants further archaeological investigations prior to any further disturbances related to highway construction.

(iv) The discovery of relatively numerous flakes, a scraper, core and worked flakes in the sites located at Whitesand Creek establishes this area as one considered archaeologically sensitive. The limited testing carried out in this area did not allow for

the area to be adequately evaluated, and should be given extra archaeological surveillance prior to construction if possible as well as during initial clearing.

(v) The area of Blackwater River is important in its historic aspect of occupation.

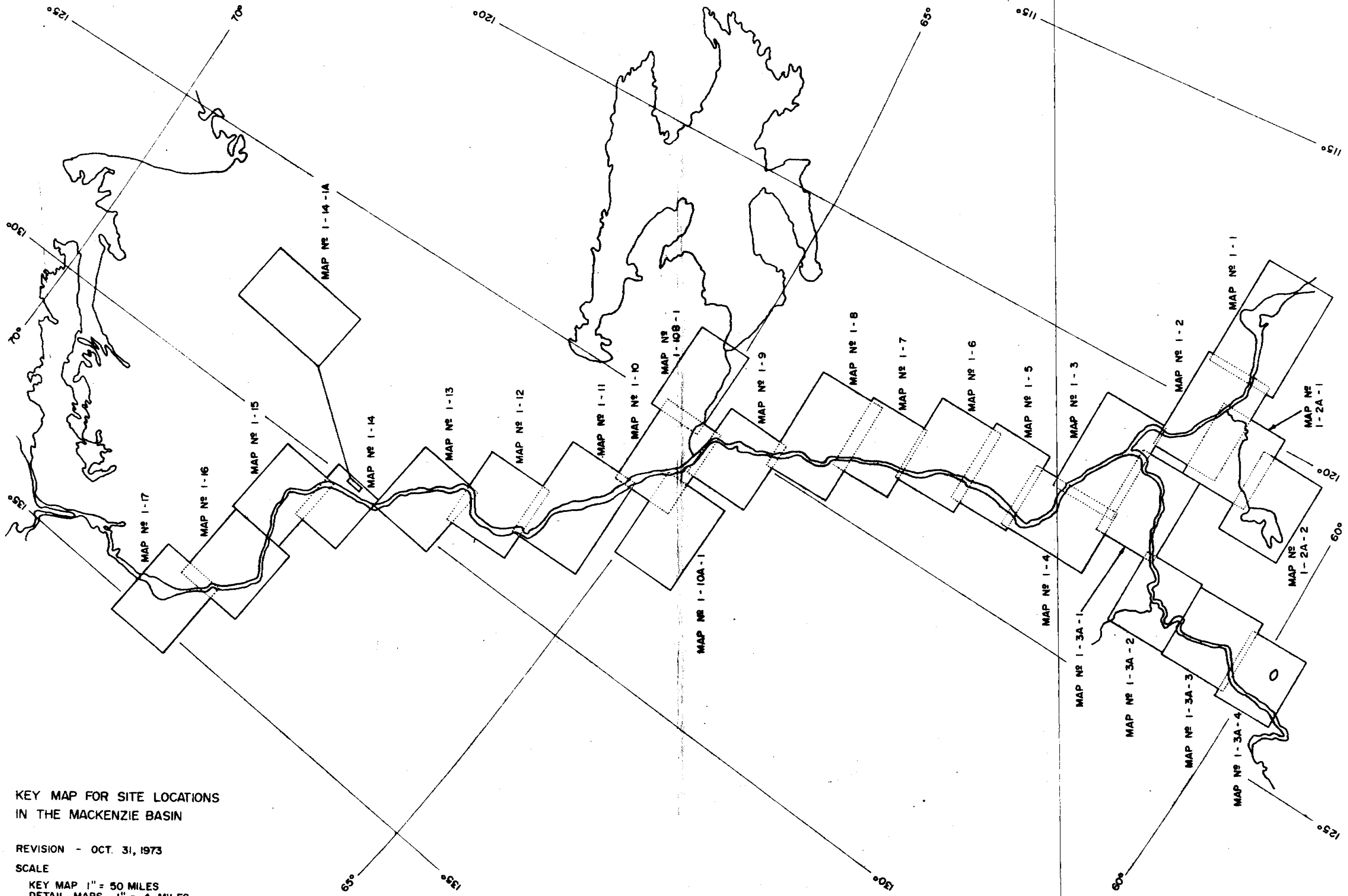
(vi) The location of two historic and two prehistoric sites at Saline River indicate that this area requires more intensive survey and testing than has been carried out to date, but prior to further or coterminous with initial clearing operations.

(vii) Perhaps most important of the archaeologically sensitive areas is the Big Smith Creek area. The number (6) of prehistoric sites located within close proximity of the right of way and the 'early' nature of the artifacts recovered indicates that this area should receive more and closer archaeological surveillance in addition to excavation of sites affected directly, or indirectly by the highway construction.

(viii) Another area which warrants closer archaeological investigation is the area of the sulphur pond north of Willowlake River; the presence of the open water for a twelve month period indicates that this area may have been utilized prehistorically although only historic sites were found during this field season.

(ix) In general, all other sites found directly on or adjacent to the highway not mentioned above require collection of further information than that obtained during this season in order to assess their extent, significance and value to archaeology.

11. SOUTH SECTION MAPS



KEY MAP FOR SITE LOCATIONS
IN THE MACKENZIE BASIN

REVISION - OCT. 31, 1973

SCALE

KEY MAP 1" = 50 MILES
DETAIL MAPS 1" = 4 MILES

62° 15'

TRAIL RIVER
Ⓡ K.H.S. 73-149

TRAIL RIVER
Ⓗ K.H.S. 73-148

TRAIL RIVER
Ⓡ K.H.S. 73-147

TRAIL RIVER
Ⓡ K.H.S. 73-143 to 145a

TRAIL RIVER
Ⓗ K.H.S. 73-146

TRAIL RIVER

KaRg

SHALE CREEK
Ⓡ K.H.S. 73-140 (DE 41)
& 141
Ⓗ K.H.S. 73-142

SHALE CREEK
DE 39

SHALE CREEK

CREEK 4

TRAIL RIVER
Ⓗ K.H.S. 73-139 & 139a

62° 00'

HARRIS RIVER
Ⓡ K.H.S. 73-126 & 127

MACKENZIE

CREEK 4
Ⓡ K.H.S. 73-136 & 137
Ⓟ K.H.S. 73-138

HARRIS RIVER
Ⓡ K.H.S 73-131 & 132

MARTIN RIVER
Ⓡ K.H.S. 73-135 & DE 37

HARRIS R.

HARRIS RIVER
Ⓗ K.H.S. 73-128

HARRIS RIVER
Ⓗ K.H.S. 73-129 & 130

HARRIS RIVER
Ⓡ K.H.S. 73-122 to 124

MARTIN RIVER
Ⓗ K.H.S. 73-133
Ⓟ K.H.S. 73-134

RABBITSKIN RIVER
Ⓟ K.H.S. 73-102

Fort
Simpson

MARTIN RIVER
DE 38

FORT SIMPSON
H K.H.S. 73-103 to 120
P K.H.S. 73-121
JIRI 2

LIARD RIVER
Ⓗ K.H.S. 73-125

LIARD RIVER

MARTIN RIVER

RABBITSKIN RIVER
Ⓡ K.H.S. 73-96
Ⓗ K.H.S. 73-95 & 97
Ⓟ K.H.S. 73-94 & 97a

61° 45'

JjRa

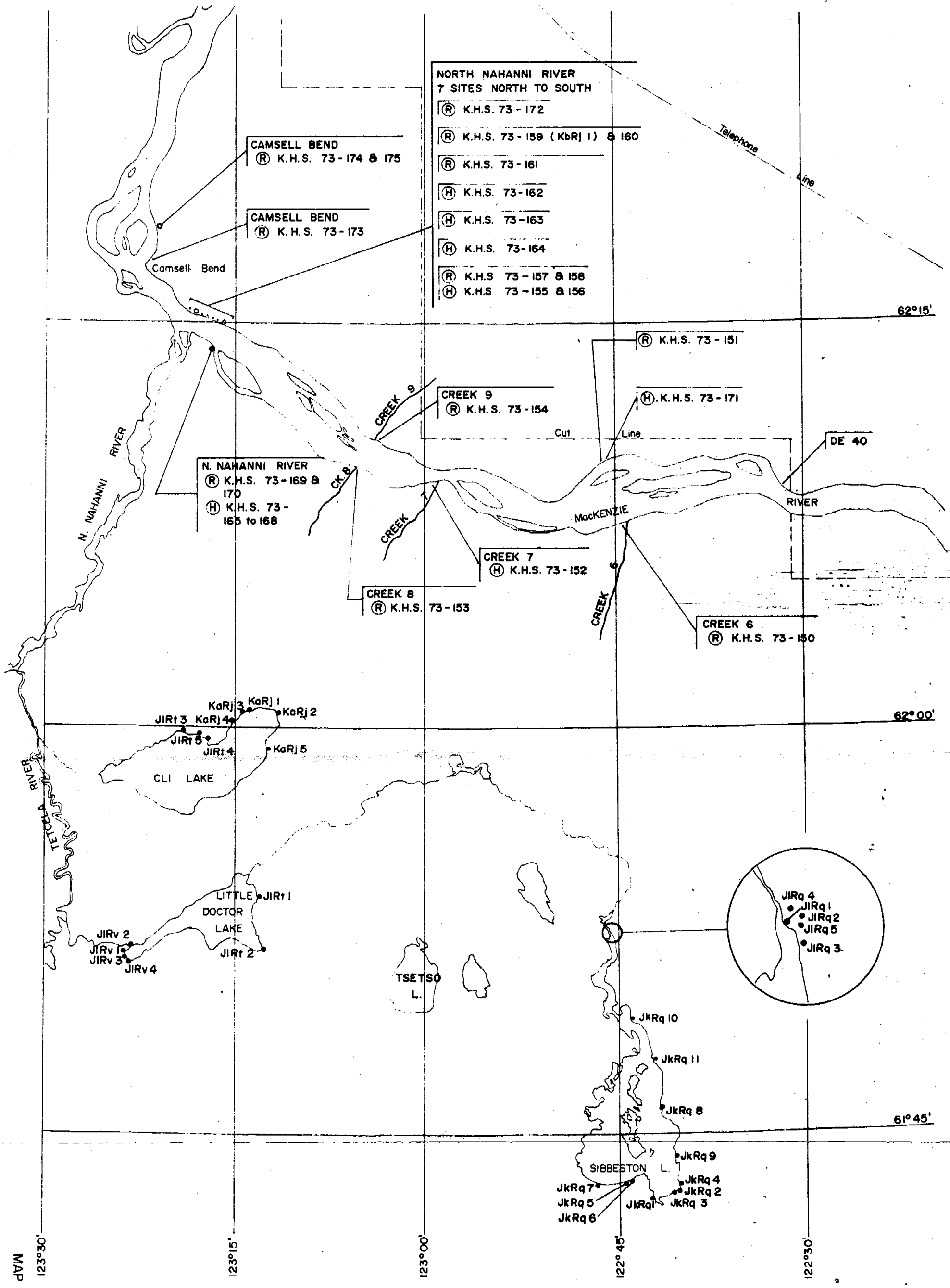
ANTOINE
LAKE

RABBITSKIN RIVER
Ⓡ K.H.S. 73-100 & 101
Ⓗ K.H.S. 73-99
Ⓟ K.H.S. 73-98 & 101a

122° 00'

121° 00'

MAP Nº 1-3


NORTH NAHANNI RIVER
7 SITES NORTH TO SOUTH
Ⓡ K.H.S. 73 - 172
Ⓡ K.H.S. 73 - 159 (KbRJ 1) & 160
Ⓡ K.H.S. 73 - 161
Ⓗ K.H.S. 73 - 162
Ⓗ K.H.S. 73 - 163
Ⓗ K.H.S. 73 - 164
Ⓡ K.H.S 73 - 157 & 158
Ⓗ K.H.S 73 - 155 & 156
CAMSELL BEND
Ⓡ K.H.S. 73 - 174 & 175
CAMSELL BEND
Ⓡ K. H. S. 73 - 173
Camsell Bend
Telephone Line
62°15'
Ⓡ K.H.S. 73 - 151
CREEK 9
Ⓡ K.H.S. 73 - 154
Ⓗ K.H.S. 73 - 171
Cut Line
DE 40
N. NAHANNI RIVER
Ⓡ K.H.S. 73 - 169 & 170
Ⓗ K.H.S. 73 - 165 to 168
CK. 8
CREEK 7
CREEK 7
Ⓗ K.H.S. 73 - 152
MacKENZIE RIVER
CREEK 8
Ⓡ K.H.S. 73 - 153
CREEK 6
CREEK 6
Ⓡ K.H.S. 73 - 150
KaRj 3
KaRj 1
KaRj 2
JIRt 3
KaRj 4
JIRt 5
JIRt 4
KaRj 5
62°00'
CLI LAKE
TETCELA RIVER
LITTLE DOCTOR LAKE
JIRt 1
JIRv 2
JIRv 1
JIRv 3
JIRv 4
JIRt 2
TSETSO L.
JIRq 4
JIRq 1
JIRq 2
JIRq 5
JIRq 3
JkRq 10
JkRq 11
JkRq 8
61°45'
JkRq 9
SIBBESTON L.
JkRq 4
JkRq 7
JkRq 2
JkRq 5
JkRq 1
JkRq 3
JkRq 6
123°30'
123°15'
123°00'
122°45'
122°30'

MAP Nº 1 - 4

WILLOWLAKE RIVER
Ⓡ K.H.S. 73-213

WILLOWLAKE RIVER
Ⓡ K.H.S. 73-197 & 199
Ⓗ K.H.S. 73-195, 196 & 198

WILLOWLAKE RIVER
Ⓡ K.H.S. 73-200 to 204a
Ⓟ K.H.S. 73-206 a & b (KeRj 1)

ROOT RIVER
Ⓡ K.H.S. 73-176

CREEK 10
Ⓡ K.H.S. 73-178

CREEK 10
Ⓟ K.H.S. 73-177

CREEK 11
Ⓡ K.H.S. 73-185

CREEK 11
Ⓡ K.H.S. 73-179

CREEK 11
Ⓗ K.H.S. 73-180 to 184

Ⓡ K.H.S. 73-186, 187 & 189
Ⓗ K.H.S. 73-188

Ⓡ K.H.S. 73-190

DE 1 & 2

DE 5 to 8, 10 & 11

DE 9

DE 12 & 13

DE 49 to 51

DE 62

WILLOWLAKE LAKE
Ⓡ K.H.S. 73-205 & 206
DE 3, 4, 60 & 61

WILLOWLAKE RIVER
Ⓗ K.H.S 73-191 (KeRj 2)

WILLOWLAKE RIVER
Ⓡ K.H.S. 73-207 to 209
DE 63

WILLOWLAKE RIVER
Ⓡ K.H.S. 73-192

WILLOWLAKE RIVER
Ⓡ K.H.S 73-194, 210 to 212

WILLOWLAKE RIVER
Ⓡ K.H.S. 73-193

GREASY LAKE

HIGHLAND LAKE

WILLOWLAKE RIVER

ROOT RIVER

MacKENZIE RIVER

ISLAND

McGERN

McCONNELL RANGE

RANGE

CAMSELL

CUT LINE

TELPHONE LINE

CK. 10

CREEK 11

62° 45'

62° 30'

123° 30'

123° 15'

123° 00'

122° 45'

122° 30'

122° 15'

MAP Nº 1-5

DE 21

KhRk 2

KhRk 3

Hodgson Creek

DE 22

Ⓗ K.H.S. 73 - 240 to 243 & 245
Ⓟ K.H.S. 73 - 244

63° 15'

WRIGLEY
Ⓡ K.H.S. 73 - 234 - 239

DE 52

KhRk 1

CK. 15

MacKENZIE

Telephone

CREEK 15
Ⓟ K.H.S. 73 - 230

CREEK 15
Ⓟ K.H.S. 73 - 232

WRIGLEY AIRSTRIP
Ⓟ K.H.S. 73 - 233
DE 19

RIVER

Line

CREEK 15
Ⓟ K.H.S. 73 - 231

KgRk 1

CK. 14

CREEK 14
Ⓡ K.H.S. 73 - 227 & 229
Ⓗ K.H.S. 73 - 228

Cut Line

Ⓗ K.H.S. 73 - 225

Ⓗ K.H.S. 73 - 226 , DE 25

DE 20

R. B. T. M.
Ⓟ K.H.S. 73 - 221
DE 18
KfRj 1

RIVER

DE 32

CK. 13

CK. 12

CREEK 13
Ⓡ K.H. S. 73 - 220

CREEK 12
Ⓡ K.H.S. 73 - 214 to 219

123° 45'

123° 30'

123° 15'

123° 00'

122° 45'

122° 30'

122° 15'

KgRi 9

KgRi 2

KgRi 3

KgRi 4

KgRi 5

KgRi 6

KgRi 7

KgRi 10

KgRi 8

FISH LAKE

KgRi 1

KgRh 2

KhRh 4

KhRh 2

KhRh 3

KhRh 1

KgRh 1

KgRg 1

MOUNTAINS

TWO

BETWEEN

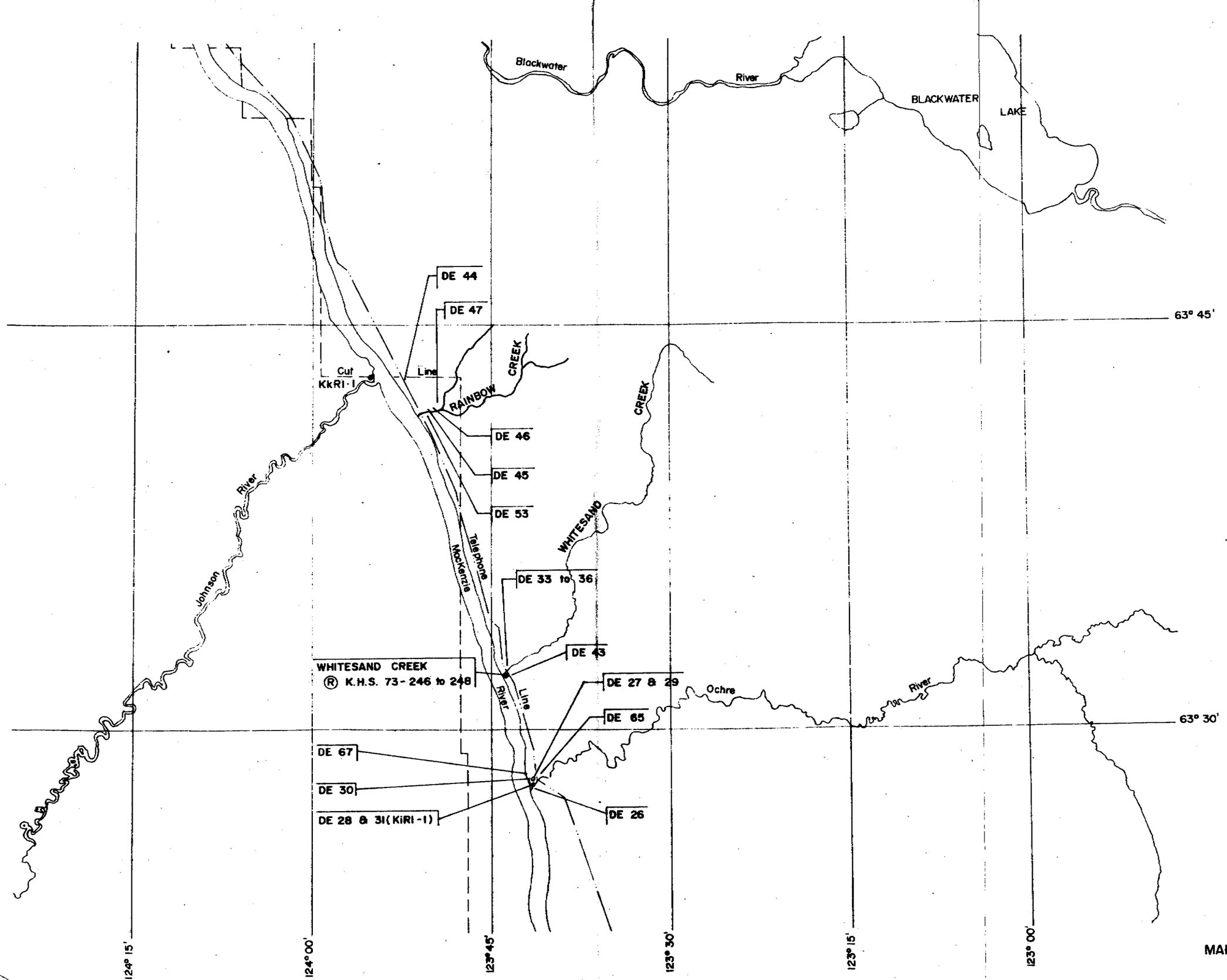
R. B. T. M.
Ⓡ K.H.S. 73 - 222
Ⓗ K.H.S. 73 - 223
Ⓟ K.H.S. 73 - 224

63° 00'

GREASY

LAKE

MAP Nº 1 - 6


Blackwater
River
BLACKWATER
LAKE
63° 45'
DE 44
DE 47
Cut
Line
KkRI-1
RAINBOW
CREEK
CREEK
DE 46
DE 45
DE 53
WHITESAND
Telephone
Mackenzie
DE 33 to 36
DE 43
WHITESAND CREEK
® K.H.S. 73-246 to 248
River
Line
DE 27 & 29
DE 65
Ochre
River
63° 30'
DE 67
DE 30
DE 28 & 31(KiRI-1)
DE 26
Johnson
River
124° 15'
124° 00'
123° 45'
123° 30'
123° 15'
123° 00'

MAP Nº 1-7

CREEK 16
R K.H.S. 73-266

CREEK 16
R K.H.S. 73-265

Saline River

HILD 44

HILD 45

HILD 47

Mackenzie

Keele River

SALINE RIVER
Ⓡ K.H.S. 73 - 260 & 263

REDSTONE RIVER
Ⓡ K.H.S. 73-261,262 & HILD 46
Ⓗ K.H.S. 73-264

HILD 43

STEEP CREEK

HILD 42

Birch I.

River

Telephone Line

DE 56 & 58

DE55

BLACKWATER RIVER
Ⓡ K.H.S. 73-251,252,258,259 & DE 48

BLACKWATER RIVER
Ⓡ K.H.S. 73-257, DE 54 & 57

BLACKWATER RIVER
Ⓗ K.H.S. 73-249 & 250, DE 24

DE 68

Redstone River

Cut Line

Ⓡ K.H.S. 73-256

Ⓡ K.H.S. 73-255

Ⓡ K.H.S. 73-254

Ⓡ K.H.S. 73-253

Blackwater River

64° 15'

64° 00'

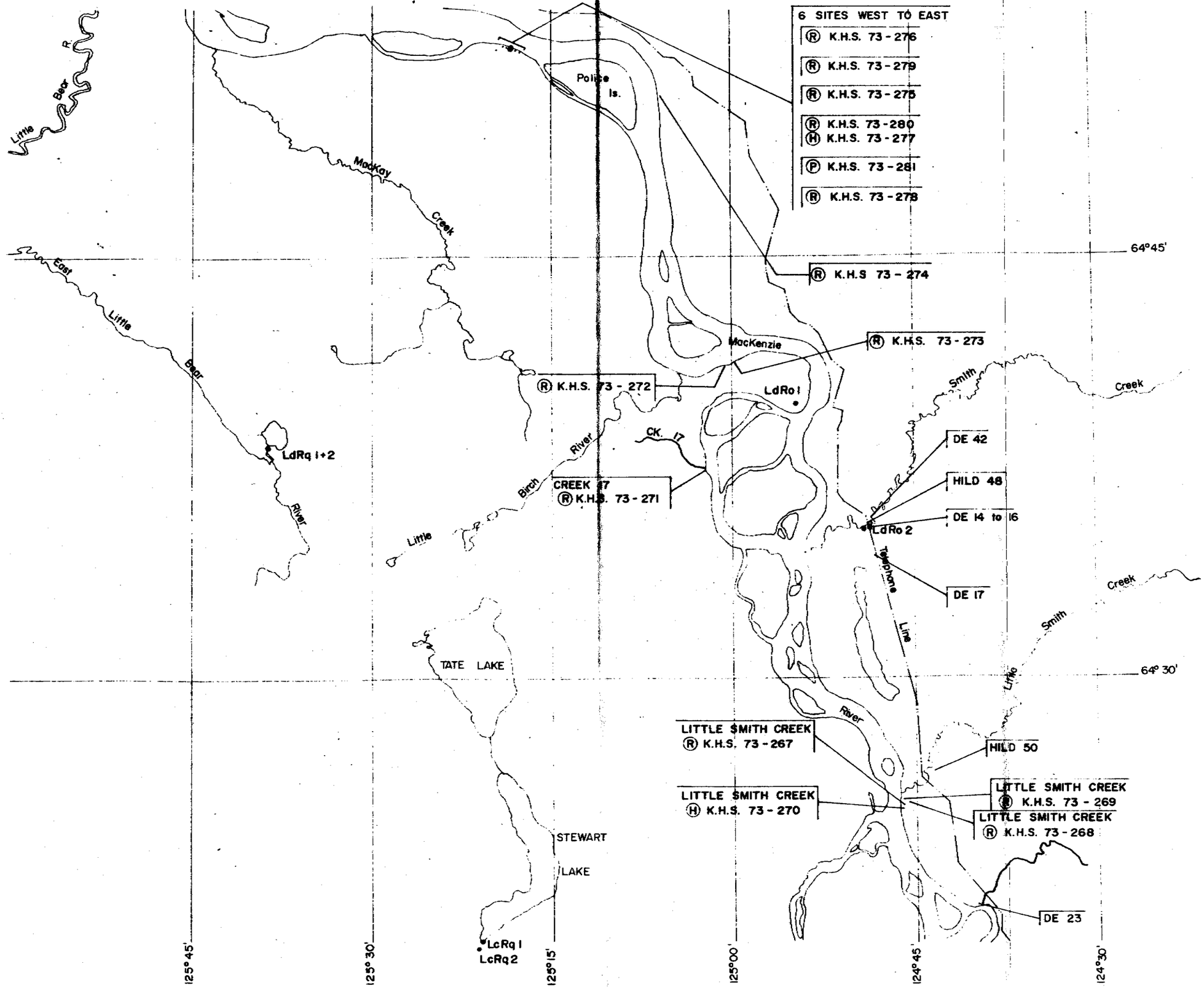
LbRj 6
LbRj 7
LbRj 5
LbRj 4
LbRj 1
LbRj 2
LbRj 3
LaRj 1
LaRi 1

KIRj 7
KIRj 8
KIRk 2
KIRk 1
KIRj 5
KIRj 6
KIRj 4
KIRj 3
KIRj 2
KIRj 1

BLACKWATER LAKE

125° 00'
124° 45'
124° 30'
124° 15'
124° 00'
123° 45'
123° 30'
123° 15'
123° 00'

MAP Nº 1-8


6 SITES WEST TO EAST
Ⓡ K.H.S. 73-276
Ⓡ K.H.S. 73-279
Ⓡ K.H.S. 73-275
Ⓡ K.H.S. 73-280
Ⓗ K.H.S. 73-277
Ⓟ K.H.S. 73-281
Ⓡ K.H.S. 73-278
Police Is.
Little Bear R.
MacKay Creek
64°45'
Ⓡ K.H.S 73-274
Ⓡ K.H.S. 73-273
MacKenzie
Ⓡ K.H.S. 73-272
LdRo 1
East Little Bear
LdRq 1+2
River
CK. 17
Smith Creek
DE 42
HILD 48
DE 14 to 16
LdRo 2
CREEK 17
Ⓡ K.H.S. 73-271
Birch
Little
Telephone Line
DE 17
Creek
Smith
Little
64° 30'
TATE LAKE
River
LITTLE SMITH CREEK
Ⓡ K.H.S. 73-267
HILD 50
LITTLE SMITH CREEK
Ⓗ K.H.S. 73-270
LITTLE SMITH CREEK
Ⓡ K.H.S. 73-269
LITTLE SMITH CREEK
Ⓡ K.H.S. 73-268
STEWART
LAKE
DE 23
LcRq 1
LcRq 2
125°45'
125°30'
125°15'
125°00'
124°45'
124°30'

MAP Nº 1-9

C. CENTRAL SECTION REPORT

1. Introduction:

Preliminary work done in the D.P.W. camp at Norman Wells involved determination of areas of high probability for the existence of archaeological sites through analysis of air photographs and strip mosaics of the highway alignment. Subsequently, field reconnaissance was undertaken for actual site discovery and assessment.

2. Objectives:

The two primary objectives for this section of the Mackenzie Highway were: 1) testing of the predetermined priority areas along the route for possible archaeological sites, and 2) testing and delimination of the Chick Lake Site located at the headwaters of the Donnelly River and any other site found during the season that might warrant further investigation.

3. Organization:

Throughout the field season the archaeological survey crew and excavation crew worked closely with the D.P.W. camps at Norman Wells and Fort Good Hope. The associated environmental consulting firm was The Lombard North Group. Both of these agencies were extremely helpful throughout the summer and their help was much appreciated.

The survey crew, until August 1, 1973, consisted of Mr. I. Grant and Mr. M. Ingles, except for a two week period when Mr. Ingles was flown to Edmonton, Alberta to have his appendix removed. The excavation crew was supervised by Mr. R. Chambers assisted by Miss A. Crepeau and Miss V. Smith. Mr. Chambers joined the survey crew on the first of August for the remainder of the summer.

4. Methodology:

Basically, methodology employed for survey work was relatively uniform throughout all the areas with few minor adaptations in each section. Initially, the areas of high priority were determined and a tentative schedule set up for examining each one. Areas of highest priority occurred where the route passed in close proximity to lakes, particularly the inlet and outlet stream locations; where it crossed rivers and streams and particularly the high terraces of these waterways. Eskers and high aeolian ridges were also tested for possible game lookout sites. Field methodology consisted of walking the area and excavating small test pits at various intervals at any feature that was considered in any way interesting or promising.

4.1 Test Excavation Methodology - Actually two sites exist at the mouth of the Donnelly River, LlTa-1 on the northwest side (Fig. 6) and LlTa-2 (Fig. 7) on the southeast side of the river. Both sites are situated on the lowest terrace and both had been cleared of trees during utilization of the area for a winter road. Spring run off has resulted in erosion of the vegetation and uppermost lake gravels. This was most extensive at LlTa-2. The primary objective at both sites was to determine the origin of the exposed materials and whether any of the site was left undisturbed. Subsequently, the undisturbed areas were test excavated to provide a sufficient amount of data for formulation of a temporal sequence and the potential value of the sites. A metered grid was established over the area of LlTa-1, a surface collection made and the artifacts plotted on a map of the site. Four metre squares were excavated to determine whether undisturbed material were also present. Because of limited time, field work then commenced on LlTa-2; the grid was extended from LlTa-1 and surface collection done. The beach gravels were minutely examined for artifacts, a process which

proved time consuming but valuable in terms of artifacts related to a temporal sequence. Fourteen test squares were dug to determine the limits of the site and provide archaeological material with stratigraphic references. Radiocarbon material was also taken to provide additional information as to temporal occupation of the site. A topographic map (fig.6&7) was also made of the sites.

5. Schedule:

Figure 5 is a schematic diagram outlining the schedule followed by the crews.

6. Survey Results:

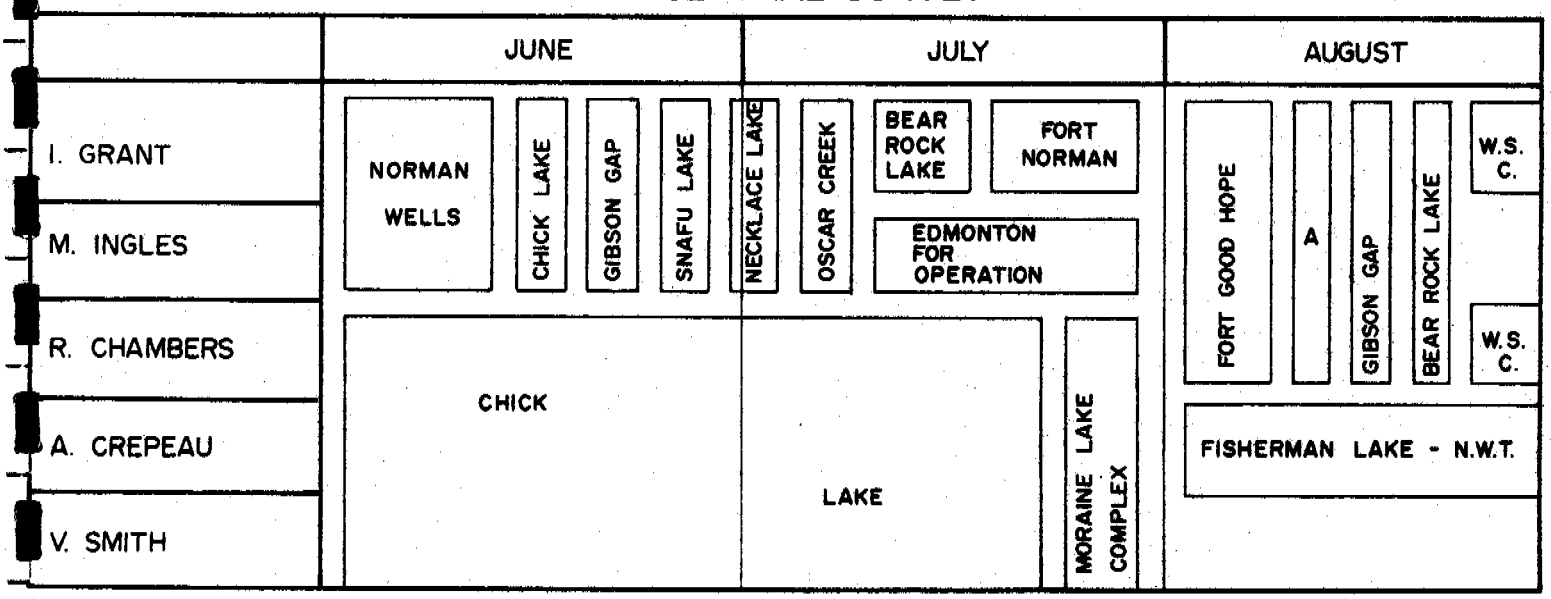
A total of 16 sites were discovered in the central section. Five of these are of probable prehistoric origin and the rest are historic camps or cabins (central section maps).

The first site was found at the confluence of Nota Creek with Vermillion Creek, approximately four miles upstream from the mouth of the latter. In all liklihood the prehistoric material had washed down from a higher location on one of the creeks as the material was found on a gravel bar in the creek. The site consists of a large black shale chi tho or scraper (Grant 73-1).

The next site was found on a gravel beach on the north side of Donnelly River, just east of the CNT crossing of the river. The site is 200 metres downstream from the headwaters of the Donnelly at Chick Lake, and it consists of a red chert worked flake (Grant 73-2).

The third site was found on top of the Fort Good Hope esker. It is 200 metres west of the proposed highway alignment (August, 1973) along the path that follows the top of the esker. The site was found by testing a small

CENTRAL SURVEY



W.S.C. WHITESAND CREEK
A — PASS BETWEEN SNAFU LAKE AND CHICK LAKE

FIGURE 5

flat ridge on the esker and the prehistoric material consisted of three black chert flakes (Grant 73-3).

Site Grant 73-4 (LiRw 1) is an historic cabin on the north bank of Oscar Creek at the junction with the Mackenzie. The cabin has three rooms with associated buildings around it.

Site Grant 73-5 is a recent campsite located on the southeast end of the larger of the two lakes lying just east of the airstrip at Fort Norman.

The two sites, Grant 73-6 and 73-7, were found at Bear Rock Lake. The first is located on the south shore of Bear Rock Lake, on the major point of land near the middle of the lake. This site is a recent camp probably used to exploit the fish resources. Grant 73-7, a small recent camp, was found at the north end of the lake on the low terrace, 10 metres from the edge of the lake.

The next site, Grant 73-8, was found on an outlet creek to one of the innumerable small lakes to the west of Gibson Gap. The site was a small camp probably representing a winter occupation as there is no fresh water in these lakes during the summer.

Three sites, Grant 9, 10, 11 were found around Chick Lake. Grant 9, is located on the north end of Chick Lake just west of the inlet creek. This site is a small trapper's camp probably used in the winter months. Grant 10 is on the east shore of Chick Lake at approximately the mid point of the shore. This is an extensive family campsite and may represent several families living together for a season or seasons. The third site, Grant 11, is found at the south end of the lake; this site is another recent camp on the east shore of one of the small connecting lakes at the southeast corner of Chick Lake.

The next site, Grant 73-12, is located at the base of a high gravel ridge at mile 695.8. The site is in the general area of the pass between Chick and

Snafu Lakes. Again the site consists of a recent camp and probably represents a winter encampment based on the lack of a closely available water supply. Grant 13 is located on the east bank of the drainage river at the north end of Snafu Lake approximately ten feet from the shore. The site is an historic camp that is almost completely overgrown.

Two other sites were found in relation to the Fort Good Hope esker complex. On the north side of the esker, on the first lake west of the highway alignment is located a recent camp, Grant 14, again probably used during the winter because of the heavy amount of cut timber found in the camp area. The other site, HILD 49, is a prehistoric site situated on the south side but at the base of the esker. This site is 200 metres farther west than Grant 3 and consists of five flakes.

An additional site was found during the summer; it was found by Dr. Bill Noble on the banks of the Donnelly River. The site is located on the south side of the river and consists of a number of pieces of bone.

7. Excavation Results:

At both sites, L1Ta-1 and L1Ta-2, most of the archaeological material was recovered from the exposed surface of the site. The general configuration of the sites, (Figures 6 and 7), indicates the presence of a low, peat terrace approximately 30 metres back from the lakeshore. Most of the surface material found at L1Ta-1 originated immediately in front of this peat terrace. Four, metre, squares were dug at this site, three at the edge of the peat and one farther removed from the peat edge. Very little diagnostic material was recovered from the pits; some quantities of bone and charcoal were recovered from a hearth in square one (Fig. 6), bone fragments were found in squares 2

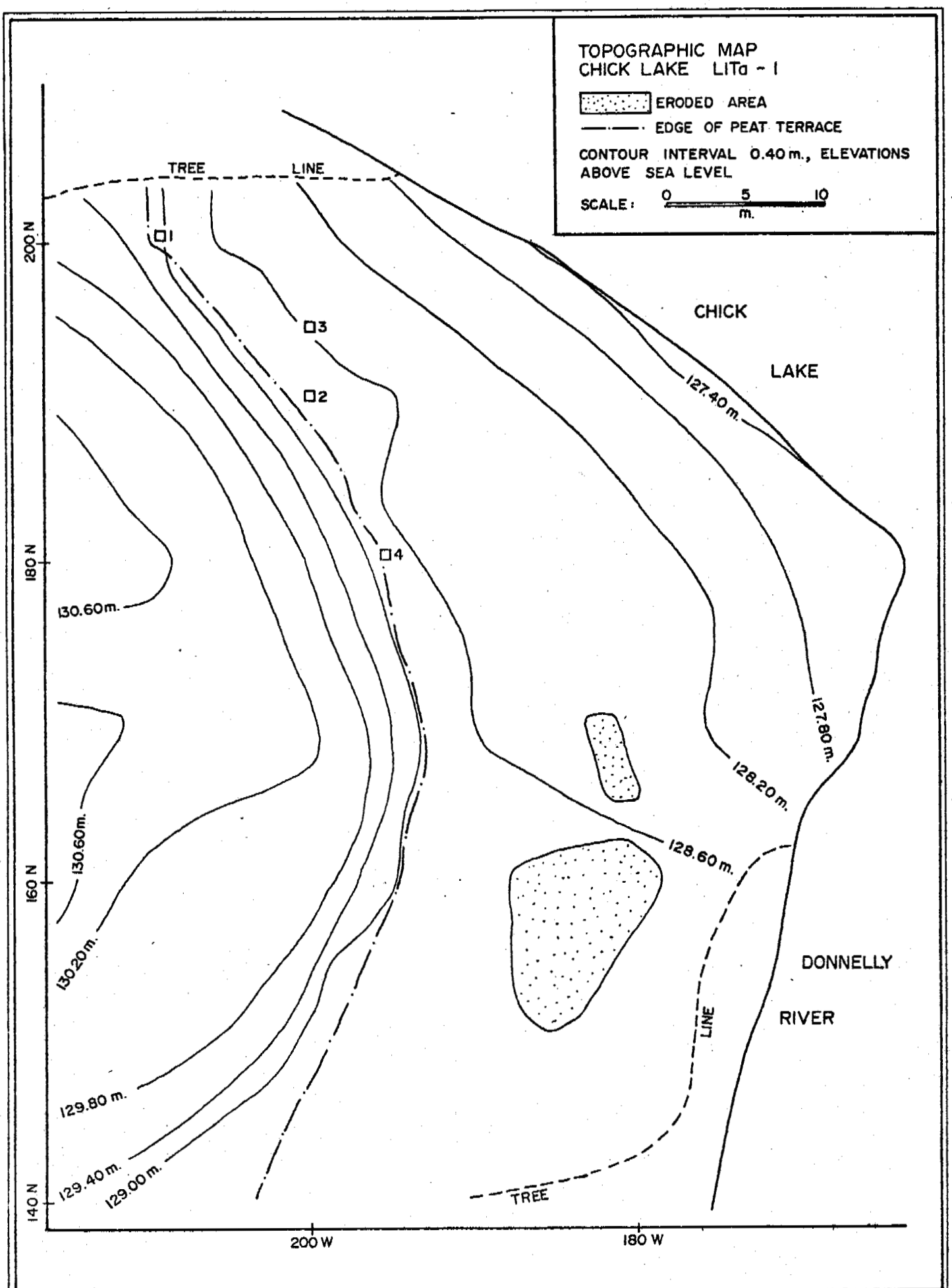
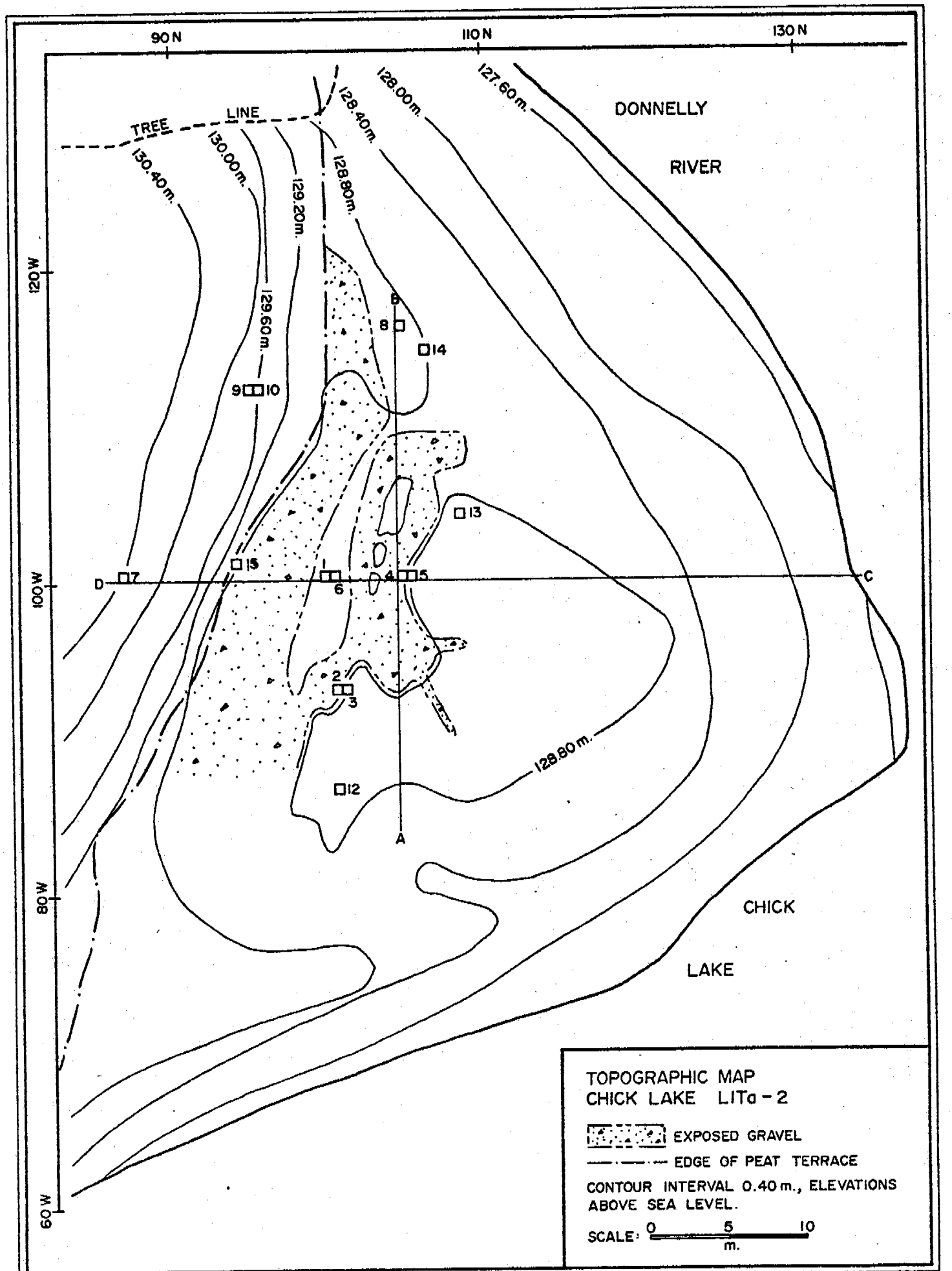

TOPOGRAPHIC MAP
CHICK LAKE LITa - 1
ERODED AREA
EDGE OF PEAT TERRACE
CONTOUR INTERVAL 0.40 m., ELEVATIONS ABOVE SEA LEVEL
SCALE: 0 5 10 m.
TREE LINE
1
2
3
4
CHICK LAKE
127.40 m.
127.80 m.
128.20 m.
128.60 m.
130.60m.
130.60m.
130.20m.
129.80 m.
129.40 m.
129.00 m.
DONNELLY RIVER
TREE LINE
200 N
180 N
160 N
140 N
200 W
180 W

FIGURE 6


90 N
110 N
130 N
120 W
100 W
80 W
60 W
TREE LINE
130.40m.
130.00m.
129.60m.
129.20m.
128.80m.
128.40m.
128.00m.
127.60m.
DONNELLY
RIVER
CHICK
LAKE
128.80m.
A
B
C
D
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
TOPOGRAPHIC MAP
CHICK LAKE LITa - 2
EXPOSED GRAVEL
EDGE OF PEAT TERRACE
CONTOUR INTERVAL 0.40 m., ELEVATIONS ABOVE SEA LEVEL.
SCALE: 0 5 10
m.

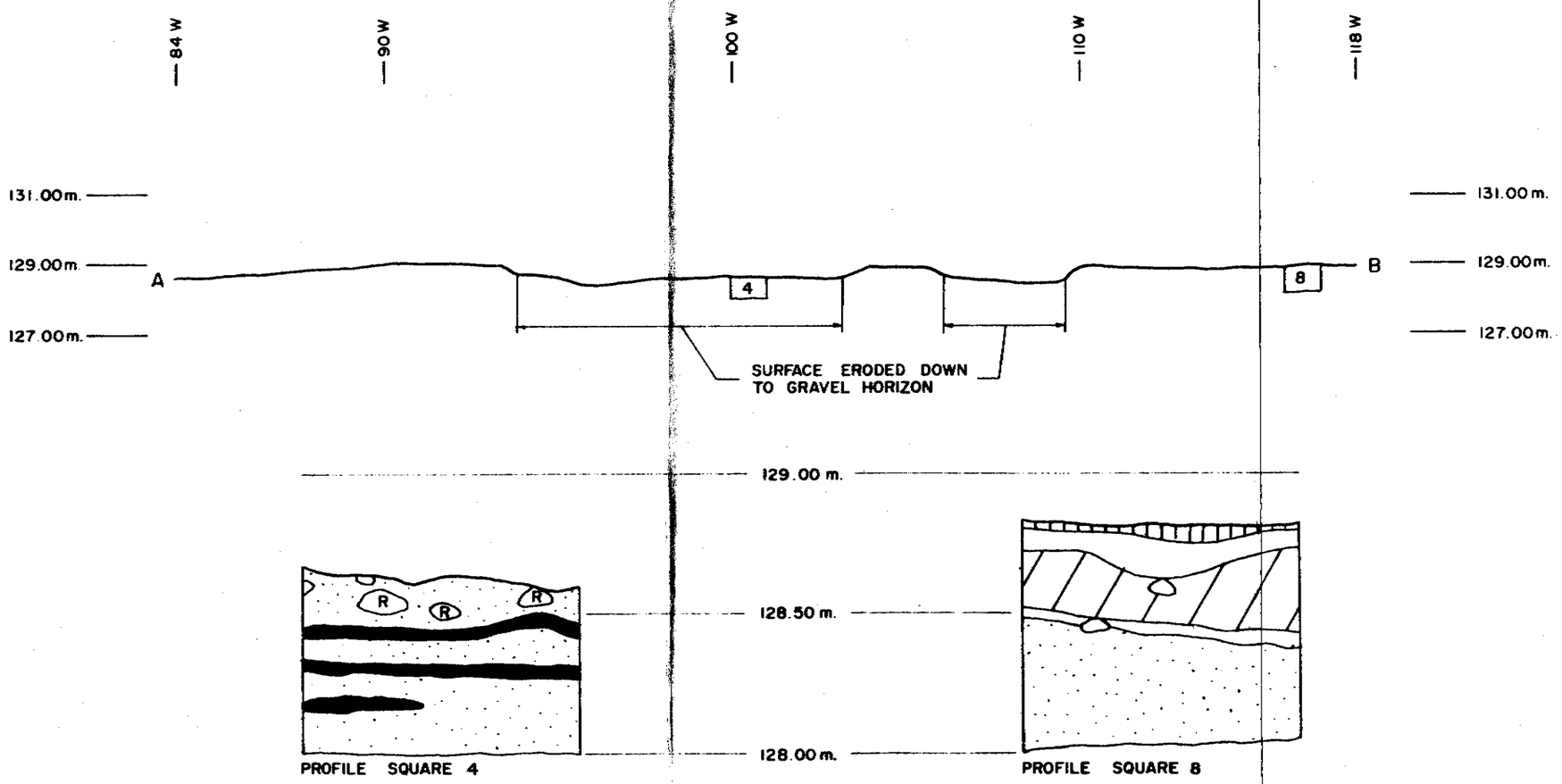
and 4 and a single microblade was found in square 3, (photograph #25). The surface collection included scrapers, a large chi tho, a number of worked flakes, various flakes and a number of bone fragments (photograph #31).

Surface collection and testing programs at LlTa-2 were much more profitable; over 700 artifacts were recovered from the eroded gravels in front of the peat. Four projectile points were recovered from the gravels. Two Agate Basin points represent the earliest occupation of the site. A fragmentary third point may represent a variant of the Agate Basin point, whereas, the fourth point cannot be typologically identified. Other artifacts recovered through surface collections include: a number of blades, scrapers made on blades, burins, scrapers, bifaces, knives, an adze, ground slate artifacts, unifacially and bifacially worked flakes, flakes and bone fragments. Four glass scrapers, representing the latest occupation of the site, were also found.

The stratigraphy of the site is extremely complex, making correlations with artifactual material difficult. Four major stratigraphic units exist at the site: the first level is a thinly stratified but thick peat zone that is frozen except for the top 20 centimetres; the second zone is a thin humic layer which forms the present uppermost soil horizon over most of the site except for the eroded areas and the peat deposit; the third unit is composed of either thinly stratified silts or clay and silt bands depending upon location; the fourth unit consists of gravels which, in some places, are banded with dark organic layers (see profiles for Chick Lake). Artifacts were found in all zones except the present surface soil unit. A polished stone adze, several flakes and bone fragments found in the peat zone indicate that even this level was occupied.

On the basis of stratigraphy and the artifacts recovered it is possible

EAST - WEST PROFILE (A - B) LITa · 2

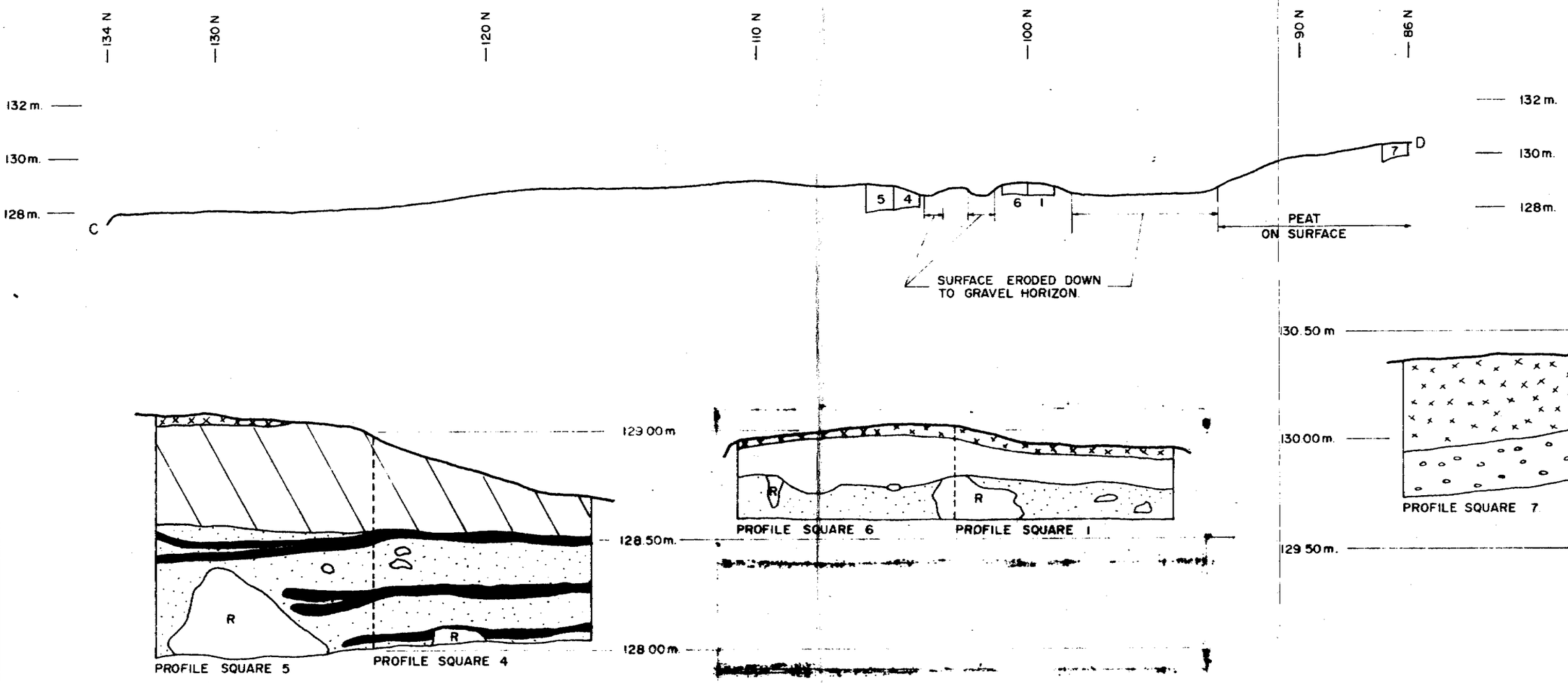


PROFILE (A-B) CHICK LAKE LITa · 2

GRAVEL
ORGANIC GRAVEL
SURFACE HUMUS
CLAY
SILT BAND
R ROCK
ELEVATIONS ABOVE SEA LEVEL SHOWN IN METERS

FIGURE 2-A

NORTH - SOUTH PROFILE (C - D) LITa · 2



PROFILE (C-D) – CHICK LAKE LITa · 2

- GRAVEL
- ORGANIC GRAVEL
- STATIFIED SILTS
- SILT BAND
- R ROCK
- PEAT STATIFIED PARALLEL TO SURFACE
- DECOMPOSED PEAT WITH HIGH SILT CONTENT.

ELEVATIONS ABOVE SEA LEVEL SHOWN IN METERS

FIGURE 8-B

to distinguish five and possibly six or more occupation levels. Four of these levels occur in the gravel zone whereas the others occur in the silts, clays or peats. The relationship between levels cannot, as yet, be determined.

Very few diagnostic artifacts were recovered from the excavated squares making it difficult to relate the several unidentified cultural sequences found in the gravels to known archaeological complexes. The earliest occupation at the site is represented by the Agate Basin points, although other material has been assigned to this occupation on the basis of artifact raw materials and types. These include: a large biface, biface fragments, scrapers, a graver, bifacially retouched flakes and a crude burin, (photograph #24). This complex is related to the Acasta Lake Complex dated by Noble (1971: 104) at 5020 B.C. +/- 360. The one complete Agate Basin point is burinated and it closely resembles a type from the central Keewatin. Harp (1962: 71) suggests that this feature represents a later variant of Agate Basin. It has been tentatively assumed that Agate Basin is the earliest occupation and probably post-dates 5000 B.C.

A second complex, represented by blades, blade scrapers and blade-like flakes (photograph #27), has not yet been identified in terms of the cultural complex affiliation.

The third complex is representative of the Canadian Tundra Tradition (ca. 1200 - 200 B.C.), a regional variant of Arctic Small Tool (Noble, 1971: 107). Artifacts of this complex include: burins, scrapers, adzes and worked flakes.

The final identifiable complex at Chick Lake is represented by the historic glass scrapers (photograph #26). These were found on the surface of the site and are made on window and pyrex glass. Although some intermediate occupations undoubtedly exist between the Canadian Tundra Tradition and the late historic

occupation, it is not possible to reconstruct them on the basis of present evidence.

It is impossible for any palaeoenvironmental reconstruction to be done at the site at present, but the excellent preservation of nonlithic material does allow some speculation as to the prehistoric utilization strategy. The Donnelly River is used as a spawning area by the arctic grayling and jackfish; fish vertebrae recovered from some of the excavation units suggests that perhaps this resource was important in the selection of this site for occupation. Faunal remains indicate that small mammal and caribou were utilized by the inhabitants of the site.

In summary, the two sites at Chick Lake (LlTa-1 and 2) are stratified sites containing evidence of occupation from 5000 B.C. to the late historic period. Future excavations at the sites would provide valuable information concerning temporal and spatial relationships as well as the in situ development of the complexes and traditions at Chick Lake. A recommendation for realignment of the highway away from the sites has already been followed. A further recommendation entails complete excavation of the sites to salvage as much information and material as is possible before further damage is done by periods of high water.

8. Recommendations:

The following recommendations have been made concerning archaeological investigations in the central section of the Mackenzie Highway.

(i) Archaeological sites LlTa-1 and LlTa-2 require excavation prior to 1) further spring runoff and high water levels resulting in removal and displacement of additional archaeological materials

destroying provenience locations and thereby limiting the information that these sites can provide and thus lowering their value to archaeology; 2) completion of the highway and access roads to the lake for recreational and camping facilities which will evitably result in further disturbance and resultant loss of information.

(ii) The possible lookout site, Grant 3 on the esker east of Fort Good Hope and the associated sites HILD 49 and the historic camp Grant 14 establish this esker and immediately adjacent area as an extremely sensitive area archaeologically, both in the existence of the sites and the information that lookout sites can provide.

(iii) The area at Oscar Creek requires monitoring during construction due to the existence of the historic site associated. Initial clearing may reveal prehistoric sites at the crossing.

(iv) The area of Little Chick Lake (LkRx 1) should also come under close archaeological surveillance in the event that access roads are constructed to the lake for recreation or rest stop facilities.

(v) Although no sites were found at the areas of high priority originally defined at Snafu Lake and the Necklace Lake chain just north of Norman Wells, these areas are still considered potentially sensitive archaeologically and should receive surveillance during initial clearing should any archaeological materials and sites be discovered at this time.

9. CENTRAL SECTION MAPS

KELLY LAKE

CANYON CK.

Ⓡ K.H.S. 73 - 299 to 301 ; LhRt 1

THREE DAY LAKE

MacKenzie

GRA 1

VERMILLION CK.

Gus Ck

Bogg Ck

Telephone Line

VERMILLION CREEK
Ⓡ K.H.S. 73 - 298

BRACKETT LAKE

65° 15

Brackett River

GRA 5

GRA 7

GRA 6

Great Bear River

65° 00'

GREAT BEAR RIVER
Ⓟ K.H.S. 73 - 290

FORT NORMAN
Ⓟ K.H.S. 73 - 291

FORT NORMAN
Ⓡ K.H.S. 73 - 282 to 286
Ⓗ K.H.S. 73 - 288
Ⓟ K.H.S. 73 - 289

LeRq 1

LeRq 2

LfRr 1

LITTLE BEAR RIVER
Ⓡ K.H.S. 73 - 297

LITTLE BEAR RIVER

FORT NORMAN
Ⓗ K.H.S. 73 - 287, 293 & 294

MACKAY CK.

FORT NORMAN
Ⓡ K.H.S 73 - 296
Ⓗ K.H.S 73 - 295

MACKAY CREEK
Ⓡ K.H.S. 73 - 292

126° 45'
126° 30'
126° 15'
126° 00'
125° 45'
125° 30'
125° 15'

MAP Nº 1 - 10

DUMMIT ISLAND
Ⓡ K.H.S. 73 - 310

Ⓡ K.H.S. 73-309

AXEL IS.

Hanna River

GRA 8

MacKenzie River

Telephone Line

OSCAR CK.

OSCAR CREEK
Ⓡ K.H.S. 73-305 & 306

OSCAR CREEK
Ⓡ K.H.S. 73-307, GRA 4
Ⓗ K.H.S. 73-308
LI Rw I

Ⓡ K.H.S. 73-304

Ⓡ K.H.S. 73-303

Norman Wells

NORMAN WELLS
Ⓡ K.H.S. 73-302

Carcajou

Sammons Ck

Mountain R

Virgin Ck

65° 30'

65° 15'

128° 45'

128° 30'

128° 15'

128° 00'

127° 45'

127° 30'

127° 15'

MAP Nº 1 - 11

RAMPART RIVER
(P) K.H.S. 73-321

RAMPART RIVER
(P) K.H.S. 73-320

MbTc 1

GRA 14

GRA 3

HILD 49

(R) K.H.S. 73-327

(R) K.H.S. 73-326

FORT GOOD HOPE
(H) K.H.S. 73-328 (MbTb 1) to 335

66° 15'

Rampart

River

(R) K.H.S. 73-323

(R) K.H.S. 73-322

River

Tsintu

Snafu

(P) K.H.S. 73-324

(R) K.H.S. 73-325

TSINTU RIVER
(R) K.H.S. 73-319

Hame

River

River

Telephone

66° 00'

HAME RIVER
(R) K.H.S. 73-318

MacKenzie

(R) K.H.S. 73-317 & 317a

GRA 13

Line

GRA 12

GRA 9

GRA 10

GRA 11

DONNELLY RIVER
(R) K.H.S. 73-314 & 315

DONNELLY RIVER
(R) K.H.S. 73-316

LITa 1+2

CHICK LAKE

Donnelly

River

CREEK 18
(P) K.H.S. 73-312

GRA 2

River

CREEK 18
(P) K.H.S. 73-313

CREEK 18

CREEK 18
(P) K.H.S. 73-311

LkRx 1

65° 45'

129° 15'

129° 00'

128° 45'

128° 30'

128° 15'

128° 00'

MAP Nº 1-12

C. NORTH SECTION REPORT

1. Introduction:

Survey of the north section commenced later than did the other sections in order for conditions to become more reasonable for field movement. The survey began in the middle of June and terminated by the third week of August. As in the other sections, preliminary work was carried out before actually moving into the field.

2. Objectives:

The archaeological objectives in this section were to survey the route area for archaeological sites and determine which sites would be suitable for limited testing by an excavation crew. As in this section the alignment had not yet been finalized, all route alternates had to be surveyed. Sites were found along both routes and all are included in this report, although the final route is yet to be decided.

3. Organization:

The crew for this section consisted of Mr. G. Hilderman - field supervisor; Mr. J. Cuthand - field assistant; and Mr. P. Edgi - field assistant. After July 20, Mr. R. Chambers, Miss A. Crepeau and Miss V. Smith joined the northern crew for a short period of test excavation at the Moraine Lake area east of Little Chicago.

4. Methodology:

The methodology in this section included determination of high probability areas prior to field survey, followed by testing as many areas as time permitted. This crew worked out of back pack camps with a certain amount of helicopter support in areas where mobility on the ground was restricted. The high probability areas were determined and the crew began a general north to south survey of the route.

5. Schedule:

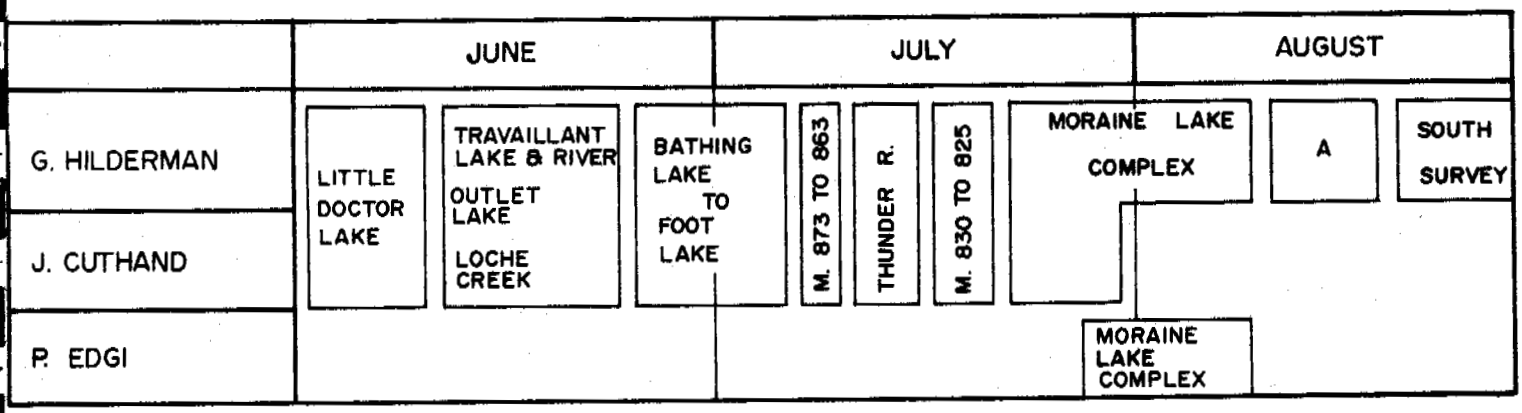
Figure 9 is a schematic diagram of the scheduling for this section.

6. Survey Results:

A total of 41 sites were discovered during the summer, nine contain historic or recent material; the rest are prehistoric.

6.1 Travaillant Lake - Three sites were found in the area around Travaillant Lake, HILD 1, 2 and 3. The first site, HILD 1, lies on a sand beach, including the immediate area behind the beach on the east bank of the Travaillant River outlet. The site contained both prehistoric and historic material. The prehistoric material consists of a worked flake found on the beach and three flakes found in a test pit adjacent to the beach. The next site, HILD 2, is found on a sand beach and a low terrace adjacent to the beach. This site is 100 yards north of the north bank of the Travaillant River outlet. It contained both historic and prehistoric material; the prehistoric material consisted of 13 flakes. The last site, HILD 3, is on a gravel beach near the mouth of a small creek, four and one-half miles from the Travaillant River outlet. The site consisted of a single flake.

NORTH SURVEY



A – TIEDA RIVER, LOON RIVER, MILE 730 TO HARE INDIAN RIVER

FIGURE 9

6.2 Outlet Lake - Four sites were discovered at Outlet Lake during the survey. HILD 4 is an historic camp on the north side of the east shore of the lake, ten metres back from the water.

HILD 5 is another historic camp on the east shore of the lake, farther along the beach from HILD 4. Again the site is about ten metres from the edge of the water. Site HILD 6 is located on the east shore of the lake, 300 metres north of the Travaillant River outlet. The site was found on a gravel beach and consists of a small chert biface and single flake. The site also contained historic material in the form of a recent camp. HILD 7, the last site, was found on the east side of the mouth of Loche Creek. It is located on a sand beach and an old fossil beach line; it contained a large cortex flake and another smaller flake.

6.3 Unnamed Lake : Mile 882 - The next site area is a small unnamed lake two miles southeast of Outlet Lake. The site consists of a recent camp at the extreme southwest corner of the lake, 30 metres back from the water.

6.4 Bathing Lake - Three sites were located around the lake. The first site, HILD 9, was found on a kame formation (approximately 90 feet from the water) on the east side of the point of land where Bathing Bay narrows. The prehistoric material included two worked flakes, a core, a microblade and 15 flakes all of the same material. Site HILD 10 is located on a terrace of the kame formation on the west side of the Bathing Bay narrows. The site consisted of only a single flake. Both HILD 9 and 10 lie directly on the B_1 route, mile 902 of the highway. The third site is an historic cabin, HILD 11, located one-half mile south of the first two sites. The cabin is 50 metres from the shore on the side of a small hill.

6.5 Unnamed Lake : Mile 902 - The next site, HILD 12, is on the west side

of the lake at mile 902 of the B route of the highway. The site is found on the east side of the drainage river. The materials were found in an eroding cutbank and consist of a fragment of a worked flake and one other flake.

6.6 Wounded Bear Lake - The survey yielded four sites from this location. The first site, HILD 13, lies on a sand gravel beach along the west side of a point in the middle of the north shore of Wounded Bear Lake. The site contained both historic and prehistoric material; the prehistoric material consisted of two flakes and the historic material was a recent camp. The next three sites, HILD 14 - 16, are recent camps along the north shore of Wounded Bear Lake all within half a mile of each other .

6.7 Foot Lake - The Foot Lake section yielded three sites during the survey. The first site, HILD 17, lies on the south side of the east arm of the lake; the site is on a terrace of one of the many fossil shorelines of the lake. It is five metres above the shore and 40 metres back from the present shoreline. The prehistoric material was found in a number of test pits along the top of the terrace. The material consists of over 100 small flakes and two fragments of bone. HILD 18 lies on top of a hill that rises on the south side of the east arm of Foot Lake. The hill rises to a height of 40 metres and affords an excellent view of the surrounding country. This site consists of a single flake. The last site, HILD 19, is an historic camp on the north side of the east arm of Foot Lake. The site is 20 metres from the water.

6.8 Mile 869 - The two lakes on either side of the route are unnamed, therefore, for convenience they will be referred to as the north and south lakes. Site HILD 20 lies ten metres back of a fossil shoreline of the south lake, at the northeast end. It is on a small sandy hill and consists of a single flake.

Site HILD 21 lies on the east ridge of a flat topped esker which formed part

of the fossil shoreline of the north lake. The site is 35 metres above the present shoreline. It contains a worked flake, a cortex flake and another single flake. This site is directly on the B_1 route. The third site, HILD 22, is on a fossil gravel beach at the northwest shore of a bay on the south lake. The site is tem metres from the present shoreline and contained two black flakes.

6.9 Thunder River - The Thunder River crossing area contained two prehistoric sites. The first, HILD 23, lies on a flat moraine hill 900 metres east of the river. The hill is approximately ten metres high and trends in a north/south direction. The site contains a worked flake. The second site lies on a flat topped moraine hill, 100 metres west of a small lake which is one-quarter mile east of the river. The site contains a complete biface and four flakes.

MORAINE LAKE COMPLEX:

This complex consists of a series of small lakes and fossil lakes between miles 803 and 796, east of Little Chicago. A total of 17 sites were found in this section. A detailed map has been included for this section (map 1-14-1A).

6.10 Moraine Lake - The first site area is the Moraine Lake outlet and shoreline. HILD 25, the first site, lies on top of the east ridge of a small flat topped moraine overlooking the river outlet. The site is ten metres above the water and contains nine flakes. The next site, HILD 26, lies on a flat topped moraine which is one-quarter of a mile west of Moraine Lake. This site is at the junction of the drainage river for Moraine Lake and another river flowing into the Mackenzie. The site affords an excellent view of the junction. It contained a microblade core. Site HILD 27 is on a moraine hill 100 metres north of Moraine Lake River outlet. The material was found on the surface as well as in test pits. The site contained a worked flake, a cortex

flake and one other flake. The last site, HILD 28, is on the Moraine Lake shore; actually the site is on a small ridge just back of the shoreline at mile 803. The site contained a patinated biface fragment.

6.11 Third Narrows - The first site in this area, HILD 29, lies on a flat moraine terrace on the northeast side of the narrows area between two lakes. The site is 15 metres from the edge of the water, one metre above water level, and contained two flakes. The other site, HILD 30, lies on a moraine hill on the southwest side fo the narrows. The site is seven metres above the water level and contains three flakes.

6.12 First Narrows - This is one of the most important areas in the section. HILD 31, the largest of the two sites in this area, lies on a flat moraine terrace which rises three to five metres above the present surface of the lake. The moraine is west of a small stream that runs between the two lakes. The most interesting feature of this site is the numerous man made pits scattered over the terrace. Over 80 of these pits were located; testing revealed layers of burnt bone and flakes. A number of test squares were put in the site and a large number of flakes and artifacts were recovered. The site contains four worked flakes, one end scraper, two core fragments, two fragments of bone awls, 30 flakes and large quantities of burnt bone and charcoal. The area of the site has only a very slight humic cover. The other site in this area contained two of the same type of pits. The site, HILD 32, is on a flat moraine terrace east of the narrows. The site contained a fragment of an end scraper and eight flakes.

6.13 Big Creek - Site HILD 33 lies on a flat moraine deposit, where the stream connects two lakes. A large slate tool, possibly a cleaver, was found at this site. The other site, HILD 34, is on the south side of the same stream

and contains wight firepits similar to those present at the First Narrows. Quantities of burnt bone, fire cracked rock and several flakes were found.

6.14 Fossil Lake - Site HILD 35 was found on a flat topped esker which rises sharply to the west above the fossil lakeshore. The fossil lake is approximately one-half mile north of the present lake. The site contained a worked flake, a cortex flake and two other flakes. Another site, HILD 36, was found on an esker that forms part of the fossil shoreline, one-quarter mile north of the present lake. The site contained a worked flake and two other flakes.

6.15 Gull Lake - HILD 37 is situated 200 metres south of the second Fossil Lake site and is actually on the same esker. The site itself is a large depression, three metres in diameter by one metre deep; testing near it produced three flakes and a large fire cracked rock.

6.16 Fifth Narrows - HILD 38 was found on a moraine hill which lies ten metres east of the narrows between two small lakes. The site contained a single flake.

6.17 End Lake - HILD 39 was found on a moraine deposit 50 metres east of the present shoreline of End Lake. The site contained a core fragment, a worked flake, 70 flakes and a quantity of burnt bone.

6.18 Fossil Narrows - HILD 40 lies on an esker deposit near a fossil narrows between two fossil lakes. The site is three metres above the present marsh level. The site contained a hearth with numerous burnt bone fragments, fire cracked rock, numerous flakes and an end scraper. The site also consisted of a recent camp.

6.19 Exit Lake - The last site found in the northern survey, HILD 41, is located on an esker, immediately north of a fossil lake, 150 metres back from

the present level of Exit Lake. The site consists of a core fragment, five cortex flakes and 12 other flakes.

The locations of these last sites in the Moraine Lake Complex can be found in the detail map (map 1-14-1A) section in the appendices.

7. Analysis:

There are five areas that are of immediate importance to the highway: the Wounded Bear Lake area, the Foot Lake area, the unnamed lake at mile 902, the Thunder River area, and the Moraine Lake Complex.

The Wounded Bear Lake area contains mainly historic camps which are of minor importance at this stage. The one prehistoric site, HILD 13, is located on a sandy point about the middle of the north shore. The recent material at this site confirms one of the bases of archaeological surveying; i.e. a good camping spot today was probably also a good one in the past. The immediate danger for this site is the probable construction of access roads to the lake; careful surveillance should be undertaken if this type of construction is initiated.

The Foot Lake area has two potentially significant sites, HILD 17 and 18. The first site contains over 100 flakes and several bone fragments from two test pits. The vegetation cover over this site is very sparse and further survey and testing, are, and could easily be accomplished. The second site is on top of a medium sized hill that affords a good view of the country, this is one of several sites in this area that can be classified, tentatively, as game lookout posts. The prehistoric hunter probably used these natural features for location of game. This also, partially, validates the methodology of investigating the various high ridges that the highway crosses, even if

they do not have potentially good camping areas.

The small unnamed lake at mile 902 is one link in a chain of lakes along that section of the route. These connected lakes facilitated movement through the bush; it is natural to sites located along this chain. While the site, itself, HILD 12, is not large, the area it is located in, at the mouth of one of the drainage creeks, is potentially important as are all these areas throughout the chain.

The Thunder River area is a key location as far as archaeological resources are concerned. The area is dotted with eskers, and small lakes, the Thunder River is at hand, all of which make it a prime centre for prehistoric activity. The game resources in this kind of area are comparatively rich. Existence of a combination of good natural resources and ease of mobility, raise the probability of archaeological sites being located. This is another area where game lookouts may exist and there is always the possibility of finding a camp in association with these lookouts. Two sites have been found in the area, both on top of eskers and both containing worked artifactual material.

The Moraine Lake Complex is the richest area insofar as archaeological sites are concerned. Seventeen sites, all prehistoric, were discovered in approximately a six mile stretch of the highway. All these sites are associated with present or fossil shorelines or creeks. There are a number of sites in this complex which, even from preliminary testing, show great promise. HILD 26 contained a grey chert microblade core. The microlithic technology is one of the most interesting in North America and it has been traced through Alaska, northern British Columbia, and along the Mackenzie Basin. This area can potentially add to our knowledge of this tradition. HILD 31 appears to be a large occupation site. This type of site is extremely rare in northern archaeology as the people

were basically organized into single family units for maximum exploitation of the camping capacity of that environment. This site may represent a type of cooperative seasonal activity that caused a number of family units to be drawn together. Further test excavation of this site could yield valuable information on this aspect of the northern ecologically transitional adaptation. In this connection the second site at the First Narrows and the second site at Big Creek, HILD 34, should be examined.

8. Recommendations:

It should be noted that the following recommendations are based primarily on the archaeological investigations carried out in the 1973 season.

8.1 Three general areas, (i) Moraine Lake Complex, M 794-806, (ii) Thunder River Crossing, and (iii) Wounded Bear Lake south to Loche Lake are considered extremely sensitive archaeologically and require further archaeological survey and excavation prior to disturbance.

8.2 The Travaillant Lake area contains known archaeological sites and requires further survey and testing prior to construction.

8.3 All areas discussed above, borrow, access and recreation areas as well as the following areas: Loon River crossing, Tieda River Terrace crossing and Hare Indian River crossing and area of lake at M 869 all require surveillance during construction.

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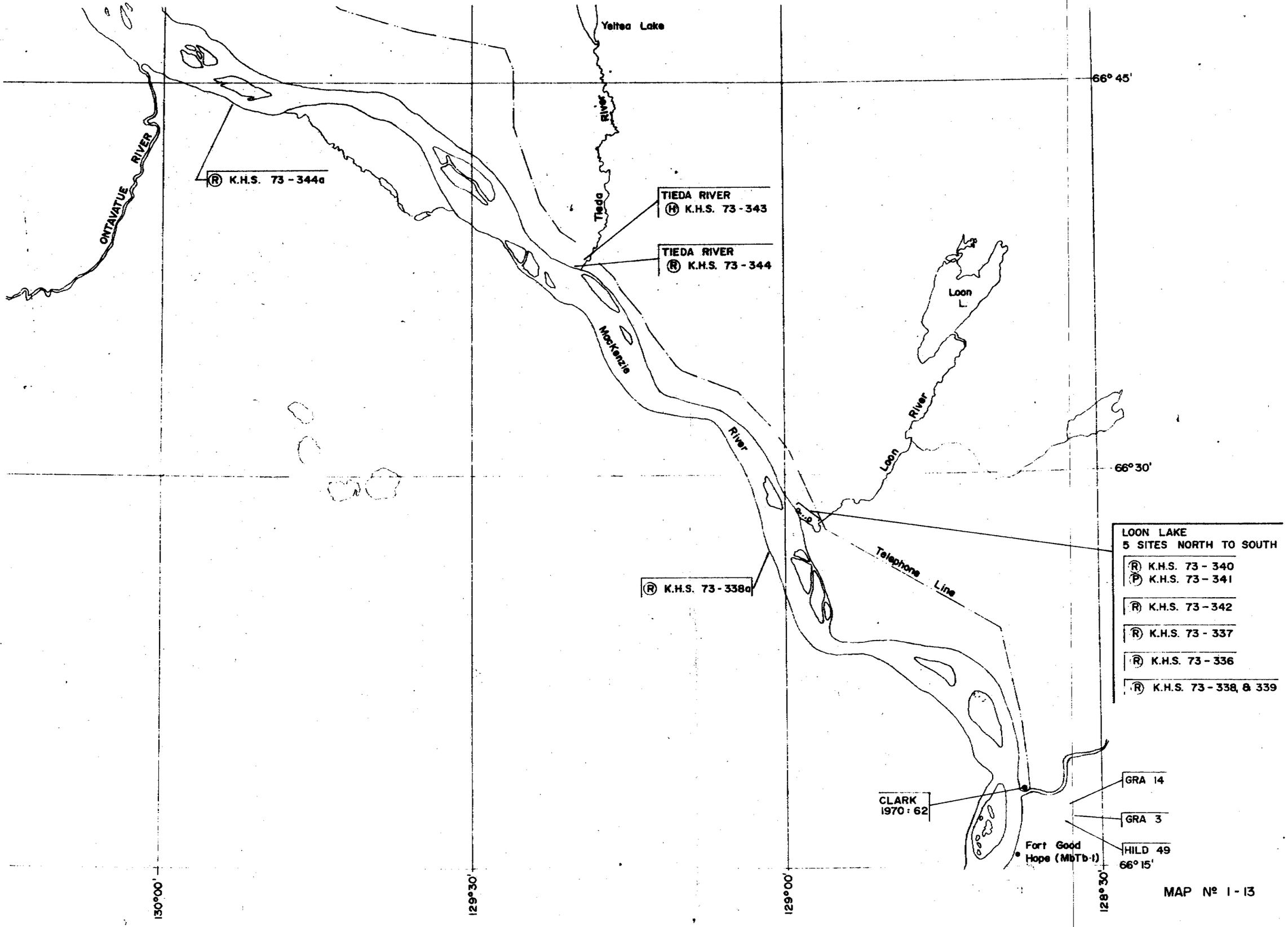
9. NORTH SECTION MAPS


Yeltea Lake
66° 45'
ONTAVATUE RIVER
K.H.S. 73 - 344a
Tieda River
TIEDA RIVER
K.H.S. 73 - 343
TIEDA RIVER
K.H.S. 73 - 344
MacKenzie River
Loon L.
Loon River
66° 30'
K.H.S. 73 - 338a
Telephone Line
LOON LAKE
5 SITES NORTH TO SOUTH
K.H.S. 73 - 340
K.H.S. 73 - 341
K.H.S. 73 - 342
K.H.S. 73 - 337
K.H.S. 73 - 336
K.H.S. 73 - 338, & 339
CLARK
1970 : 62
GRA 14
GRA 3
HILD 49
Fort Good Hope (MbTb-1)
66° 15'
130°00'
129°30'
129°00'
128°30'

MAP Nº 1 - 13

HILD 19
HILD 16
HILD 14
BATHING LAKE
HILD 11
HILD 10
FOOT LAKE
HILD 9
HILD 17
HILD 12
HILD 13
HILD 15
HILD 18
MjTp 1
WHIRL LAKE
67°30'
ARCTIC RED RIVER
Ⓡ K.H.S. 73-375 & 376 (MiTr 1)
Attoe L.
Big L.
PIERRE CREEK
R.
HAY
RABBIT
R.
RED
ARCTIC
67°15'
RABBIT HAY RIVER
Ⓡ K.H.S. 73-373
MACKENZIE R.
ADAM CABIN CREEK
Ⓡ K.H.S. 73-374
CK.
ADAM CABIN
133°45'
133°15'
132°45'
132°15'

MAP Nº 1-16

MACKENZIE

DELTA

Husky

Channel

67° 45'

MacKenzie

River

River

67° 30'

Peel

FORT MACPHERSON - MiTu t

ARCTIC RED
RIVER

135° 00'

134° 00'

MAP N° 1 - 17

67°45'

Travaillant L.

HILD 1

HILD 2

HILD 3

HILD 4

HILD 5

HILD 6

HILD 7

HILD 8

HILD 21

HILD 22

HILD 20

TRAVAILLANT R.

67°30'

Big L.

MACKENZIE R.

TRAVAILLANT RIVER
Ⓡ K.H.S. 73 - 370 & 371

Ⓡ K.H.S. 73 - 372

THUNDER RIVER
Ⓟ K.H.S. 73-369

THUNDER R.

HILD 24

HILD 23

THUNDER RIVER
Ⓗ K.H.S. 73 - 368

THUNDER RIVER
Ⓡ K.H.S. 73 - 364 to 366
Ⓗ K.H.S. 73 - 367

CREEK 20
Ⓡ K.H.S. 73 - 362

CREEK 20
Ⓡ K.H.S. 73 - 361

CREEK 20
Ⓡ K.H.S. 73 - 363

CREEK 20
Ⓡ K.H.S. 73 - 360

CREEK 20

CREEK 20
Ⓡ K.H.S. 73 - 355

CREEK 20
Ⓡ K.H.S. 73-356 to 359

67°15'

132° 00'

131° 30'

131°00

130°30'

MAP Nº 1 - 15

67°00'

M 805

M 800

M 795

80°00'

HILD 28

HILD 27

HILD 26

HILD 25

HILD 29

HILD 30

HILD 35

HILD 36

HILD 33

HILD 37

HILD 38

HILD 39

HILD 40

HILD 32

HILD 31

HILD 34

HILD 41

MORAINE LAKE AREA

• —— LATEST ROUTE ALIGNMENT

SCALE: 1" = 3000'

MAP Nº 1-14-1'

67° 15'

CREEK 19
Ⓗ K.H.S. 73 - 354

CREEK 19
Ⓡ K.H.S. 73 - 345, 346, 350 & 352
Ⓗ K.H.S. 73 - 347, 348, 349, 351 & 353

CREEK 19

MACKENZIE R.

67°00'

REFER TO
MAP Nº 1 - 14 - 1'

Ⓡ K.H.S. 73 - 344b

66°45'

131° 30'

131° 00'

130°30'

130° 00'

MAP N° 1 - 14