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**NORTH TO THE YUKON TERRITORY VIA THE ALCAN HIGHWAY IN 1948: FIELD NOTES
OF THE ANDOVER-HARVARD EXPEDITION**

Elmer Harp Jr.

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Tourism and Culture
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Elaine Taylor, Minister
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INTRODUCTION TO THE PRESENT VOLUME
AND ACKNOWLEDGEMENTS

Sincere thanks are due Professor Elmer Harp Jr. for granting us permission to publish his field notes and photographs of the 1948 Andover-Harvard Yukon Expedition in our Occasional Papers in Archaeology Series. The Andover-Harvard Yukon expeditions of Frederick Johnson (R.S. Peabody Foundation) and Hugh Raup (Harvard University) in 1943, 1944 and 1948 represent the first systematic explorations of Yukon's prehistoric past.

Their pioneering work was the foundation for subsequent investigations by R.S. MacNeish and William B. Workman, and remain a significant benchmark for our interpretations of Southwest Yukon archaeology to this day. Professor Harp's field notes are a perceptive and sympathetic record of the time and place, and the people he met in the course of the 1948 expedition. His observations, sketches, and photographs have preserved invaluable glimpses of both Yukon archaeology and Yukon history in the eventful early Alaska Highway days.

Assembly of this publication would not have been possible without the assistance, coordination, advice, and support provided by Mrs. Elmer Harp Jr. Through her correspondence and regular telephone calls, Elaine kept the project flowing smoothly and provided us with the information and material needed to bring Professor Harp's field notes to the publication stage. It is unfortunate that the story of Elaine's travels to meet Elmer in Skagway at the end of his 1948 Yukon field season could not be included here. The episodes of that cross-country journey related over the course of a number of telephone conversations reveal Mrs. Harp to be the match of her husband in observation and insight.

Special thanks are due Dr. Craig Mishler of Anchorage, Alaska who first proposed the idea of publication of the 1948 field notes to the Harps.

Publication layout and design was by Eve Chapple, with assistance by Daintry Chapple. Their hard work and artistry is very much appreciated. The idiosyncracies of Professor Harp's prose and orthography have been retained in the manuscript to preserve some of the unique character of the original field notes.



*Professor Harp in his study in Hanover,
New Hampshire, August 11, 2004*

Photo by Drew Adler

*Ruth Gotthardt, Series Editor
Whitehorse, Yukon
March 8, 2005*

PROFESSOR ELMER HARP JR.

A Biographic Sketch

Elmer Harp Jr. is Professor Emeritus of Anthropology at Dartmouth College, Hanover, New Hampshire. Elmer Harp Jr. was born in Cleveland, Ohio in 1913 and educated at Harvard University.[†] After service aboard PT Boats in the US Navy during the Second World War, he joined the Dartmouth College faculty in 1946.

Harp's 35 year career at Dartmouth College included numerous expeditions to the Central and Eastern Arctic, as well as work in Alaska and Yukon. He began his archaeological field research in the Eastern Subarctic in 1949-1950 when he surveyed the Strait of Belle Isle area discovering and testing several Paleoeskimo sites on the west coast of Newfoundland and Archaic Indian sites in southern Labrador. He next conducted surveys around Coronation Gulf and Bathurst Inlet, N.W.T., in 1955, finding interior sites with assemblages of Arctic Small Tool tradition. In 1958 he explored the lower and middle Thelon River west of Hudson Bay and found evidence of five early occupations of the Interior Barrenlands Period. During 1959-1960 he was a senior Fulbright Research Scholar in Copenhagen, at the Danish National Museum, and in 1961 he returned to Newfoundland and excavated for three seasons in the Port-au-Choix 2, Phillips Garden, on Cape Riche. From 1967 to 1975 he explored the southeast coast of Hudson Bay, including Richmond Gulf, and in the same period, staged two summers of reconnaissance in the Belcher Islands. From 1969-1971 he supervised archaeological research projects on the Trans-Alaskan Oil Pipeline, acting as a consultant to the Bureau of Land Management, US Department of the Interior.

Harp pioneered new technology in near-ground aerial photography for archaeological field work. Many Dartmouth students were introduced into field research on trips accompanying him to the Arctic. He founded the Department of Anthropology at Dartmouth College in 1967, and served as its Chairman for a number of years, and also as the Director of the Dartmouth College Museum. He retired officially in 1978, but continued his teaching until 1981. The Hood Museum of Art at Dartmouth College now houses contemporary Athapaskan items he collected in 1948 in the Yukon Territory, and the Stefansson Collection holds a number of his papers. *Lives and Landscapes: A Photographic Memoir of Outpost Newfoundland and Labrador 1949-1963* was published by McGill-Queen's University Press in 2003.

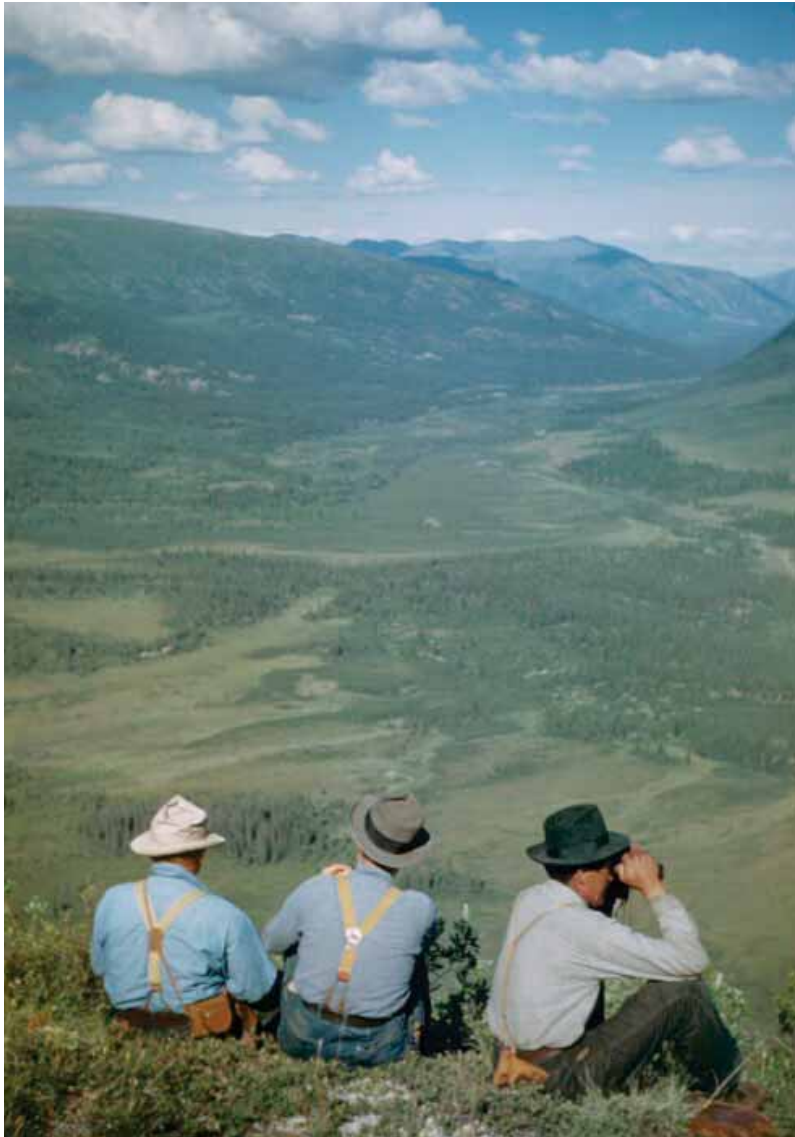
In 2004, Professor Harp, at 91, was awarded an Honorary D. Litt. degree by Memorial University of Newfoundland in recognition of his pioneering archaeological research in the province. Professor Harp and his wife Elaine, to whom he has been wed for 66 years, currently reside in Hanover, New Hampshire.



*Professor and Mrs. Harp at Spring Convocation
at Memorial University, May 2004*

[†] Where he married a 'townie' after helping her with her German homework.

ANDOVER-HARVARD YUKON EXPEDITION 1948



FIELD NOTES OF ELMER HARP JR.
DARTMOUTH COLLEGE

North to the Yukon Territory via the Alcan Highway in 1948

Elmer Harp Jr.
Professor of Anthropology Emeritus
Dartmouth College
Hanover, New Hampshire



*Bill Drury, Fred Johnson, and Elmer Harp
Start of the Andover Harvard Yukon Expedition, May 4, 1948*

PREFACE

We were named the **Andover-Harvard Yukon Expedition** and our leaders were Frederick Johnson, archaeologist, of the R.S. Peabody Foundation of Phillips Academy, and Professor Hugh Raup, botanist, Director of the Harvard Forest in Harvard, Massachusetts. In previous years [1943, 1944], these two scholars had conducted several joint projects searching for signs of early man's first appearance in the New World. This time we were to explore for archaeological sites along the eastern borders of the Rocky Mountains, taking advantage of the Alcan Highway and the access it gave us to previously unexplored country. Furthermore, 1948 was the first post-war year that the highway was open to civilian traffic.

Other expedition members were Hugh's wife, Lucy Raup, a reputable lichenologist, and their two teen-age sons David and Karl, all of whom were experienced travellers in the North; Bill Drury, a graduate student at Harvard was their primary assistant in botanical research; and I, also a graduate student at Harvard, was Fred Johnson's chief helper in the archaeological field work. I had been Fred's assistant in 1947 excavating an early Indian burial ground near Titicut, Massachusetts, and I assume my work was satisfactory that summer because Fred offered me a chance to accompany him on his marvelous five-month trip to the Yukon in 1948. At this time I was serving in my first academic appointment at Dartmouth College, as Curator of Anthropology in the College Museum.

Bill Drury and I had as our first major assignment to drive the expedition's station wagon from Boston to Whitehorse, Yukon Territory, where we were to meet the other expedition members. This is the story of that trip and our subsequent summer in the Yukon.

Elmer Harp Jr.
Hanover, New Hampshire
June 29, 2004

FIELD NOTES OF ELMER HARP JR. DARTMOUTH COLLEGE

North to the Yukon Territory via the Alcan Highway in 1948

8 May

Lunch .25

Gas – 14.1 gal. @ .266 – Fargo, N.D. 3.75

Dinner 1.70 Telegrams 1.81

Stopped at Grand Forks, N.D. after terribly dull run N down Red River valley from Fargo. Flat as a pancake. Should have stayed at the Hotel Dacotah in Grand Forks, but we missed it going thru town & finally ended up in a rather smelly tourist cabin where we damn near froze under cotton blankets. The Dakotah is fine & modern-looking.



Lesser Slave Lake, Alberta

Sunday 9 May

Starting Mileage = 2948

Breakfast .85

Gas – 13.2 gal. @ .273 3.60

1 qt. oil .40

Dinner at Minot, N.D. 1.85

Cigars .25

Tried to make Williston, N.D. on our gas (all intervening places shut down because Sunday), but ran dry just as we came into outskirts. Filled from spare can.

Gas – 18.0 gal. @ .288, Williston, N.D. 5.18

Supper 1.00

Met a [native] & family stalled on road with “new” second-hand jalopy–gave him some gas, but apparently his fuel-pump was bad, so took one of his party on with us for help. We pushed on to Wolf Point, Mont. & ended up in a very lush & brand new cabin with Hollywood beds, rugs, private bath, plenty of heat, etc. Most attractive at 6.00 for the 2 of us.

same as in 1937 but some new buildings–place seems more modern & bustling than before. Would have seen Geo. Bowery if more time. Kodachrome (2 rolls of 20 exp.) 6.64 About 50 miles out of Havre in middle of nowhere the engine began to cough again–more fuel line trouble. Just made the next small town where a mechanic in Internat’l Harvester station checked & we found a plug in the line–apparently same one that had troubled us back in Mass. Blowing out fuel line .70 Postcard .10 Dinner (Shelby, Mont.) 1.10 Beer .60 Jukebox .10 Gas – 7.2 gal. @ .293 – Shelby, Mont. 2.12 4 qts.oil @ .40 1.60 Paper .05

Monday 10 May

Starting Mileage = 3387

Breakfast .80

Decided to detour & have a look at the Ft. Peck dam. Wasted most of the morning on this junket which turned out to be somewhat of a fiasco.

Gas – 12.5 gal. @ .305 – Glasgow, Mont. 3.80

1 qt. oil .40 Chassis lubrication & grease 1.25

Lunch .60 2 Pocket Book mysteries .50

Gas – 10.0 gal. @ .295 – Havre, Mont. 2.95

Shopped around Havre for half-hour. Much the

Tuesday 11 May

Starting Mileage = 3725

At the border it took us about an hour to clear customs. The main thing we lacked was a list of items carried in the car, equipment, etc. Raining there at Coutts.

Gas 5. Imp. gal. @ .39 –Lethbridge, Alta. (3825) 1.95

1 qt. oil .55

Very bad stretch of road between McCleod & Calgary–recent floods & washouts have shelled hell out of the pavement.

Gas – 6.8 Imp. gal. @ .36 –Calgary, Alta. 2.45

Lunch .95

Stamped envelopes 1.85

Dinner .90

Ale .50

Stopped in Red Deer, Alta. for the night. Couldn't get into a hotel—all full but landed in a pleasant tourist cabin.

Wednesday 12 May 48

Starting Mileage = 4053

Breakfast & paper 1.00

Began collecting poplar trees this am—hell of a long job. Takes close to an hour/ tree

(*P. tremuloides* & *P. tacamahaca*): measure height, DBH, height to first live branch & diameter at that height, take a core sample & count age, take a photograph, dig up root samples for airmailing back to States, take twig & bud specimens.

Lunch .50

Stopped in Edmonton, Alta. All hotels jammed: no reservations at the MacDonald; nothing at the Corona, or King Edward. No other hotels any good & all full anyhow. Finally got a room at the Roseberry, a middle class whore-house which stank of disinfectant. Spent a rather uncomfortable nite there. All this bustle in town because of new oil field which opened a few miles to the S a year ago, & the town is filled to overflowing with commercial men, oil men, laborers, camp followers, etc. A mess.

Car lubrication 1.25

Gas – 10.4 Imp. gal. @ .376 3.90

Dinner 2.05

Paper .05

Movie .65

Strolled around the place, putting off going back to the Roseberry as long as possible. Enjoyed the show: Spencer Tracy & Lana Turner in “Cass Timberlane.” Overnight Car Storage (Bribed a patrolman to let us into garage) 1.00

Drury (airmail for poplars) 10.00

Thur. 13 May 48

Breakfast .82 Art supplies 8.75

Checked all over Edmonton for info. On road to Dawson Creek, but all news was conflicting.

The AMA said stay off & ship across by rail, but from what we could learn, some cars were getting

thru. Checked with CNR on freight rates: \$94.00 for the car & about \$20.00 apiece for us, to & the next train across wouldn't get us thru until Tues. 18 May. Quite a stew. Ran out a few miles to see what the beginning looked like, & when a new Studebaker with Alaska plates passed us by, that settled it! If they could do it—so could we! Turned back, stocked up on grub for 7-10 days, checked out of the Roseberry, lunched & shoved off at 1 PM.

Lunch .60

Wire – Fred at Milwaukee 1.86

" – Elaine - Hanover 1.87

Starting Mileage from Edmonton = 4180

Road fine, Mostly dirt & very dusty, but highly passable & we rolled along without any trouble, making about 160 miles good in the aft.

Occasional beer stops will help a lot to cut that dust.

Beer .50

Gas – 6.9 Imp. gal. @ .427 –Athabasca, Alta 2.95

Stopped at Smith, Alta. on the Athabasca R., & found a tiny hotel back in the bush a ½ mi. from the road. Damn little else there except a beer parlor & R.R. station. No running water here, but clean & comfortable rooms & chemical toilets.

Dinner .70

Beer .50

Drury (change-making) 1.00

Fri. 14 May 48

Last night at 9 it began to rain, & it kept up all night, & all thru this day. Road, with very little gravel on it was a slough & extremely bad.

Starting Mileage = 4325

Breakfast .70

After crossing the Athabasca R., just beyond Smith, had to back down the big hill twice before getting over the top the 3rd time. Made about 40 miles in first 3 hrs. Then stopped in Slave Lake for refreshments.

Coffee & cookies

Picked up a Mountie here, Constable Eagleson who wanted to get thru to High Prairie. Let him take the wheel for about 30 mi.—a shattering experience. Stopped in Faust for mid-aft. lunch & gas.

Gas – 10.0 Imp. gal. @.45 4.50

1 qt. oil .50



Beyond High Prairie, Alta

Continued beyond Faust for 10 mi. until we came to a truck who had been deeply mired in the center of the road since morning & it was no longer possible to get around him, so turned back to Faust. This is a tiny village on the southern shore of Lesser Slave Lake, & I guess its excuse for being is the commercial white fish in the lake. Lake is still frozen over now & fishing is supposed to open Monday. Nice new little hotel here with pleasant furnishings & reasonable rates running water, lights, etc—the main income coming from the Beer license. Eagleson called this the toughest little town in the NW & said more fights occurred here than anywhere else. The whole place is a flooded morass, what with the rain, which finally let up toward 6 pm & the snow melting down from the hills. Road thru town completely under water & washing out fast. Cleaned off our feet in the flooded basement of hotel before going up to our rooms. One drunken Indian passed out & fell into a 3' deep flood pool in front of hotel & would have drowned if not dragged out.

Beer .50

Dinner 1.00

Sat. 15 May 48

Starting Mileage = 4424

Breakfast .70

Roads still completely sodden, greasy, rutted & bad. Had to travel in 2nd good bit of the time. Got stuck briefly beyond Triangle when trying to leave the deep ruts but shovelled ourselves out. Bright, sunny day, with at least the high spots beginning to dry out.

Gas – 6.5 Imp. gal@ .48 – Little Smoky River 3.00
Lunch .30

Ran into a terribly bad stretch W of Little Smoky R. & spent the whole afternoon in it helping to dig out the same little Studebaker that had passed us leaving Edmonton & another sedan with a 2000 lb. trailer from Ontario. Shovelled first one then the other, out of holes, & finally put a chain on the Studebaker, but he was completely hung up along his bottom. Finally had to leave him & went on ahead 3 mi. to a point where I trekked back into the bush for a ½ mi. & found a farmer with a tractor to go back for the Studebaker. Seems to be a colony of Ukrainians in this region. Here there was also a group of 15 or so from Texas & Colorado who had been camped out in some rented cabins for 2 wks. Waiting for the road to clear. We kept on going, the road improving somewhat & stopped briefly in small burg Valley View for a bite. Chow .38

Decided to keep on going. Another hour of tough going brot us to Calais, a tiny hamlet on the SW shore of Sturgeon Lake, where we got a log cabin for the nite. Hudson's Bay Post here & a large Catholic seminary of some sort. Small café across from our cabin run by people called McCracken. Old Mac an ex-mechanic & quite a talker. Also met the Stoehr's—a Calif. lawyer (Harvard) & wife who had burnt out Packard 120 differential here. More chow .40

We eat whenever we can get it now!

Sunday 16 May 48

Ferry across Big Smokey had been shut down for several days because of flood waters so we waited for the word. Wrote Elaine at length on typewriter borrowed from Stoehr. Located an archeological site back of café & at 3 PM finally shoved off—decided to make Dawson Creek tonight & get the hell off this lousy approach.

Breakfast – Calais .55

Lunch – " .40

Cabin for 2 - 2.25

Gas – 8.1 Imp. gal @ .46 – Grand Prairie 3.75

Got thru this far OK & had supper there

Chow for 2 - 1.00



Sunset on Sturgeon Lake, Alta

From then on the roads got steadily worse—dry enuf but rutted deep & hard. Received warning of 2 bad sloughs ahead—they had been towing cars thru one of them all day—but kept on anyhow. About 40 mi. out of Dawson, about 9:30 PM, we crapped out while by-passing the first slough by going around thru a field. (A tractor was sunk in up to its engine in this hole.) Got help & finally located trouble—a loose battery.

Connection for help with battery – 1.00

Met a Russian driving the Milk truck thru to Dawson & he suggested we stick behind him until we got thru the next & worst hole outside of Pouce Coupé. So we did, & he hitched a chain on us & we got thru easily that way. Might not have made it otherwise for it was 11 PM & pitch dark & the slough was a long one. People have tended to be very helpful.

For help thru slough 1.00

Road continued very bad thru Pouce Coupé, but last few miles outside of Dawson were gravelled & easy. Finally pulled into Dawson at 12:15 AM—a bit played out. 480 miles in 3 ½ days! Got good room at Dawson Hotel.

Mon. 17 May 48

Starting mileage = 4674

Breakfast .80

Car lubrication & grease 1.90

Gas – 6.1 Imp. gal. @ .43 2.60

Wire – Fred in Vancouver 1.17

" – Jackson in Whitehorse for room reservations 2.17 Postcards .10

Chow 1.25

Beer .70

Left Dawson Creek 1:40 PM & began a leisurely run up the Highway. It's grand & wide & smoothly gravelled now & seems almost paved after the rotten approach road; also it's a good 3-4 lanes wide. We have 918 miles to go now with 9 days to do it in, so we plan to tick off about 100/ day. Collected some poplars & shipped them off from Fort St. John.

Supper at Ft. St. John 1.00

Continued on until we reached the Blueberry R. & found a Maintenance Camp at M-101 where we got a bunkhouse for the night. Used our own bags, but had a stove there.

Tues. 18 May 48

Starting mileage = 4777

Breakfast for 2 = 5.50

Gas – 10 Imp. gal. @ .55 – Beaton River, B.C. 5.50

Chow – Beaton R. .85

Chills & fever all this day—caught the damn cold of the Mountie who drove with us from Slave Lake to Faust. Ran into a snow storm while crossing over the summit & down to Beaton R. Reccoed the terraces there while Drury collected poplars, but found nothing. Also reccoed at Trutch, M-201, but couldn't locate the site found here by Oscar Lewis. Continued on to M-233 & stopped at Lum'n Abner's for the night.

Chow 1.00

Ran a high fever but sweated it out with aspirin & soaked my sleeping bag completely.

Centre of Dawson Creek, BC



Wed. 19 May 48

Felt washed out, but better this AM.

Chow .75

Gas – 7.5 gal @ .57 – M-233 4.27

Starting Mileage = 4946

Collected more poplars & stopped at Fort Nelson to air-mail them. Chow .65

Met a fellow there by name of Quick, formerly of U. of Colo. faculty, doing wild-life management studies on Arctic Inst. grant. Just leaving for Aklavik on lower MacKenzie with HB Co. crew. Continued on during day light & set up our first camp on W bank of Mill Creek at M-363. Rigged the little green Aberlite & cooked out. Good spot here near fresh water. Daylight lasts now til after 10 PM.

Thur. 20 May 48

Starting Mileage = 5086

Broke camp. Drury collected poplars, while I checked along the terrace for archeology. Got away around 11 AM, & continued on up to Summit Pass.

Gas – 9.9 gal. @ .62 – Summit Lake 6.14

Chow .60 Extra Can of stew for grubstake .30

Coming into beautiful mountain country now. Stopped up in the pass to look around. Checked for archeology & found a few chips. Continued on down other side of divide into MacDonald, Racing, & Toad valleys' gorgeous scenery, but unfortunately somewhat cloudy for Kodachromes. Pulled into Toad R. valley around 6 PM & stopped there for night at M-423

Chow 1.00

Peace River from bridge



A new tourist lodge here that has pretty nice plans for expansion in the future. An American cow-puncher by name of Lynch is wrangler & runs pack trips for hunting back into mts. A slough behind lodge has a pond full of shore birds & migratory game birds & mountains rise sharply from the valley on all sides. Along an old lake terrace (present Highway runs along it) is very extensive archeological site. Must have been occupied on & off for very long: found many chips, flaked scrapers, modern bone scraper, etc. Hunted up & down terrace for couple hrs. after dinner—ducks, swiipe, lesser yellow legs, et al plentiful in the slough. A lovely spot to return to.

Fri. 21 May 48

Starting Mileage = 5152

Chow 1.00

Made leisurely time NW collecting poplars & stopping for me to check site around “Little” Muncho Lake—found nothing but 2 small chips. Big Muncho Lake is a gorgeous deep cleft in mts. & still frozen in—ice is now rotten & very green. Chow .78

At the Lower Crossing of the Liard, M-496, dropped in at the place of a former Canadian Army officer to enquire way to nearby hot springs. About ½ mi. above bridge a car trail goes off to right & up into woods about ¼ mi. There a foot path leads across a swamp, partially a board walk & about a 10 min. hike up hill & thru woods brings you to lower spring. Soldiers bldg. Highway put up a bath house here around pool—the structure now ½ rotted & the place stinks of sulfur but the water a beautiful green-blue, the vegetation very lush. Temperature of this pool is very hot = 125°. Trail continues on thru the bush & up the mountain; about 200' higher & ½ mi farther on is second hot spring. This is a gorgeous green gem of a pool about 50' in diam., limpid & clear & perhaps 15 ft. deep. Gas bubbling to surface keeps water at about 90°F. We came up here tired at the end of a long day, stripped down & plunged in—soaked and lolled around in the steamy water for about ½ hr., one of the most delightful experiences I've ever had. Perfectly relaxing. Actually had to tear ourselves away from the place.

Finally continued on to Coal River, M-533, & stopped for night. Chow 1.25
Wire - Fred in Vancouver
Red Kennedy runs a fine place here—all modern conveniences, moderate prices, & complete hospitality. Has wife & 2 kids, and an ex-cop from Whitehorse & his wife there as helpers. A very nice little establishment. Got first definite word here on washout at Rancheria—bridge has been gone a week now & people are already beginning to pile up. Wired Fred about this.

Sat. 22 May 48

Starting Mileage = 5282

Breakfast 1.00

Gas – 9.75 gal. @ .67 - Coal River 6.58

At 10:45 first crossed the line from B.C. into Y.T. –the Highway cuts back & forth several times after this point. Into Watson Lake around noon.

After stopping at Lower Post, B.C. to look around in Hudson's Bay Co. post. This was a pretty modern set of bldgs, all white, same as the post at Sturgeon Lake, Alta.

Cookies .40

Chow – Watson Lake 1.25

Beer – " " 1.10

Log cabin hotel here is full of the balmiest bunch of Americans I've ever seen—all punchy from sitting around drinking beer, waiting for the bridge & talking their heads off. What a collection of characters! Decided we weren't going to stick around there. Drove 8 mi. out to airstrip which is on the lake & spent most of the aft. packaging & mailing off poplars. After that drove around the lake, a lovely place, but still frozen in, & finally decided to go ahead to the Rancheria, 50 mi. ahead, & see the situation for ourselves. Arrived there about 7 pm, & things looked bad: river in high flood & one span of bridge completely down & sagging near W. Bank. First work done just today starting from E bank: one span pulled out & first line of piles driven. Job in charge of one lieutenant of RCAE with 2 foremen for shifts, a mere handful of inexperienced labor recruited from other road jobs, one old pile driver (from Loraine, O.) & one caterpillar. Planking being trucked in from way back & the piles haven't been cut out of the forest yet! They figure to work 2-12

hr. shifts & figure 1 span complete each shift, with possible finish Wed. or Thur. Looks to me as if a temporary rig might have been put across the bad 2-3 spans without having to tear the whole down & rebuild it span by span. This is going to be a slow process. Came back up the hill at 9 PM, & found a good campsite about ½ mi. from bridge, 100 ft. N of Highway in a clearing surrounded by spruce & poplar. Set up the Aberlite & got dinner. Cold, clear night.

Sun. 23 May 48

Beautiful warm day, Sun heated us out of tent about 7 AM. Sat around camp, improved our set-up a bit, & wrote Elaine. There are already about 50 people camped out within 1 mi. of bridge waiting it out. All shapes & sizes of trailers, trucks, & other getups. Bridge moving slowly. Nights cold as hell here.

Mon. 24 May 48

Returned to Watson Lake in a light rain, collecting some poplars on the way, packaging & mailing them at the airstrip. Stopped at Hotel for lunch.

Chow 1.25

Beer 1.05

Postcards .24

All out of gas at Watson Lake so we had to go 18 mi, farther back to Lower Post.

Gas – 16 gal. @ .65 –Lower Post, B.C. = 10.40

Returned to camp & got supper there. Found that only 3 men had turned up for work on bridge because it was Queen Victoria's birthday! What a show! Milder tonight because of rain.

Hudson's Bay Co., Lower Post, BC, Mile 620





Main St., Whitehorse, YT, Mile 918

Tues. 25 May 48

Dark & drizzly day. Took a long hike upstream along the W. bank of Rancheria. No archeology, but a fine tramp thru dense spruce. Tried a bit of fly-fishing in the river but water much too high, fast, & muddy—no luck. The Lieutenant says the river isn't due to reach its flood crest for another 7 days—there is still much snow in the mts. & every warm day melts off more of it. Spent late aft. & eve improving camp: made a lean-to with our tarpaulin, & built a fire reflector of logs & a crane for cooking so now we can eat out of the rain & keep warm when it's cold. Took our usual bridge check 10–11 PM.

Wed. 26 May 48

Dark & drizzly morning but it burned off before noon. Did my laundry, accumulated since leaving home—and had it strung up all over the place. Took a long bridge check in eve & watched them pull out the last old section at W end. Very cold night.

Thurs. 27 May 48

Beautiful, sunny day, meaning more meltwater coming down. Shampooed & bathed & stowed laundry. Many more cars closing in for the jump-off now & the area down by bridge is beginning to look like a circus. Helped on the bridge—laying decking & patting cross-bridging between the stringers. Much timber coming downstream all eve requiring a halt in operations to move back

the crane to hoist each tree out & dump it downstream. Rumor now of washouts in road ahead between here & Whitehorse.

Fri. 28 May 48

Decided to go back in to Watson Lake for more grub in case we should be held up farther along. Called Fred from W.L.

Chow 1.25

Tobacco .50

Telephone 2.00

Gas – 6.5 gal. @ .65 - 4.23

Returned to camp in time to get supper, having stopped for a bit of unsuccessful fishing at Big Creek, near upper crossing of Liard.

Sat. 29 May 48

Watched them put in last span, & bridge opened at 11:15 AM. E bound traffic let thru first because less of it. Then the great caravan bound W lined up a ¼ mi. back waiting for the rush. Looked like the opening of the Cherokee Strip. Broke camp & packed up & crossed, ourselves, at noon.

Starting Mileage = 5716.

First 50 miles tough going, passing cars up the line. Dust so thick the road could hardly be seen & hot. Kept headlights on & windows shut.

Several bad washouts along the way. (M-760 & 907) but skinned three. Chow .95

Stopped at Johnson's Crossing at N-end of Lake Teslin for brief visit with the Bob Porsild's.

Left or lost my fountain pen there. First word that Fred & Ramp's had moved on up from WH this very aft.

Gas – 12 gal @ .60 –Johnson's Crossing 7.20
2 qts. Oil 1.20

Kept on pushing & arrived Whitehorse at 8 PM. Room reservation waiting for us there & mail from home. Good to get news–Geoff has been having an awfully bad cold.

Dinner 1.50 Cigarettes .35 Newspaper .15

Car lubrication, grease, oil change 6.20

Took a stroll around town in eve & looked over the stern-wheelers that run thru Lewes R. to Lake Laberge & down Yukon to Circle City. A lively little town–Pan. Am airport on bluffs above.

Sun. 30 May 48

Chow .75

Wrote some letters & shoved off about 11 AM. Rest of gang camped somewhere around Pine Creek or Haines Jct.

Starting Mileage = 5946

Gas – 11. Am. Gal. @ .50 - Canyon Crk, M-996
5.50 Lunch .75

Arrived at camp, M-1019, at 2 PM.

Swell spot on s-side of Highway in natural prairie in aspen grove. Dominion Experimental Farm, run by Mr. Abbot, directly across road. Dezadeash Mts & Alsek Gap directly back of us. Horberg ill in Chicago with gastroenteritis–don't know if he'll get here or not. Cook = Paul Nieman. Nice setup with 8x10x4' wall tents. Brief walk in eve.

Mon. 31 May 48

Wire to Elaine (+ phone charges) 3.64

Organized camp in AM & in the aft. took a short recco trip along old Pioneer Rd. E in Shakwak Valley from Haines Jct (M-1016) & scouted some terraces. A single homesteader operating way back in there. Fished Pine Crk, in eve but no luck. Registered guns with RCMP at M-1016. This is Klauane Game Sanctuary here–all S of road.

Tues. 1 June 48

Late AM tramp with Fred up old Pine Crk. Trail toward Air Strip. No finds. W. to Bear Crk. In aft. & all checked high S-terraces. No luck trying for find Leechman's site there. Windy as hell. Mail goes out to WH on Tues. Thur. Sat. & comes in



Our tent, Pine Creek Camp, Mile 1019

on Mon. Wed. Fri. Carried by O'Hara Bus Lines. Cold night.

Wed. 2 June 48

Worked up accounts all day.

Balanced out with \$ [no amount given] cash on hand. Up to scout near Bear Crk. Summit in eve, then all over to visit Abbot's in eve.

Thur. 3 June 48

Scouted site at M-1013 beside Pine Lake; got a few chips. Mosquitoes very bad. Also reccoed E terrace of Marshall Crk. N of Hiway but no luck. In aft. up to Bear Crk. & followed old trail NE for + 5 mi. ending up on abandoned section of Hiway. Gene Jacquot & son Joe in for a visit & to bring our other car, a Chevrolet 2-door sedanette. Wrote Elaine, then down to Maintenance Camp at M-1016 with Dave Raup for movie: "Notorious" with Cary Grant & Ingrid Bergman. About 35 there + 6 Indians. Movie for 2 .70

Fri. 4 June 48

Spent morning at Canyon Crk scouting high terraces on w bank thru road cut. Found culture there (this is actually Aishihik R. under 6 ft. of dune & 24" under a layer of volcanic ash which has been dated 1400 yr. B.P. by spruce-bog analysis). [Current dating places the White River ash fall at ca. 1150 years B.P. Clague et al. 1995] Back there in aft. & began trenching down –tough work there in high, gusty wind & sand. Built lean-to of tarps around fire in eve. Mail from home & wrote Elaine.

Sat. 5 June 48

Down to Canyon-1 & got bulldozer to cut trench right across dune top thereby saving us days of work. Then began excavating a 6' trench across this cut—screening as we went down below volcanic ash. Dirty job—wind comes up in aft. & blows a sand storm. Lunch there on a bank of Aishihik R. A party of Dominion topographers forming a base camp there. Excavated early in aft. then took a hike with Hugh & Bill down W-Aishihik terraces, across Dead Man's Flat to Dezadeash R. Read in eve.

Sun. 6 June 48

Soft rain all night, but not much wetting. We appear to be in the rain shadow of mountains. Down to Canyon-1 in AM, but too windy to work in our trench. All hiked back up onto the low mountain to NW of site & checked some terraces & gravel outwash (or lateral moraines?). Also grubbed around in a porcupine cave shelter. Back to camp for 2 PM lunch. Sat around rest of aft discussing problems, reading "The Case of the Lame Canary", etc. Very heavy wind storm thru Alsek gap all day—apparently some disturbance moving up from the Pacific. Much new snow on the peaks. Not so cold this night = 41°. Wrote home.

Mon. 7 June 48

Still windy in the morning. Leisurely run down to Aishihik R. checking soil profiles at various cut banks & borrow pits, establishing spotty occurrence of the white volcanic ash stratum that appears over our culture at Canyon-1. Too windy to sift at Canyon-1, so had lunch there & went back to M-994 & thence cut S into bush to banks of Dezadeash R. Beautiful set of terraces there all duned along the top & grassy, showing prevailing SW winds at time of duning. General cloud cover all eve over camp which may open into rain, altho, they say rain is infrequent at this spot. Fred set up his 6 x 8 ½ Aberlite—a nifty little tent; must get one. Checked thru Elaine's letters. No mail today—Joe Jacquot may bring it in later from Whitehorse.

Tues. 8 June 48

Fine beautiful day with not much wind. Down

to Aishihik & worked all day screening out the trench in Canyon-1. Kept a poplar smudge going much of the time as mosquitoes were quite bad. Found good culture, retouched flake & animal bones at depth 6' below surface (present): Site occupied apparently while wind-blown buildup was going on. A good tie-in with soil stratification possible here, altho we need a geologist to verify & correlate with surrounding physiography. In eve drove up to Bear Crk. summit & down the other side for a few miles. Fouled up on mail today. Who has it? O'Hara Bus Lines or Joe Jacquot? Joe sent this pen back to me from Burwash. Fountain Pen 3.00

Wed. 9 June 48

Fine day with not much wind. Down to Canyon-1 by 10 AM (Lucy & Dave staying behind to wash. Screened out another 6" of trench & then secured because hole too deep to get the dirt out. Then studied the profiles awhile & moved around out to the road cut to gopher out the occupation layer at the base of Stratum #2. Kept at that until 4 PM then back to camp. Took a bath in Creek—great & invigorating but had to keep one step ahead of the mosquitoes. No mail again. Gang of Texans camping in our front yard tonight with a magic trailer.

Trench at Canyon-1; Note: Volcanic Ash





Raup and Johnson at Mile 1041: Pine Lake bluff in back

Wed. 9 June 48

No mail again today. Did a bit of laundry & wrote home. Spotted 2 forest fires in aft; one S down the road around Champagne; the other N of us somewhere over the Bear Pass & E of road. Wrote home.

Thur. 10 June 48

Clear hot morning. Stayed in camp with Fred & cataloged & packed away all specimens to date. Also did some laundry. Hottest day so far, up to 83° in the shade, wind out of the gap warm. In aft. drove up several miles & hiked in beaches of old Alsek lake near confluence of Bear Crk. With Alsek R. Several beach levels discernible here, with ice-push ridges, & other ice relics. Lowest beach still shows rows of dry kye [driftwood] pushed up on E shore by winds from the gap; the lowest beach marks limits of most recent lake which has been dated about 70 yrs. ago [ca. 1878] by ring-count on spruce that have grown up there since. The series of lakes in this section of Shakwak valley caused by glacial ice dams in the Alsek gap, & the fluctuations of glaciation correlate with lake terraces, stream terraces, strata of windblown soils here & in Kluane Lake area (cf. Slims River Silt). Raup

thinks Early Man came into this country in pre-forest stage & stayed along W-edge of this great fault valley; forests believed to have advanced in the country from SE. Possibly the Early Men came up Yukon R. & then across the Yukon Plateau to west of this range. Size & beach lines of the early lake which then filled this valley are important links in locating occupation sites. Mosquitoes bad in eve. Wrote to Mother, Gen'l Del., San Diego.

Fri. 11 June 48

Bill behind in camp today with a cold. Rest of us up to Bear Crk. for a second look at the terraces along the E bank above Mackintosh Post. Several more small chips, but no real location. Went down for a look at the unused Indian encampment back of Mackintosh; cabins were put there by Mr. M. to encourage Indians to come & trade. At the moment they are not being used. Mr. M. now dead, but his wife carries on. She is reputed to be rather formidable & is said to have a Ph.D. in child psychology. As yet we haven't met her. In the aft. returned to Bear Crk. & scouted the terraces along the W bank. Found a point & a scraper right near valley entrance. Rec'd a weeks mail today—the first since last Friday—3 from Elaine & 1 from Mother. Wrote Elaine in eve.



Mackintosh Trading Post at Bear Creek

Sat. 12 June 48

Very hot day & the mosquitoes out like blazes. Went to 85° in the shade & a blue smoke haze from the forest fires hung all thru the valley. All drove down the Haines Cutoff, which has been open a week now after being closed by washouts. Runs 159 miles S from M-1016 to Haines on the canal opposite Skagway & now affords freighting competition to the R.R. which has long had a monopoly. Road narrower, rougher, & has less gravel on it than the Highway, but the scenery is beautiful. We went down it to about M-97, stopping at several places to check archeology.

Found a point & flakes at Kathleen R. (M-143) a gorgeous stream coming out of equally beautiful Kathleen Lake. Had lunch at a place at M-125, at the S end of Lake Dezadeash. After crossing the Pacific divide, the road mounted to treeline (somewhere around 3000'?) & we turned back.

Stopped in at the Indian village of Klukshu (M-119) on the return; a number of cabins, cache, fish-drying racks, a church & graveyard here where the Indians come in July to gaff the salmon as they come up the river from the Pacific to spawn. Nobody lives there in between fishing seasons & no one there today. Much paraphernalia left in cabins; saw sewing machine, outboard mo-

tor, fish golf hooks, etc., etc.

Returned to camp by 5:30 all a bit done in by ride, heat, mosquitoes. Went fishing with Davey in eve 8 -10; worked Pine Crk. Upstream about ½ mi. from the bridge; caught 2 small grayling (5" + 6") but couldn't find any deep holes where larger ones might be. Must try downstream next time.

Mosquitoes out by the millions. They have been especially rough today. Saw a good-sized black bear up near divide on Haines Rd., but he galloped off.

[Note on left side of pg.] Elaine & the children down to Cambridge today. There until 28th when they leave for Banff.

Sun. 13 June 48

Very hot, still day; the summer weather seems to be rapidly pushing towards its peak. Finally left about 9 AM & went down to M-1013 where road cuts terrace above Pine Lake. Chips found here on several occasions where bulldozer has scraped down into the red soil. Troweled out a series of small squares along edge of this cut; got a few more chips. Had to keep smudge fires going back of each pit. Red soil here lies on lake clay & is wet because of poor drainage. Back to camp for 1 PM lunch & stayed in rest of aft.



Indian food caches at Bear Creek

Took a bath in the creek, did some laundry & finished “Case of the Caretaker’s Cat.” Very hot in tents until breeze came up late in aft. Drove up to Bear Crk. With Dave after dinner & fished hole just below bridge. Used a black bi-visible & finally lost count of the small ones I threw back in; at last kept 5 small chub & grayling from 8"-10" & Dave brot home 3 so we’ll have a taste for breakfast. I think we must find good deep holes to catch much in the way of fish; this hole was perhaps 3-4 ft. deep.

Mon. 14 June 48

Another hot day. Mosquitoes very bad everywhere. Got a late start & cruised down the road checking soil profiles at airstrip, M-1013, & other spots. Drove back in the trail to Pine Lake, a beautiful place. Two rowboats there, so must return for a bit of fishing. Put out a carelessly left campfire which was still smouldering in the duff. In aft. checked barometric altitudes of various sites along the road & went back to airstrip & hiked back up Pine Creek to point where its profile breaks away. Letter from Elaine & wrote her in eve. Read Dorothy Hugh’s “The Delicate Ape.”

Tues. 15 June 48

Again very hot—up to 90° in shade. Collected poplars today. In the morning up to Bear Crk.

summit & worked this side of divide; in aft. worked the terraces above Mackintosh’s. All went down to movie in eve at M-1016; Susan Peters in “The Sign of the Ram”—very good. Extremely heavy smoke haze all thru valley today almost blotting out the mts. To SE. Constable Johnson says Klu Lake fire is running out of control along 10 mi. front & is bad.

Wed. 16 June 48

Kind of a rough day—very hot, dry & mosquitoes vicious. Clouded up with thunderheads all around us, but by evening it was clear again. Still the same heavy smoke haze. Worked up around Bear Crk. AM & PM, checking profiles & chasing out lake beaches. Finally found a high level of dry kye up in a spruce woods, indicating a recessional level of Lake #2, or the high level of Lake #3, & equating with site on old Pioneer Rd. S of M-1016. No mail for anyone today. Rigged up my bednet outside between some trees for a shaded place at mid-day after lunch when the tents are too hot. Card to Jack.

Thur. 17 June 48

Again a blasted hot day with mosquitoes like tigers. Cruised around in car most of AM checking altitudes at air-strip & on thru to Aishihik R. Also hunted for artifacts along the road from airstrip



Indian dog houses at Bear Creek



Klushu Indian village, Haines Rd, Mile 119



Forest fire at Champagne



Fred and me excavating Champagne -1



Pine Creek camp

down Pine Crk. Card from Jack via Kluane. In aft. walked the -40' Alsek beach tracing it out farther & locating some interesting drowned-out stump on the strand line.

Back to camp early & relaxed. Nobody much good on these still, hot days. Smoke in valley reached record height today & almost completely obscured the Dezadeash Mts. back of us. Evening very pleasant with enuf breeze so that we could sit around the fire for first time in a week.

Thunder-heads pile up by day, but disappear each nite. Summer rainfall about 4" here, as I remember, & still none.

Fri. 18 June 48

All the Raup's in to Whitehorse in the truck after breakfast to meet Karl, supposed to be flying in tonight. Took the Chevvy with Fred & Bill & a pack lunch & drove down to Champagne, 44 miles back. Large esker cuts across from mts. Here & shoulders off the Shakwak Valley; Dezadeash running N from its lake turns hard left & runs W down valley into Alsek. Large trading post at Champagne & a very sizeable Indian village stretching back up the river. Also a well developed cemetery across the Highway.

Went up on esker to view the fire which looks very bad & raging across a front of perhaps 8 miles; has already passed over mts. to N side; huge convection clouds formed over it. Hiked back thru

post & down to river & there in a series of blown out dunes found several sites where the sand is littered with chips, bone artifacts. All neatly underlies the volcanic ash, & the X-section appears to equate perfectly with that at Canyon-1. Also found chips in site in red layer directly over coarse gray water laid sand. Spent aft test pitting; swell spot to work—just above river & strong breeze kept all mosquitoes away. Drury & I took a short swim before going back to camp.

Surprise show in eve; Betty Grable & June Haver in "The Dolly Sisters"—fair. Drove the Homesteader back to his farm afterwards. Peculiar cloudiness moved in from S today, up Haines Rd.; looks more promising for rain.

Movie .35

Sat. 19 June 48

Cooler & cloudy today. Back to Champagne with a lunch & cut a test trench at Site #1. Later moved around the bend to Site #3 which looks more productive. Chips in sites at #2 just over coarse gray sand. Raup's dropped by about noon & continued on to Pine Crk. Dave brot me back a supply of Stationery, Post Cards, Stamps, Ink, etc. etc. 4.44 4 Rolls #127 Super XX 1.40

Additional Post Cards .35

Cards from Jack & Geoff & letter from Elaine (June 15th) via Burwash—no mail from me at home since one from WH. 5 en route somewhere.

Wrote home.

Sun. 20 June 48

Soft sprinkling rain started up sometime in the night & continued thru most of the AM. Stayed in camp & cataloged specimens with Fred. Wire to Elaine.

Paul gave me a good haircut in aft. Later drove over to Pine Lake with Fred, Bill, Karl & Dave & went out fishing in the 3 boats there, using old boards for paddles. Good time but no luck. In the eve, went back to the old road crossing at M-103 & tried Pine Creek, but still no luck.

Then, in the rain, drove to W-end of airstrip & climbed down into the canyon, thru a soaking muskeg, & caught 3-6" grayling, & tossed them all back in. Cold, rainy night.

Mon. 21 June 48

Still sprinkling local showers today, & much low cloudiness. Packed lunch & all drove down in 2 cars to Champagne where we excavated for the day at Site #3. More showers. Worked thru a hearth area containing much bone & some chips. Lucy & Hugh back early to get chow, as Paul has gone home for a day or so—he may return with his family. His wife expecting 4th child in several weeks & we wonder what we might have on our hands. No mail today. Camp fire felt good tonight—chilly.

Tues. 22 June 48

Bright & beautiful day. Took a slow tour down to Champagne with Drury in Chevvy (the others in truck) taking some choice Kodachromes—good cloud cover. Worked at Site #3 for the rest of the day, getting farther in the hearth zone & getting one retouched flake scraper in situ—this made of an unusual red stone different from all surface stuff. Paul back with his family (wife & 3 children & wife's brother); their tent set up in grove W of ours. Letter from Elaine—my first 3 have now come thru (as of 16th), & all's well. Over to

Excavating Champagne-3



Abbot's for a brief while to get some news of Republican Convention which began yesterday in Philadelphia—still getting squared away for action.

Wed. 23 June 48

Back down to 34° last night. Back to Champagne with a packed lunch & put in the day at Site #3. Trowelled out some culture in situ in the hearth zone. Stopped on way home to check till deposits along N side of Shakwak valley. Beautiful day with occasional local showers all of which missed us. Two letters from Elaine 17th & 18th June. Wrote her.

Thur. 24 June 48

Breakfast at 6:30 & left at 8 for another trip down the Haines Rd. Washout at M-120 but a good ford & new bridge being built. At M-106 took off on freshly bull-dozed trail which we thot might go to Dalton Post. Followed it for 3.2 mi. down into steep valleys & over ridges, thru soft sand & some mighty soft spots & then near the bottom of a steep pitch down into valley of Tatsenshini we had to stop & block car because the road was suddenly gone for a stretch of 100 yds. Continued down a foot, & came to the dozer camp—the road being put in to open up a gold mine 12 mi. beyond [Jugeleit Brothers Mining Company according to Frederick Johnson field notes]. Crossed Klukshu Crk, on foot bridge & on to Dalton Post, another ¼ mi. Post on N-bank of Tatsenshini, built by Dalton during the stampede of '98, when he is said to have come in with women & stores to milk the gold-rushers. Abandoned now except for some fishing by some white trappers & Indians. Jack Pringle's (ex-RCMP) cabin still there & in fine shape with large rhubarb garden behind—Pringle ran the Post for a long time until his death in '43; his wife a full-blooded Indian now living at Champagne. Saw one cache full of dried salmon; also a small dug out canoe that looked very Tlingit. One of the major gold trails came up from Haines over Chilkoot Pass to WH, another up to Dalton Post which is on Alsek drainage. Divide between Tatsenshini & Lynn Canal is up in Chilkoot Pass at M-88—apparently both trails came together there & went up Klukshu to Dezadeash. What a story all that stuff would make—& what a marvelous setting the country provides! Had a time getting back



Dalton Post and Tlingit dugout canoe

up hill—very steep, sand soft, & no room to turn around. Inched back up, digging out laying spruce boughs, & blocking up front wheels; took an hour to get up to a spot large enuf to turn around in, & then the rest wasn't bad. Went on to Takhani R. crossing & had lunch there on a lovely gravel bank beside the stream. Cast over a few spots around the bridge but no satisfactory holes nearby.

Continued on up towards the divide commencing at M-88 & there opened up a beautiful inter-montane plateau, a regular alpine meadow stretching flat for miles ahead & lined on E & W with snow-capped mts., their spurs into valley truncated by some vast glacier. All this above tree-line & entire plateau a sort of bog, filled with numerous small blue lakes & ponds, full of shore birds, ducks & gulls. The turf deep, soft, & muskegy, showing strong frost-action forms. A fantastic place (elevation + 3400'), lonely, with only the wild wind coursing down the pass & the Bonaparte gulls trailing their screams above us. Found a Lesser Yellowleg's nest with 4 large spotted eggs in it. Continued on to M-80, taking many pictures until finally with much regret had to turn back, it being then 5:30. Sometime, must take that Haines Rd. all the way to the sea—a wonderful drive. Had the first flat of the season & changed it at M-126 by Dezadeash Lake. Arr. in camp by

8:15 & while having supper, in pulled the same gang from Lubbock, Texas who stopped here about 10 days ago.

Fri. 25 June 48

In camp all day. Spent most of it drawing up a map of the Shakwak Valley between Bear Crk. & Champagne so we can plot out the old lake levels. Also did some laundry, mending, boot-dubbing, etc. Rec'd Elaine's of the 20th. Heard news broadcast at Abbott's; Dewey & Warren elected to the Republican ticket, & Joe Lewis returned from the ring after KO'ing Walcott in the 11th. Cleveland leading the American League as of the 21st. Wrote Elaine.

Sat. 26 June 48

Operations rather tapering off here now—beginning to think of next move. Nothing in particular to do today so the boys & I went fishing in Jarvis R., (at M-1035), outlet of Kloo Lake. Cloudy morning & mosquitoes very bad—caught one & discovered some nice holes upstream from road. Went back there in aft. & caught 3 more, largest 12". Took Walter along, Paul's Indian brother-in-law—he fished with hand-line, hook & bacon & caught one. A fine, enjoyable afternoon. Read some "Tales of the SoPac" in eve & did some mending.

A few spots of rain from over the mts., but it can't seem to get started here.

Sun. 27 June 48

Spent a morning & afternoon trip scouting around the -40' Alsek beach in vicinity of M-1022. Turned off & followed the old Burwash trail far down into woods. Cut out spruce specimens at various levels. Found 3 old lean-to brush shelters & traced drykye far to E. Ran a level down to lowest beach & found it to be 88' below the -40'. Abbott's over in eve for visit & to see some artifacts. Cold & blustery night.

Mon. 28 June 48

Down to 25° last night & Abbott lost most of his garden. Cloudy, windy & cold AM. Down to Canyon-1; drew up profile for trench & took soil samples for peat analysis. Rec'd Elaine's of the 22nd; family leaves today for Banff. Went fishing with the boys in late aft—up to Kathleen R. Operated downstream between bridge & first small lake. Found a canoe on lake & took it out for a bit of a but soon returned again to streamside. Fish

Mr. Abbott and Indian gardener



not feeding & nobody had any luck but Karl who plucked a fine 4" trout off the bottom of a swirl. Paul pulled in about 7:30 PM in Athabasca—left Hanover 8 June, & still going strong. Stayed overnight with us & slept under the outside mosquito bars. Another cold night.

Tues. 29 June 48 Windy & cold. Povey & White left about 9. Repaired the truck tire. Began to pack; plan to break camp tomorrow & move to Burwash. Jacquot's truck coming for us at 8 AM. Got all personal gear together, breaking it down roughly for use on pack trip & boxing come up for cache at Burwash. Gene Jacquot in at supertime on way to WH; his brother Louie just died in Vancouver (never right since having been hit on head with a rock some years ago) & body being shipped by air. Padre along & the two in a ½ ton pickup. Funeral at Burwash may delay our start several days as the Indians won't want to miss it. Chilly & rainy most of the day, clearing towards eve. Mrs. Abbott over for visit.

Wed. 30 June 48

2 pr. Moccasins (3.00 + 2.75) 5.75

Beautiful bright day with some clouds. Finished breaking down camp by 9 AM then waited until noon when Archie (Jacquot's foreman) arrived in the big truck. Loaded up & off by 1 PM. Beautiful drive up to Burwash with Kluane set deep in the hills like a gorgeous green gem. Had lunch at the Post, then checked Raup's former camping spot W of road up in horse pasture—a very poor spot. Archie steered us down onto lake. Set up a beautiful site, on a gravel point almost a mile N of the Post. Mosquitoes bad today, but no wind—that will come. We are near the Kluane R. here, at the base of the Little Arm [Brooks Arm], with a magnificent panorama up & down the lake. Archie back in eve with Jimmy Joe, Moose Johnson, & one other Indian [Sam Johnson], to talk over the trip. More of that later. Cut our tent poles in a spruce burn just S of the Post. Lake like a mirror tonight—small grayling rising in great numbers; surrounded by white spruce & balsam poplar & a rare form of willow shrub. This is such a beautiful spot I wish we could stay here all summer. Gene not back from WH yet—body delayed.



Povey and White with Athabaska

Thur. 1 July 48

Post Cards 1.00

Moccasin rubbers 2.25

Jimmy Joe & Sam Johnson over & packed grub-stake into 14 panniers. Plan is to move supplies by boat 18 miles up the Little Arm & cache it there with Drury & we camped on the spot. Rest of party & gear to come later by boat & horses to be swum across the Kluane R. & driven up to cache. However: Joe Jacquot has the boat across the lake rounding up horses, & nobody knows exactly when he'll be back; storm may rough up lake & prevent boat passage; Louie Jacquot's body hasn't arrived in WH & the indefinite funeral date will delay our packers. Beautiful day with a slight haze building up. Lucy & Karl to WH in Chevy. Sorted out air photos of Little Arm country, cleaned guns, wrote Elaine & Bowen, dug privy, Chilly eve with strong southerly winds coming down Slims R. off the Kaskawulsh & whipping up the lake. Finished reading "Tales of the SoPac" –wonderfully discerning & entertaining.

Fri.2 July 48

Winds blew strong all night & still going today. Looks like a storm over the mts. Lake covered with whitecaps. Joe not back in the boat yet. Walked in to Post to see what progress. Looked

into tack room, etc. Walked around the cove beyond the Post-Indian cabins strung along bluff there, a cemetery with the usual houses & Louie Jacquot's old cabin the farthest down on a gravel point. Wrote a few post cards. In aft. took a drive on up Highway with Fred; stopped to look at glacial fan gravels on top of columnar till in cut of Duke River, & drove on up to M-1116 where road comes alongside Kluane R. Then went back to Burwash Crk. & followed a trail upstream a mile to watch a gold dredge in operation.

Met one of the 2 American owners [Rogers and Warren, according to Frederick Johnson field notes] (\$125,000 invested in their equipment) & he showed us around on the sluicing dredge. They handle about 2000 cu. yds./day. Continued back & then cut off on trail across old Duke R. fan & followed it for several miles to Buck Dixon's cabin at the point where the lake drains into the Kluane R.—a beautiful spot there with good grayling fishing there where the river runs wide & deep. Also an Indian site where Dixon's cabins are—he mentioned arrowheads etc. & “a piece of native copper with the edge beaten out” having been found there in the garden. Dixon appears to know the country like a book after some years of hunting, packing, & trapping; he mentioned the old Indian war ground at outlet of Dezadeash



Our tent on Kluane Lake about 1 mile north of Post

Lake; a burial ground a short distance above Klukshu village, on the stream before you come to the lake (this must be old because the modern cemetery is in the village); also another Indian burial ground a mile or so down the Tatshenshini from Dalton Post. We'll have to return to his place for a look around in August—it's a natural site. Some rain in the eve & showers all around us in the mts. Joe has the boat back on this side now & the horses are all rounded up. The lake has also flattened out & the wind died. Now the question is the return of Gene with Louie's body & the funeral. Maybe we can ship the grub up the Little Arm tomorrow. Wrote Mother & Helen. Lucy & Karl back from WH.

Sat. 3 July 48

2 pr. shorts @ 2.00 = 4.00

Clear morning, clouding up later with more showers coming in from the N. Rearranged pack in AM. Food panniers trucked down to dock & loaded aboard boat ready to be taken on up to second narrows in Little Arm. Gene back with Louie's body at 3 PM. Also with 4 letters from Elaine (last from Winnipeg.) Some delay while an outer box made for coffin. Took a hot shower in the Kluane Inn—felt wonderful; taxied Paul's family in to Post & all attended the funeral which

began at 5 PM & last about 30 min, to the burial. A very well run affair—Catholic services in the log mission with perhaps 50 Indians & Whites in attendance. Then a cortege of 6 cars & trucks up to the burial ground. Wrote Elaine (cf. that letter for description of funeral) & Mother (in Chicago). First boat of supplies taken up Little Arm in eve by Wilson. Decided that cache would be OK overnight.

Sun. 4 July 48

Finished packing & broke camp in AM. Beautiful clear day with a light breeze from S. Trucked all gear down to landing & loaded it aboard the large fishing boat. Wilson, Fred, Bill, & I in fishing boat & rest of gang including Paul & Dickie Dixon (along as bull cook) in outboard motor boat with Joe Jacquot at helm. We shoved off at noon & towed the outboard for several miles until Joe finally got her going. Beautiful trip up the Little Arm. Sacked out up on the bow & soaked up the warm sun. Took 3 hrs. to reach the cache which was all secure. Unloaded the supplies & set up the cook stove. Then the tents; Fred & I in his Aberlite in a pretty little spruce grove just above the beach, & the others in 2-man mountain tents. Packers (Jimmy Joe, Moose Johnson, Sam Johnson, George & Jim the wrangler) came along



Kluane Inn



Landing boat with gear for pack trip

with the horses at 6 PM. Trekked up the shore with Karl looking for a fishing hole but nothing feeding. Beautiful hike thru the woods in the 6" deep sphagnum moss. Also did a bit of casting after 8 PM supper, but no dice. Calm clear night with the Little Arm like a mill pond—it'll probably be cold. Wrangler's horses tethered below us on the beach & the rest of the string have already worked off N into the bush.

Mon. 5 July 48

Up usual time—day clear, bright, & warm. Jim had to round up the string way N up the valley & 3 turned up missing. Becky my mount for the first day—a stout-looking old mare with a Morgan nose. Packing slow; much organization necessary the first day but finally got on our way at 1 PM. Decided on short first day's run of about 9 mi. up to good pasture at confluence of Bridge Crk. [Mineral Creek] with Little Arm R. [Brooks Creek].

Some old Indian fish camps here on Little Arm R. where first riffles are. [Sam Johnson's father, Jimmy Johnson, had a fish trap here according to Frederick Johnson field notes.]

Trail followed up W-side of Little Arm all the way. Extremely rough going thru muskeg & spruce woods along the slopes of the ridge that encloses the valley. Lost a couple of packs at narrow points. Pack horses driven on loose ahead. Each pack horse loaded with 2 panniers weighing about 70 lbs each, plus a light top pack of duffles, etc, all secured with a diamond hitch. Becky a pretty sure-footed mount but her wind isn't too good. Came to the Bridge Crk. camp at 4 PM. Set up Aberlite in spruce grove on edge of the meadow.

Fishing after supper—perfect: took 5 grayling, ranging from 14"-18" (up to almost 3 lbs.), using Leadwing Coachman. Tough landing them without a net, so took off my rubbers & waded for an hour. Water not too cold thru heavy wool socks. Wonderful time; those big grayling fight hard & jump often, altho they don't strike hard, but rather seem to swallow the fly safely; trying to set hook too fast is mistake. Then they must be played carefully because their mouths are soft. Took me 10 min. to land the 18" one.

Turned in about 10:30.

Tues. 6 July 48

Hugh decided to collect on mountain so party saddled up. Fred & I remained behind to do a bit of recco in the valley.

Fish camps (formerly used at time of whitefish spawning runs) on both sides of river here. Tent frames still up on W side—these recent with old tin cans around. On E side, just above our meadow, the signs are older, & several of the old stumps were cut with stone axes. Hiked back E onto the old gravel fan of Bridge Crk. & there on ridge between 2 runoff channels located some sort of campsite: much burnt bone, 2 quartzite chips, & a semi-lunar stone skinning knife. This stuff on surface, disturbed by old burn, & apparently on top of the volcanic ash which itself lies just under the duff. No other signs: tough hunting, because everything covered deep with moss & dried muskeg. Very hot afternoon.

Party back from the mountain about 7:30, minus Moose & Jimmy who stayed up to get a Dall ram. We saw their smoke up on the ridge at 8:20 & by 10:30 they pulled into camp with over 100 lbs. of meat, split between them in burlap packs. Favorite gun up here is lever-action Winchester carbine .30-30; in winter they say a .30-06 carries farther, but it is less convenient to pack. Sat around the fire for an hour talking with Jimmy & Moose & Fred. Jimmy says best place to look for old people is at the sheep licks along the E ridge here—trail over to Big Arm goes across divide above Bridge Crk.

Four of my Grayling catch of the 5th [July] at Camp #1





North - up Little Arm River valley through Camp #1

Jimmy mentioned stone axe found at Klukshu, across the river from the village & just upstream of the bridge. Both again talked of the battle that took place “long ago” at Dezadeash Lake between Interior Indians & those up from the Coast. (These 2 peoples still don’t like each other). Battle at outlet of Dezadeash R., on E bank, on sandy point sticking out there. Jimmy said all the Coast Indians were killed, except for one who was allowed to take the word back down, & their bodies piled up & burned. Much bone, etc. still visible today. Then Moose said that the people don’t burn their dead anymore: His grandfather remembered a man who, after having been dead for 4 yrs., returned to life for 4 yrs. & told of conditions in the afterworld: people there were running around only half-burned, with no clothes, with nothing to help them live on—so people should stop cremating. After 4 yrs. this man died a second time, this time for good. After that the people stopped burning their dead & began to bury them & construct the little grave houses with the lace-curtained windows. (All of the houses that I’ve looked at are just dressed up exteriors—the insides are barren & there is no floor, just the gravel fill of the grave. I wonder what the relationship between these houses & cache burials is?) Apparently there is

also strong feeling up here about tampering with burials: Gene Jacquot tells story of man who dug one up (10-12 yrs. ago?), don’t know whether recent or old, & they “just barely succeeded in getting him out of the country alive.” Quotes are on Fred, who heard the story from Gene. That explains Fred’s unwillingness to excavate the grave out on the -40 Alsek beach.

Wed. 7 July 48

Delicious ram steak for breakfast. Day bright, clear & hot. Broke camp & packed up. Small cache left behind: Jimmy put it high in branches of an old spruce, about 15 ft. off ground; then cut off all branches for 10 ft. up & completely stripped off bark for about 6 ft. up—all to discourage bears.

Proceeded on N along the W side of Little Arm Crk. Left 11 AM. Going rough, thru muskeg all the way along the bottom of the ridge which rises at least 2000 ft. above valley floor & closes it in to a narrow strip. Short stop at 1 PM for a breather. Gradually worked into a kettle-hole topography: many ponds & sloughs paralleling the creek. Strong signs of slope wash (solifluction) all along, only recently partially stabilized by new forest of spruce, some birch & some poplar. Much dwarf birch & dwarf willow in the muskeg. Very



Camp #2 (near Whisker Crk.) - Indians around fire, roasting sheep quarter

hot for the first several hours, then clouded over with storm clouds & began to thunder & rain.

Looked like a good blow setting in so decided to stop at 3 PM (some 2 hrs travel short of the planned goal). Set up camp on a small spruce covered ridge that surrounded a kettle hole which was about 60' in diam. Just E of us the creek (here 6' across) & at the base of the ridge on the W, a wet muskeg. Everyone turned to in the rain, & the whole camp was set up in about 45 min. This looked like a hell of a place when we first struck it, but once we were organized, it didn't seem

half bad. This site was about a mile S of the E-W transverse ridge that heads the Little Arm valley; Whisker Crk. comes down from W [unnamed creek flowing into Brooks Creek about 10.5 km north of Mineral Creek, as the crow flies]. At the rate of about 3 ½ m.p.h. we came about 15 miles today.

Had roasted forequarter of sheep for supper—delicious! The Indians spiked it up before the open fire. Fooled around with the .22 after chow, & the rain cleared off leaving us a pleasant evening. Rode Pepper today—good horse.

Thur. 8 July 48

After breakfast, saddled up Pepper & rode on ahead with Fred & Bill to check the old camp sites at Whisker Crk. Many signs there of recent camps, & also old ones, in the stumps that had been cut off with stone adzes. Photographed one of these in situ: they have characteristically conical tops, as if the tree had been gouged out all around.

Near a recent camp site which still had a few pieces of rotting canvas around, I found a beautiful example of an Athabaskan birch bark cradle (see following pages for description). Bill lost his horse here & had to chase him back to camp on Pepper.

The pack train came along at 11 & we joined



*My horse, 'Pepper', (once owned by Moose)
a dark roan, 12 yrs. old*



Pack train enroute to Camp #3 - Tincup Valley

up. Forded Whisker Crk & cut E along the base of the ridge. At this point the trail to the Big Arm (about 15 mi. over) & Aishihik cuts E. across the pass, but we skirted left around the ridge & continued in a northerly course. Bore NW & climbed a high ridge which gave us a remarkable view down the valley of Tin Cup River.

Descended into tableland of kettle-hole country—classic taiga—with vast muskegs running all the way up the mountain sides & the earth a quaking bog surface that shook for 5 ft. around every time the horse put his foot down. Even the trees shook, showing how unstable the surface is on top of the permafrost. At 3 PM came to Henry Crk. & set up camp—a lovely spot—Fred & I pitched the Aberlite on the stream bank, on deep moss & a layer of spruce boughs to make it extra good.

Took a bath in the creek & washed out a shirt. Our camp here on the E side of the creek which here runs S & into Red Tail Lake [Kiyera Lake]; Sam says the lake is “about 3 miles” down. Made about 20 miles today, in 5 hrs., & have a stiff right thigh. Altho as I ride I only feel fatigued around my knees; my bottom holding out in pretty good shape. Another good supper of mountain sheep. Thick moose sign here at this spot. Small biting

flies bad & seem to thrive on smudges. Fred & I tried to figure out our route on Bostock’s enlarged map, but we can take it accurately only as far as last night’s camp: beyond that point the map’s drainage pattern doesn’t jibe with our travel.

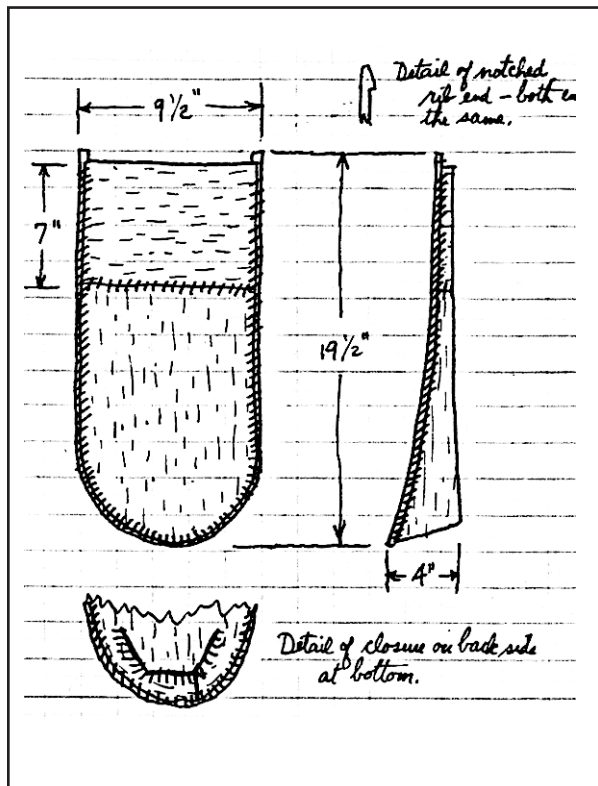
Moose says that Red Tail Lake is so called because the fish (grayling?) have red tails.

Close-up of roasting sheep quarter





Main outside edge rib is willow half-round about 5/8" diam. Stitching is simple loopover type with split willow as material. Sinew reinforcement at top on each side (NB: red markings)
 Note change of grain in the 2 pieces of birchbark covering.



Athabaskan Birchbark Baby Carrier

Found 8 July 1948, on Whisker Creek, Y.T., near its confluence with Little Arm River which flows S into Little Arm of Kluane Lake.

On S & W bank of Whisker Crk. at this point are many remains of Indian fish camps, some old (stumps cut with stone adzes), some new (tin cans, etc.)

I found this cradle about 200 yds. from creek on high ground that rises gradually into the W ridge. It was turned upside down, with the head end directed against the base of a small spruce about 5' tall; underneath was a pile of dried spruce needles. This was in a sort of flood swale coming down off the ridge. Perhaps 30' farther W, just within edge of the spruce woods were the rotted remains of an Indian tent—pieces of canvas, moccasin leather, & old cloth, lying there all reduced to shreds; also a small tin bowl 5" in diam. Cradle was probably associated with this recent camp, as no others were in immediate vicinity. A piece of rotten blue cloth stuck to inside of cradle appeared to be the same as a larger piece which I later found amidst the old tent canvas.

Fri. 9 July 48

Decided to hold camp here on Henry Crk. a day or 2 more & have a look around this section of country. Saddled up Pepper & left with the others at about 9, heading N. Crossed the creek & bore left, skirting & climbing the mountain that stands above us to the W. Valleys filled with smoke haze from some burn in the region but had some gorgeous views—especially down into Henry Pass (just N of here) which heads to the Nisling drainage. Going rough & rather hot, but continued climbing until we came up onto the unglaciated rolling surfaces of the Yukon Plateau. Above tree line here: dwarf birch (*Betula glandulosa*) & dwarf willow (*Salix glauca*) are the prevailing ground cover, plus [*Cladonia*] *rangiferina*, sedges, etc. Ground terribly hummocky & tufted & shows all signs of solifluction, both fossil & modern. At the summits are granitic outcrops which have formed into felsenmeers by congelifraction—these are gigantic in form & fossil in nature because they are at present stabilized & lichen covered; they must have been formed when these valleys were filled with Pleistocene glaciers & the barren up-



The gang on mountain above Henry Pass

lands were exposed to a periglacial climate. The same action is going on today to a lesser degree, & all the frost-forms such as turf-bank terraces, stone stripes, circles, & polygons which are gigantic in size & early in date are to be seen duplicated in small size & in action at present. The top of the till can be traced below the summits by the usual truncations of spurs & the presence of erratic boulders. Jimmy Joe says the last caribou migration thru this country was back about 1935, & then they were so plentiful the hillsides were tramped smooth. None here today—all W of the Highway, altho we did find one old caribou antler. Also on the peak above us we [discovered] an old campsite as evidenced by a few chips—probably old caribou hunters (cf. pictures K=6-15, 16, 17).

At lunch Moose told of how the old people used to cook their food by boiling in a moose stomach, tying up one end & dropping in hot stones. Moose skins were also used over wooden (spruce) frames to make boats for crossing large rivers. During the eve Jimmy Joe told of the trade that used to carry back and forth thru this country: people from the Yukon, where the spruce grows straight in the lowlands & splits easily (up here it is all twisted & bent due to solifluction) used to pass thru this trail from Aishihik, Henry Pass, or the Big Arm & take their spruce stock for arrows

where they traded it for native copper which is found only in one place on the White River, at a point about 20 miles from the present Highway.

Jimmy's father was called Copper Joe & was noted hereabouts for his work with copper. (Joe, incidentally, is the surname). Jimmy says the copper is found in great quantities at that one point (I don't know just where along the Highway the takeoff is, but I wish Fred & I could go up there with Jimmy), & he mentioned one piece of native copper there which weighed "60 hundred pounds." We got back to camp at 6 PM after slabbing down the mountain side right thru the bush. Mosquitoes & small flies bad during the eve.

Sat. 10 July 48

Clear day, smoke haze gone, extremely hot. Fred & I left at 8 AM with Moose for a hike up Henry Crk. to look at a pole tipi lodge that Moose had noticed while tracking a moose 6 yrs ago. Simply amazing the way he led us thru the muskeg flat for about 1½ mi then branched off to the left at just the right point & climbed 100' or so up steep ridge & brot us to the exact spot—after 6 yrs! I marked particularly his flat-footed rolling, typ-ically bush Indian gait that took him tirelessly thru the rough muskeg. The Camp he brot us to had unfortunately been burned down since he was last there,



Open-top brush camp on North side of Henry Creek 1 mile of Camp #3



Fossil felsenmeer and gigantic stone stripes on top of mountain north of Ptarmigan Heart - this is old unglaciated surface of Yukon



Lupine plant in flower

& Moose was mighty regretful about that, for he had hoped to show us really something. Every few minutes he'd mutter, "I wonder who burned down this place?". The camp was a circular tipi made of cut spruce poles & probably covered with moss—about 14' in diam. The deep depression in the moss was still visible as well as many butts of the collapsed & burned poles around the perimeter. Fred thinks this pole tipi may be the prototype of the dwelling in the NW interior—he saw some like this down on the Buckinghorse R. in B.C.—but we don't know for certain.

We excavated around the edges (the center was all destroyed) & found buried about 18" deep under accumulated moss, a broken skin scraper made of shaly rock (not chipped or retouched in any way & measuring about 2 ½" x 8"); a dozen or so rolls of birchbark which had been cut with a sharp (metal?) knife & cached, as Moose said, for fire kindling; also 2 shallow, oblong, rusty tin dishes, measuring about 4" x 10" & ¾" deep, with the corner joints crimped over [in the fashion of birch bark plates, according to Johnson field notes]. Construction appeared to be a layup of heavy poles with lighter ones in between (in X-section O°O°O°) to help chink the cracks. Within the confines of the lodge was a 3" stump, cut off about 24" above the floor, of unknown purpose. We also found a fragment of burned rabbit scapula, & when



Old deadfall trap, on hill north of Henry Creek about 1 1/2 mile east of Camp #3

Fred told Moose how scapulamancy used to be worked to help find game, he chuckled & said "Good idea."

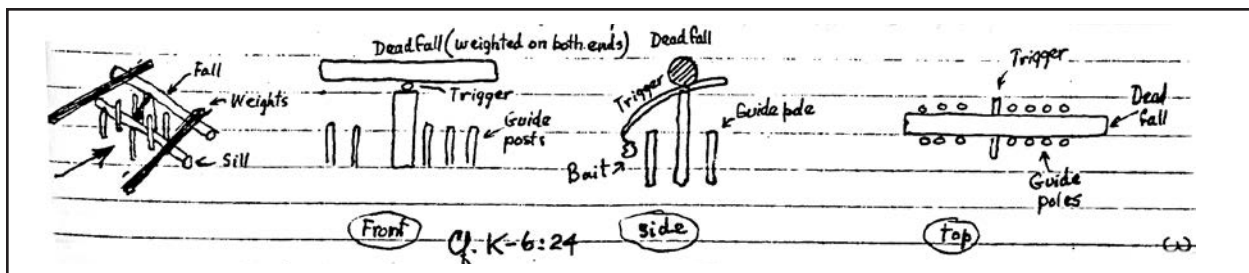
Seemingly he knew nothing of such matters, & yet he must. All the Indians agreed that the metal (in the dishes) came up from Chilkoot (Haines); one of the dishes has an Arabic "4" on it, & Fred thinks it may possibly be an old hunk of stove pipe. This camp in a peculiar place, so high on the steep slope of the ridge surrounded by deep spruce forest, but Moose explained it as a winter camp put there because of good supply of fire-wood; snow used for water. Up the hill about 100' above he showed us the remains of a deadfall for foxes or lynx, & said it probably belonged to the camp below. The whole setup formerly enclosed by brush, for disguise, except entrance.

Returned to camp at noon, stopping along way to examine briefly remains of several other camps along N bank of Henry Crk: some of these were tent frames, one had 2 dog shelters, 1 broken

down cache, & one open brush shelter (cf. K=6-23 [slide]) made of piled up spruce trees (3 or 4 to a side) & open on the front for fire; this just a wind break & about 6' square.

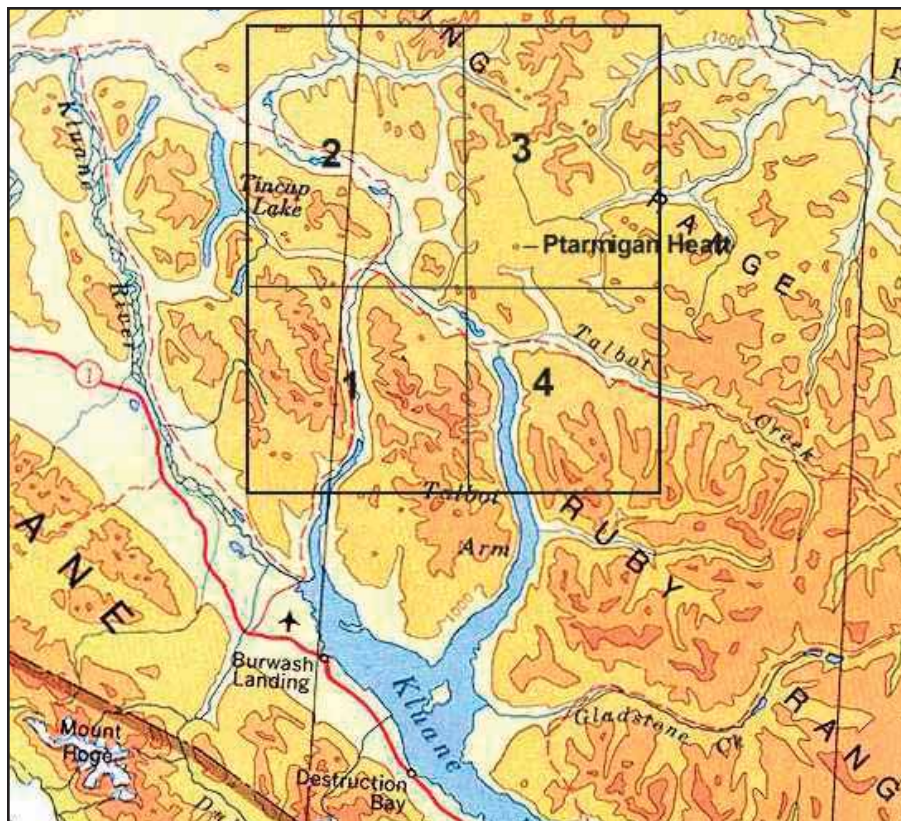
Spent afternoon in camp reading & dozing in the heat. Later in talking to Jimmie Joe, he spoke of Canyon City which the white man built on the White R. to work out the native copper deposits there. This = same place where his father Copper Joe had a cabin, & the source of Indian copper in the Yukon. Canyon City now abandoned & his father's setup obliterated by white occupation. This copper traded down to the coast: cf. St. Elias sheet for trail marked up the White R. & across glaciers.

Packed up for move to Ptarmigan Heart tomorrow. Clear & very cold night—feels like a frost coming on. Finished reading Agatha Christie's "Death Comes as the End"—a whodunnit set in ancient Egypt. Pretty good.

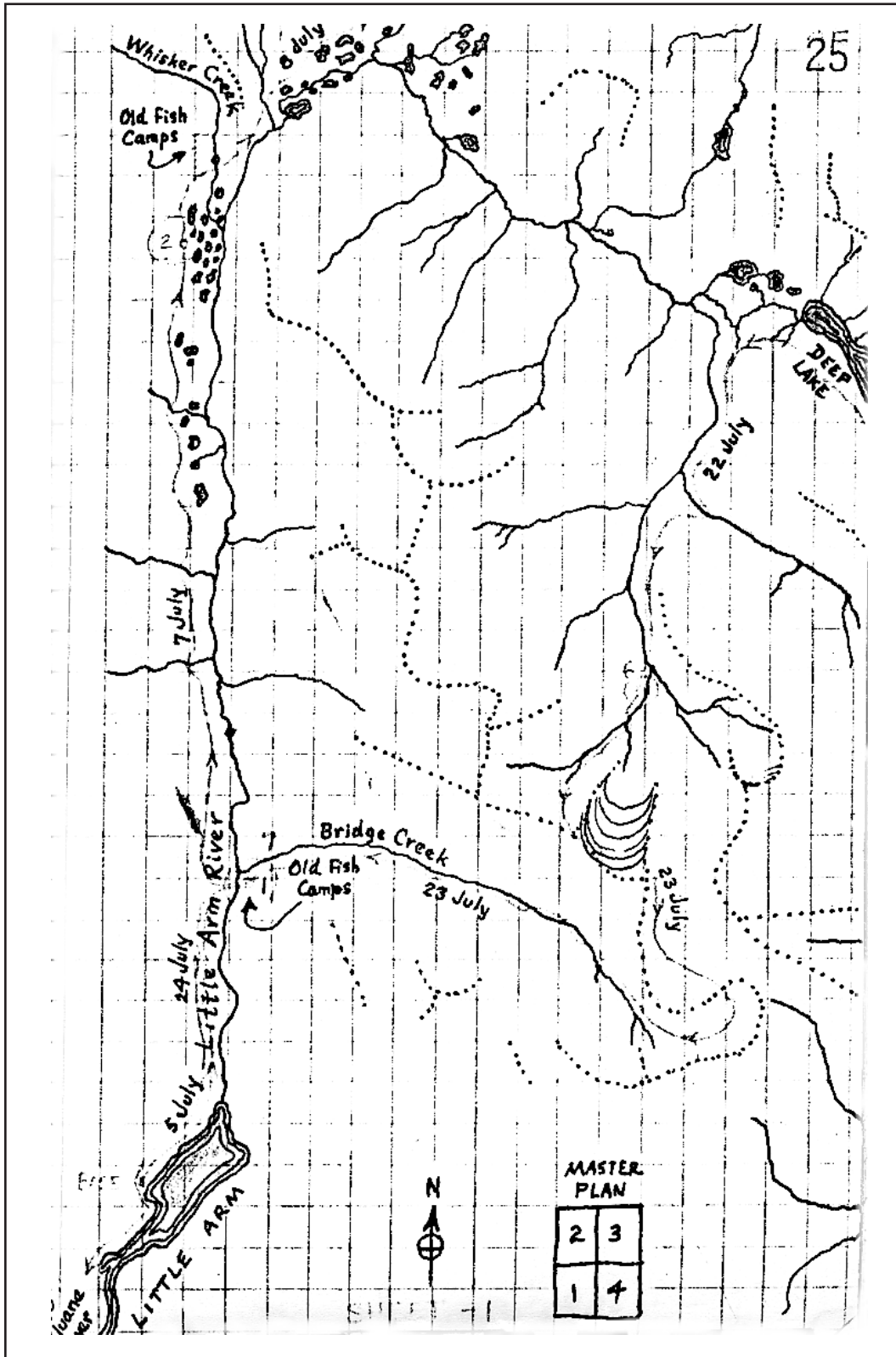




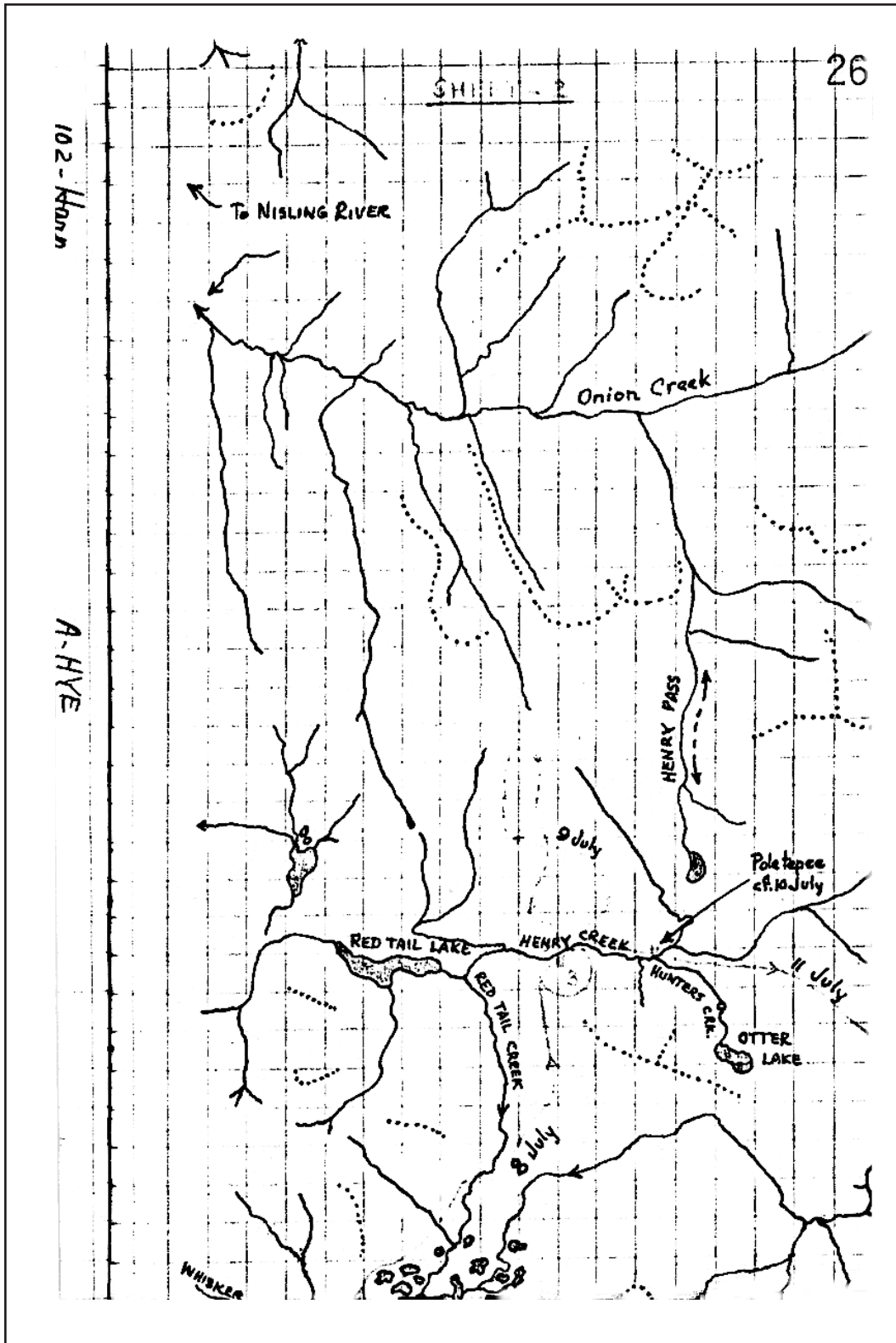
Divide between Red Tail and Ptarmigan Heart valleys—looking northwest toward Henry Pass - Note: moraine topography



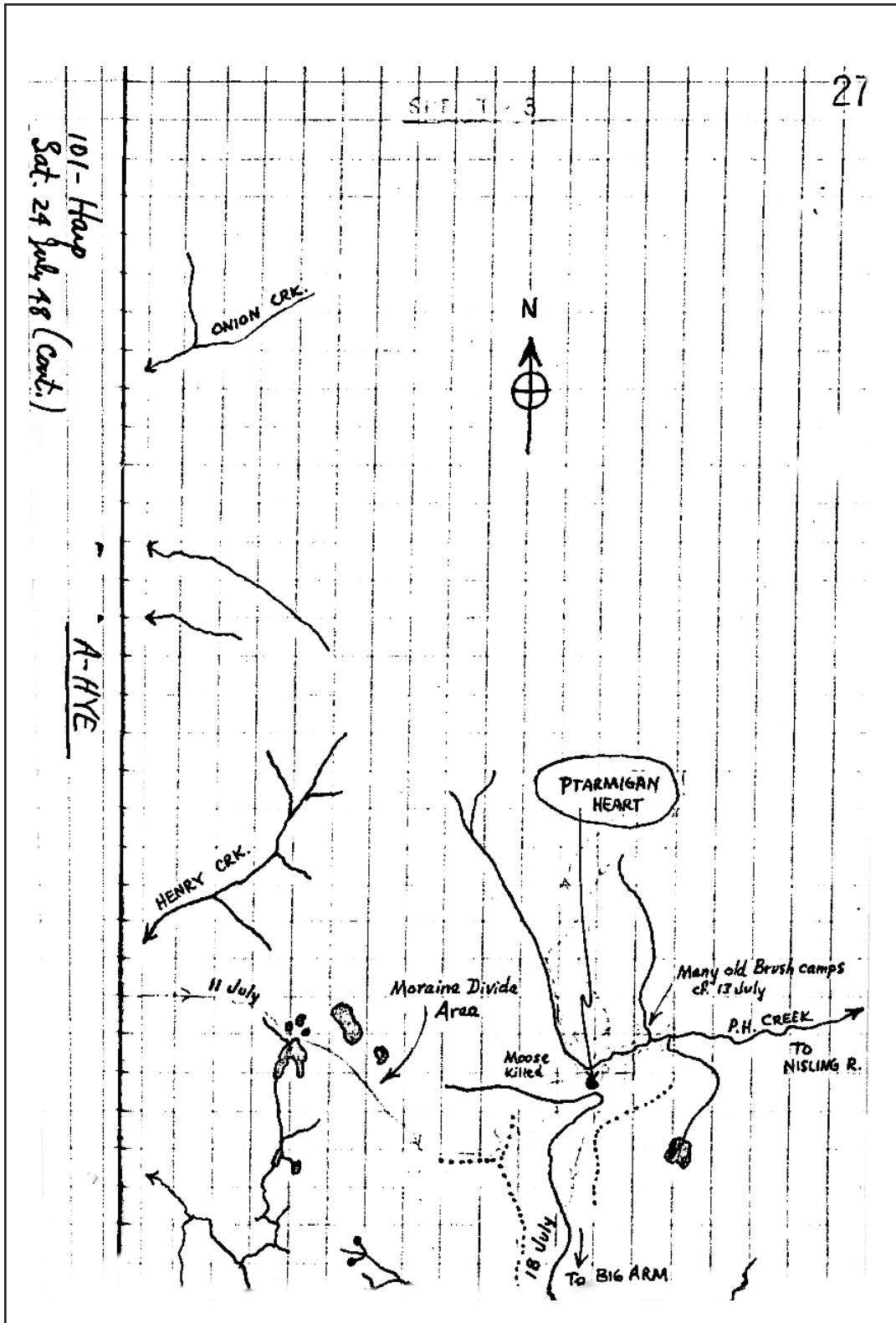
Expedition to the Ptarmigan Heart Valley - Area Map showing location of Route maps [pgs 31-34]



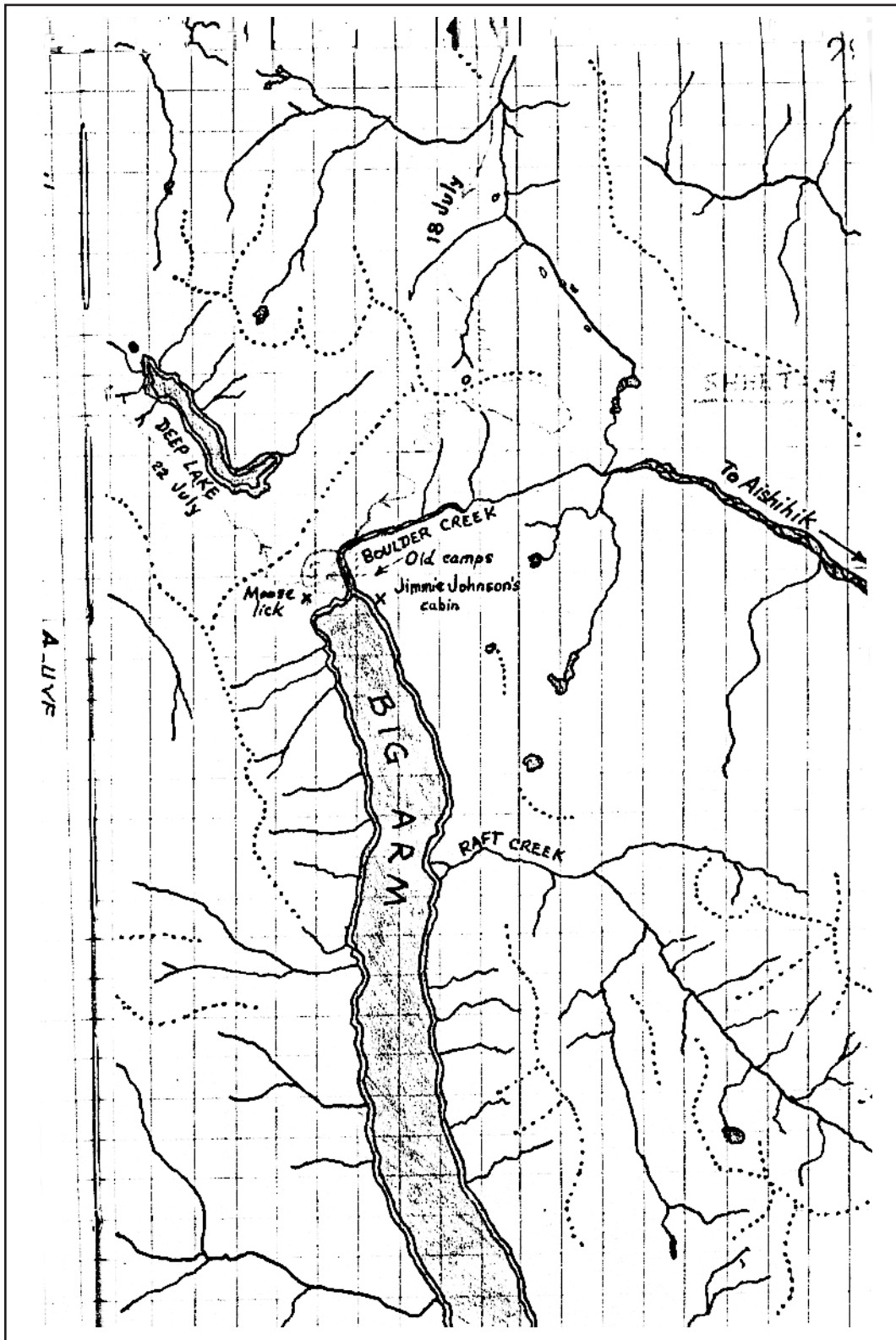
SHEET 1



SHEET 2



SHEET 3



SHEET 4



Lunch on mountain above Red Tail - Ptarmigan Heart divide

Sun. 11 July 48

Clear & hot. On Pepper as usual. All of us went ahead with Moose as guide leaving camp at 8:45. Pack train to follow when ready. Worked W & up Henry Crk. to confluence with Henry Crk. then W & upstream along latter, passing the head of Henry Pass which opens N into Nisling valley.

Came up onto the N-S divide which separates Red Tail valley (on the W) from Ptarmigan Heart [PH] valley (on the E) around noon. This is an area which typifies the knob & kettle holes, rounded knobs sticking up among them & the land between hummocky & full of [tussocks] & buck brush (*Salix glauca*) & muskeg. Scared up a cow moose. Toward noon branched to S & climbed the mountain which borders the divide & rises at the W end of Ptarmigan Heart valley.

Magnificent view from here in all directions, & PH valley is one of the loveliest I've ever seen—smoothly rounded by glaciers & closed in by mts. which grow higher as the creek descends in a series of graceful meanders toward the Nishing. Brewed a pot of tea & ate lunch up there—black flies bad but S breeze helped to hold them down. Took a lot of pictures, collected some plants, & just plain gloried in the scenery. I get the thrill of a lifetime coming into this country—we are perhaps the first whitemen who have ever set foot in it, &

it is utterly wild & lovely. As we climbed down the ridge about 4 PM, leading the horses in the steep spots, I was following Moose by perhaps 50 ft. when suddenly a moose jumped up 100 ft. to our right & raced off down thru the brush, heading for the valley. Pepper bucked in surprise. The moose had apparently been sleeping & then caught our wind as we circled down to him from above. Moose got in 6 shots at him up to 500 yds but then he disappeared in a spruce muskeg headed N across the end of PH. Remounted & with Moose in the lead we followed his trail down the ridge. Don't know how he did it: we travelled at a fast pace & I was so busy holding Pepper in to keep him from stumbling & fighting tree branches out of my face that only about every 100 yds. or so could I pick up a foot print. Crossed the brook (which flows S down into Bullion Crk. [elsewhere in notes, Boulder Creek; official name Talbot Creek] & thence into Big Arm [Talbot Arm]) which was still heavily banked with ice, & then left the moose trail, branched right & went up thru muskeg over the low divide which separates Kluane from Nisling drainage here. Suddenly the moose leapt from the woods on our left & started away across the muskeg at an amazing trot that simply ate up the ground. Moose slid off his horse & took a quick kneeling shot at 150 yds. which



Yukon fireweed on north slopes of Ptarmigan Heart valley

dropped the animal with a broken backbone, his hind quarters paralyzed. Then he moved in & placed a killing shot behind the left shoulder. The only thing I didn't like was the way he delayed the kill & wanted everyone to come in & take pictures of the moose struggling, unable to get his hind-quarters off the ground. Karl & Dave & Moose all danced around in glee, but I prefer a quick kill.

Then Moose gave us an amazing demonstration of Indian know-how; in 25 minutes by the watch he skinned out the moose & butchered it completely into the usual sections. (Moose = 2 yr. bull with small antlers still in velvet & shedding his hair.) He carries an 8" knife & a whetstone with him at all times & keeps the blade razor-sharp. Every cut & slice he took was deft & no motion wasted. Especially interesting was the way he took off the huge quarters, knowing exactly where the joints were, never striking bone once. Of course it was an extremely bloody affair & he was almost red from head to foot before finishing; he removed the entrails last & stowed the liver in

the ice-cold muskeg water & covered it with wet moss, where he said meat would last for 2 weeks. Brot back the kidneys & a side of ribs with us to camp which was just a mile away. The Indians had all the tents set up for us, which was a great treat at the end of a long day. Beautiful campsite here in a grove of old spruce & tacamahaca [balsam poplar] with [Ptarmigan Heart] Crk bubbling by 20 ft. back of our tent.

After chow took a stroll back to the old cabin which Jimmy Johnson (Sam's father) built 23 yrs ago with the help of Moose Johnson (these Johnson's say they are not related, but I wonder?). It's a fine big cabin (about 20' x 25') well set up, with a high sod roof well-constructed beams, a board floor & made of 1" lumber sawed out by hand on the spot with a pit saw. It is still in remarkably fine condition altho it hasn't been used in years & bears have knocked out the 2 large windows. Sam was reared in this country: his father & he used to trap fox when the skins brought good prices but now they no longer do. Sam's father also built another cabin at the head of the Big Arm, & another at Red Tail Lake. Sam doesn't use these any more, but has a couple of cabins down on the Kluane R (one near M-1119) where he spends winters trapping mink & marten. He makes a reasonable living doing that plus some work like this pack trip for Jacquot in the summer & fall & so is satisfied. Why not? The spell of this back country of the Yukon grows easily on me, insects or no, & I'd like to come back. The winters must be rugged, but everyone seems to endure.

Around the fire the Indians had Drury & me swapping war yarns & seemed to be fascinated by our tales of the outside world.

On the slopes north of Ptarmigan Heart





Moose Johnson



Jimmy Joe



Sam Johnson



South down pass to Bullion Creek and Big Arm - from mountain at west end of Ptarmigan Heart

Monday 12 July 48

Fine bright morning with everyone apparently satisfied to slack off & just sit around camp. Aired bedding, brot my laundry up to date with a fire down by the creek, & as the mosquitoes weren't bad, stripped down & had a fine bath. The Indians went back with 3 pack horses & brot in the moose meat. For breakfast this AM, besides the usual fruit & mush, had fried Moose kidney along with bacon & flapjacks—delicious. Brief shower of rain in aft. but it cleared again. Continued to sit around, getting caught up on notes, etc. Strolled out to the Heart; this valley is named after a glacial knob of till which stands alone in the flats about 400 yds. S of camp; it is roughly Δ in plan, about 25' high, about 50' on a side, & apparently resembles or calls to the Indian mind a Ptarmigan Heart. At any rate, it's a charming name & an enchanted valley. From the top of the Heart one has a fine view down the valley toward the NE: this end of the valley partakes of the nature of a divide between the Nisling & the Big Arm; there are numerous kettle holes & ponds along the S side, & we haven't quite figured out the drainage details yet, altho map (sheet 3) is essentially correct. The flats are covered with buck brush 3 ft. high, altho

Moose & Sam say that when they used to camp here & trap there was nothing but grass, & they kept burning it off for horse feed. Sam gave me one of the forelegs of the moose to skin out for a knife sheath, & I have it stowed in the creek for keeping.

Tuesday 13 July 48

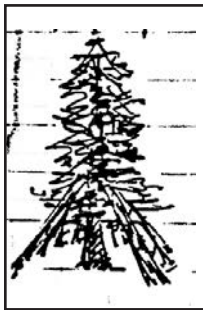
Hot morning & mosquitoes very bad—could hardly shave. Weather uncertain, but all the botanists took off for a mountain on horseback while Fred & I with Moose set off on foot for some recco along the terraces on N side of PH Creek going downstream toward ENE. Many recent camps on upper terrace (about 50 ft. high) within $\frac{1}{4}$ mi. of our camp: the usual Yukon crutches for tent frames, etc. Moose said these camps were there when he trapped thru here, but no people. Fred found two chips over edge of bank, probably washed down. Passed at least a dozen of these camps & 2 or 3 brush shelters, all on the upper terrace edge, within the first mile E of our camp. This valley is part of one of the E-W trails from Aishihik to the White & Donjek, & apparently has been long used. Jimmy spoke this morning of an old hunter he knew who came thru with his family



Brush camp, north slopes of Ptarmigan Heart valley above confluence of first tributary creek east of Camp #4

during one summer on a hunt for the winter's food supply: this Indian came from Aishihik thru PH, then S to the Big Arm via Boulder (or Bullion?) Crk, thence across to the Little Arm & down to Burwash; then NW across the Donjek to Tepee Lake & on up to the White R.; then back E to Tincup Lake across to PH & back to Aishihik. Every place this hunter picked up a moose or 2, or a caribou, he built a high cache, & moved on: perfect example of nomadic hunting, always on the go, the food quest being the prime mover behind the culture.

About 1½ mi. E of our camp we came to a tributary creek that comes down off the N slopes into PH creek & from the confluence back up hill there was a whole series of brush camps: small cut spruce stacked tepee-fashion around a large spruce, with the lower branches of the central spruce lopped off so as to create an opening & shelter beneath. We counted at least 14 of these, all on the W bank of the Creek, & altho I moved back upstream a good ¼ mi. I still hadn't reached the end of them



when it was time to return for lunch. The woods was full of small stumps, cut off for the leaning poles. (These shelters same as the 2 we found on the -40 ft. Alsek beach S of the Highway at M-1022). Moose said these shelters were very old, before his time, & before the old people had tents. We asked him about all the stumps & poles which had certainly been cut with metal axes (steel, we thought) & he reminded us that the old people had copper from the White R. He thought these were summer shelters, altho at first he said "winter". We grubbed around in several of the shelters, digging thru the deep mat of needles, but didn't find anything except a few fragments of caribou bone. After noting the first few shelters & counting the first 6 or 7, Moose remarked, "Must have been a big family here." That's possible, but what with the additional shelters I found further upstream I expect there was more than one family stretched up the creek.

Returned to camp, hot & sticky, with the clouds closing in overhead, & about 1 PM it began to rain. Also some lightning & thunder S over the pass to Big Arm—that has been very rare this summer. Later in the aft. sat out under a big spruce with Moose, George, Fred & Dickie roasting



Looking south down pass from Ptarmigan Heart to Boulder Creek and Big Arm

moose ribs before a 6' long open fire on the bank of the creek, the meat spitted on a sharpened stick. Took 2 hrs. to roast this chunk big enuf for all, & it was elegant! They give it a quick sear on both sides, then back it off for slow roasting. Moose then stripped down the outer bark of a spruce & we all ate some of the paper thin strips of the inner bark—mild & piquant; something like palm tree hearts. The Indians eat this inner bark (cambium layer) every July when it is sweet & tender & before it turns into wood. They say that poplar bark is even better—then we recalled the stripped poplar trees we saw around Paul's wife's tent after she came down to our camp at Pine Crk. We didn't know then! While the meat was roasting & the soft rain falling George told of how the Beer Parlor at Burwash burned down, & how the grizzly got to him & died on top of him full of lead, & how he walked 14 miles out of the bush & spent the next 47 days in the hospital at Whitehorse.

The botanists returned at 6 PM. Rain continued most of eve.

Wed. 14 July 48

Morning cloudy & threatening as a continuations of last night's rain. Sat around camp waiting for it to clear a bit. Botanists pressing their plants, etc. I skinned out the moose foreleg &

made a sheath for my hunting knife, using tin as a liner for the rawhide to shrink against, & keeping one of the dew claws as a point guard. After lunch saddled up Pepper & went out with Hugh, Fred, Jimmie, Moose, & Sam for some recco. Along the bluffs, going downstream on N side of Ptarmigan Crk. Covered about 5 mi. before turning back. Picked up a few chips & fragment of large scraper—all on surface & just down past the rolling edge of the bluff. Impossible to tell what the age or relationships of these may be, because of intensive frost action & surface movement, but they link up somehow with the series of open top brush camps & tepee shelters (& tent frames) which literally line the edge of the 50-70 ft. bluff. Jimmie has mentioned several times what good lookout points there are at various places along the bluffs & up on the hill tops & knobs: the old hunters probably spent a good deal of time watching & waiting for game.

Thurs. 15 July 48

Clear fine morning with a threatening hint of clouds over mts. to SE, but decided not to wait. Saddled up Winnie & left camp at 10 AM with Fred, Jimmie, and Sam. Moose stayed behind to sew up the Aberlite which was badly torn in 2 places last night when one of the horses got



Pressing plants on mountain north of Ptarmigan Heart

tangled in the lines & jerked away. (After that we had the tent area roped off to keep all the horses away.) We worked our way E continued on to the banks of the first tributary creek which rises in a lake 10 -12 mi. back in mts. & comes into PH from S-side.

Then a delightful experience, stopping & having a meal Indian fashion: as we came down to the creek Jimmie & Sam just looked for a good place to halt where everything was handy; we dismounted on a gravel flood beach & Jimmie immediately lighted a fire under the stump end of a large dead spruce that had been cast up by the waters; then he went over to the edge of the cutbank where a few poplars grew on the outside of the spruce woods & cut 2 long poplar staves. Sam had the tea pot heating in the fire when Jimmie came back & stuck a side of moose ribs up before the blaze & a string of steak on another stove; then they cut a pile of poplar branches & spread them over the gravel as a sort of table cloth. When the meat was roasted we sat around, each with a piece of steak & a rib, cutting off chunks with a hunting knife; also tea, good strong bush tea, & some cinnamon rolls obtained from Paul. That's the way to eat meat, all right!

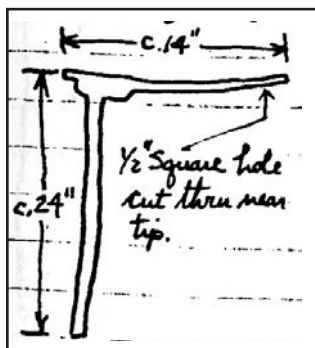
As we sat around the horses dozed at the water's edge, taking advantage of the smudge from

our fire. As usual, when we were finished & ready to move on, the fire was left burning; the Indians have no regard for fire & I have never seen them put one out (except for one instance in camp when it might have spread thru the duff overnight & got to some of the tents & pack train equipment); I suppose most of the campfires they leave continue to smoulder down in the duff for a long time; some may peter out in time; but others undoubtedly give rise to forest fires of some consequence [eg.?] the Kloo Lake & Champagne blazes? I guess this doesn't bother them—there's plenty of country & plenty of bush!

After chow we followed down this tributary, now named Mooserib Creek after the occasion of our stop there. Noted a half-dozen open-top brush camps along the banks (both sides) & stopped to scrape out 3 of them—finding nothing.

Down in the flat we suddenly came to a tremendously torn up & scarred area in a thick grove of old spruce near the stream. Jimmie & Sam immediately began to jabber in their own lingo & I noticed their mien turn grave: this was a grizzly cache & we didn't have a gun in the party! There were moose bones lying all around, the legs, crushed skull, ribs, hair & pieces of hide (still soft) and for 10 ft. around the trees the ground was all torn up & mounded in the center, branches

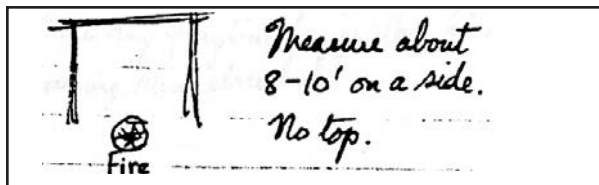
broken off, bushes mangled & great bear tooth marks gashed across a poplar sapling 7' above the ground. Grizzlies apparently make a kill like this & then stay around that spot for as many days as it takes to consume all the meat. From droppings the Indians deduced that a wolf had killed the moose, & that the grizzly had then moved in & taken over. They were definitely worried because the signs & conditions of the moose bones were a little too close for comfort—too fresh & recent. So, after taking a couple of snapshots we moved on. Moose always carries a .30-30 with him into the bush, & so would I if I travelled much in this country. Crossed over the valley flats & climbed the 50-70' bluff on N side of Ptarmigan Crk whence we worked our way back to camp. Stopped along the way to excavate another 6 or 8 brush camps & near one Jimmy spotted a fine specimen of an old stone adze haft: made of spruce, as per sketch, with a stout knot where handle & haft join; the haft was cut out of main trunk & the handle was



a branch. Scoured all around trying to find the stove that went with this, but no luck. Otherwise the brush camps yielded nothing. These brush camps (as distinct from the poles used to setup recent tents—which may be either a

combination of 2 crutches & ridge, or 4 shears & ridge) are of 2 kinds, as mentioned before:

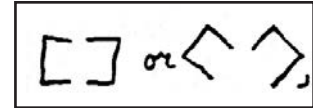
1 – The open-top brush camp:



These are winter nomadic camps & are virtually little more than wind-breaks & fire reflectors.

The walls, according to Moose, were 3-4' high & each consisted of 3 or 4 small spruces piled, with alternating butts, on top of each other. If there once were roofs on these shelters, no signs

of them remain now. The Indians say there were none. These were apparently widely used in the last generation & earlier, before the advent of canvas tents in which all Indians live now—except for a few trapper's cabins. Occasionally 2 of these open-top shelters may be found facing each other thus:



but for the most part they occur alone or in groups which are disconnected; these groups may have been used by members of extended families

2 – The tepee-tree brush shelter: (V. p.75 [see July 13], these notes, for description.) These also occur in groups, & most of them seem large enuf to hold only 1 or 2 persons sitting or crouched. Moose called them summer shelters. Sam says either summer or winter.

At one or two of the more recent tent camps we noted fish gaffs standing up against the trees—thin spruce poles, little more than an inch in diam., tapering to a long point, & about 10-12' long. I asked Jimmie what these were used on, & after a moment's hesitation he said, "Oh, grayling." Inclined to doubt that—I don't think there are any grayling bigger than 6" up this far: possibly they were used for whitefish or salmon spawning runs elsewhere.

Arrived back at camp about 6 PM—a fine day.

Fri. 16 July 48

Hugh decided to make a last collecting trip on the mountain, then dry the plants, & leave this camp on Sunday for the trip back to Burwash—we're supposed to be met across from Buck Dixon's on the Kluane river on the 25th, & our return travel time will take 5-6 days via Boulder Crk & Big Arm. All saddled up & left camp at 8:30 AM.

Proceeded up Ptarmigan Crk & N up the draw. Swinging to right we traversed up the slopes, coming out on the ridge just above camp at an elevation of about 5000'. I had Queenie for the day—lazy, & her wind no good; had to lead her a good bit to keep up with crowd. Sitting there on a rocky outcrop Jimmie found a good arrowpoint (knife?) of chert—double-pointed, about 2¾" long. The rest of us got a few chips. Jimmie ascribed this find to the fact that this was a good lookout



Northeast view over Yukon Plateau toward Nisling River; from top of mountain north of Ptarmigan Heart (Jimmie, Sam, Moose)

point for an Indian during a caribou drive, & I said that other high promontories were used similarly. Till was present also at this elevation, but probably old; altho uncemented & almost completely overrun by congelifraction. Continued N along the ridge, stopping for lunch near a spring where we flushed 2 ptarmigan. Afterwards, kept on going up & swung right around the head end of the draw whence runs Brush Crk (so-called from all the tepee brush shelters we found near its confluence with Ptarmigan Crk. on July 13th) & climbed to the peak, somewhere over 6000'. Halted below summit & made thoro plant collection. Magnificent view around 360° from the top: this appeared to be a perfect remnant of the Old Yukon Plateau & seemed to be in concordance with other summits to the NE & E. The summit itself was almost completely flat & somewhere in the naborhood of 75-100 acres in extent; it showed intense effects of frost action in some past time: fossil felsenmeers & huge polygons & stone stripes. The vegetation was Alpine & spotty—dwarf sedges, dryas, etc. with spots of small modern congelifraacts showing around at all points. Had to lead the horses down most of the way as the going was steep, the surface spongy, & eve. We were late because of so many stops to collect plants. Arrived camp at 7:30 all pretty tired; but a good day.



Cliff face and lichens - looking down into valley between Ptarmigan Heart and Boulder Creek



Making jerky out of moosemeat, Ptarmigan Heart Valley

Sat. 17 July 48

Fine & clear & hot. Botanists busy pressing their plants, & I spent most of the AM catching up on these notes. Also lay around under the big spruce by the creek chewing the fat with Sam: he is married & has at least one boy old enuf to accompany him on short snowshoe trips; his wife likes to trap squirrels. Moose has a son who is about 20 yrs. old. Also learned that chief guides are licensed by the gov't up here & it takes so many trips out with parties (don't know the exact number) to officially gain the requisite experience. Got these following tribal designations from Sam, describing people hereabouts:

Dzantushen' (Dzankutchin) = "Muskrat People" (general term for people in Burwash, Aishihik, Champagne, Snag, Ptarmigan Heart—people who live in muskeg country. May be people who speak all one dialect.

Aishihik = "A nice town" – a nice place to live

Klu-shen = "Fish People" – the Indians at Champagne (only) – (Klu = "fish")

Tchugakushen – "Yukon R. Indians" (Sam's mother one of these – different dialect but comprehensible to Muskrat People

Tagrukutchin = "Indians at Carcross"

Daltutchin = "Mountain people" – who live up by glaciers, along continental divide beyond White

R. Never heard of these people, but they must be nomadic hunters with cultural affiliations inland altho their dialect is incomprehensible & may be allied with coast.

..... = **"Moosehide Indians"**

–lived around Dawson City. Their dialect incomprehensible to Muskrats.

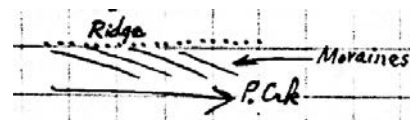
Tchugakutchin = "Live by the river people"

–Yukon R. people?

Dhun = A group of people who formerly lived around Ptarmigan Heart.

There seems to be dialect differences between people at Carcross, Snag, & Ptarmigan Heart, altho these are varieties within the Muskrat People & are of a lesser order than the difference between Muskrats & Yukon People.

About 3 PM saddled up & went out with Hugh on a short collecting trip downstream. Went down as far as Johnson's Lookout & before returning closed back in to the base of the N ridge: as we got back in came to a series of lateral, or recessional moraines that lay chevron-like against the base of the mts—probably the counterparts of these are on other side of valley altho much of them may have been dissected away.



Sun. 18 July 48

Broke camp & all riders left at about 8:45, the pack train to come on later. Headed S—past the Heart & down into the pass which leads to Boulder Crk. & the Big Arm. At first we kept to the E side of the pass, cruising along on the high till bluffs, (see route on map, p. 34) then presently we cut down into the willows, crossed thru some lovely meadows in a narrow (3 ft.), deep cleft in the soil, & in many places it was narrow enuf to step across. The water was icy & crystal-clear & we saw plenty of grayling 8-12" long in the deeper pools. There were extensive signs of congeliturbation on all the slopes coming down to the floor, much drunken spruce forest, some with wide-split trunks, others growing at crazy angles & full of bends: all due to the slipping of the surface on the permafrost layer. It's easy to see why no straight spruce was obtainable for arrows in this area, & why such materials had to be traded in from the Yukon R. country. Kept working S, crossing 2 tributary creeks coming in from the W, & gradually got up onto the ridge just W above the confluence of the N-S creek with Boulder Crk. This was a very steep climb of about 2000' & we had to make many short traverses & stop frequently to breath the horses. All the time the sky was threatening with a dark gray scud

coming up from Kluane & we didn't expect to get thru the day without a wetting. Stopped on the top of the mt. & had our sandwiches & tomato juice. Pepper in fine fettle today & the climb didn't even make him sweat unduly. There were some weathered granite cliffs on top, covered with beautiful varigated lichens, & from these we had a magnificent view N back into Ptarmigan Heart & E up the broad valley of Boulder Crk, a braided stream prone to quick high floods, which has always been a main avenue of Indian travel between Aishihik & the Big Arm (the trail runs along the N bank). Far below we could see the pack train working along in the bottom of the valley.

After lunch we followed S along the ridge & presently came out upon a superb vista of the Big Arm which lies like a giant fjord in a deep cleft in the mountains. In the mountains to the E of it noted a splendid example of a glacial cirque. As we swung around the ridge above the Big Arm, Moose Johnson spotted a bull moose browsing on the high slopes upwind of us about a mile away. We circled him upwind hoping to get in close enuf for a picture. Moose didn't care to shoot him because he said it would be too much of a job to pack him down. Some of us got within about 400 yds. of the moose, a giant old bull with a spread

Deep Lake from mountain above end of Big Arm





South down Big Arm, Kluane Lake



Sam, George, Moose sitting in old stone cache, east side of Boulder Creek

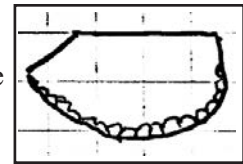
that must have attained 6 ft: he stood looking at us for a moment or 2, then disappeared over the ridge. We kept on until we reached the peak next to the W where we got a superb view of the Big Arm & of Deep Lake which lies higher in the valley to the NW & which drains that way into the Little Arm. About 10 min. after we last saw the moose he suddenly appeared again far down in the valley & we watched him approach Deep Lake, swim out to a small island, walk around the island in the shallows, & head off again for the far shore. These moose can cover ground like nothing I ever saw. When we came to descend the mt. on the S. side the upper slopes were so steep that we led the horses down well below tree line before it levelled off sufficiently to ride. Came in to camp (on the pack horse trail) at 5 PM & found things well on the way to being set up.

Pitched the Aberlite in a spruce grove on deep moss. This is an old Indian camping ground here on the W bank about ½ mi. from the head of the lake. Many cuttings visible altho an old burn (probably from a camp fire) has obliterated most of the old signs. One large high log cache collapsed. Moose showed us an open-top brush camp which he made under a large spruce in the winter of 1946 & slept when the temperature was 50° below zero. He said it got a little cold that night after the fire went out. Decided to stay here at Boulder Crk. at least one day.

Mon. 19 July 48

Some cloudiness moving in this AM & conditions unsettled. Weather muggy. Set off with Fred to explore the W bank for shelters. One or 2 in the neighborhood of our camp, but nothing unusual. We are just above the first rapids here & below the creek flattens out into deep pools & meanders thru a delta of muskeg & wet meadows to the head of the Big Arm. It is a stream prone to quick & powerful floods & all the bends are piled up with heavy log jams & the lee sides with large gravelly beaches. The water has a high content of gray clay, washed out of till banks farther upstream (glacial rock flour), & even the gravel bottom bears a deposit of this clay—the water has a milky appearance. Before lunch we worked down near the mouth of the Crk. then cut right across the muskegs to the base of the ridge which

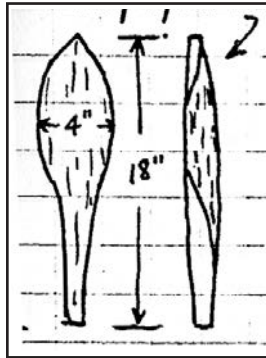
runs back of camp. This ridge is flowing under frost action & is covered with drunken spruce forest par excellence. At one point, a 50' high cut bank with an exposure of clay there is a moose lick & trails fresh & old, young & adult, come thru the forest from all directions of converge at that point—there is a salty encrustation on the bank (alkaline?) which is apparently what they are after. Also quested a bit upstream of camp on this side, but nothing. After lunch, we crossed the stream & on the other side struck a whole series of camps. (Crossed over on a large spruce which the Indians felled from this bank to the other; then they chopped off the topside limbs, & strung over a cinch rope for a safety line. On the E side there are about 3 different levels of stream-cut terraces all covered with dense spruce woods & the camps occur on the 2 lowest of these (about 10' x 40'). Most of them are of the open-top type, & although we saw at least a dozen stumps that had been cut off with stone adzes, we could find no trace of these older camps. The moss cover is so deep that it soon buries everything that settles to the ground. Also saw about 3 of the tepee-type shelters built in under the bases of spruce trees & one of these yielded a crude semi-lunar slate skin scraper: this was 6" long OA [overall]. & 5" deep & 5/16" thick (Same as the smaller one which I found at the Bridge Crk. camp.) Moose said his grandfather used to use one just like that only smaller for gopher skins. Also from this same shelter came a broken arrow shaft of good straight grain spruce (which may have been traded in from the Yukon as none grows around here).



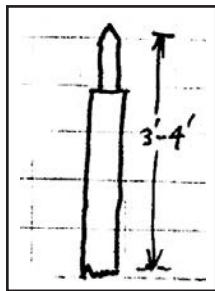
Jimmie Joe says that Yukon people used to come to White R. copper workings with whole bundles of spruce arrow shafts which they made or traded copper pts for. (Incidentally, Jimmy says these old copper workings are one-day's journey on horseback in from M-1146.) In talking of bows & arrows there, Moose said that birch made the best bows in this country, birch dried for 2 yrs. I mooched downstream farther along the lowest terrace which blends into the old 11 ft. beach of Kluane (on which Fred found stuff in '44 at the base of the Little Arm) & ran into a series brush

camp all the way. The entire E side of the Crk. from the first bend down to the lake & beyond is literally dotted with camps & shelters.

Along a moose trail I picked up a trap-paddle, made of spruce, & used to smooth the snow after



Trap-paddle



Spring pole

a trap has been set so as to remove all signs of human disturbance. Also found a trimmed spruce pole used in tanning moose hides: this was originally cut on a standing tree & the top shaped as sketched; the hide is doubled around the tip; the tanner stretches the loose ends back taut,

& twists, as in applying a tourniquet, so that all the brain water is wrung out of the hide before it is hung up to dry.

In the eve chewed the rag with Fred on the Newfoundland question. He thinks it's a good thing, altho it might take 5 yrs. to work it all out. First whole

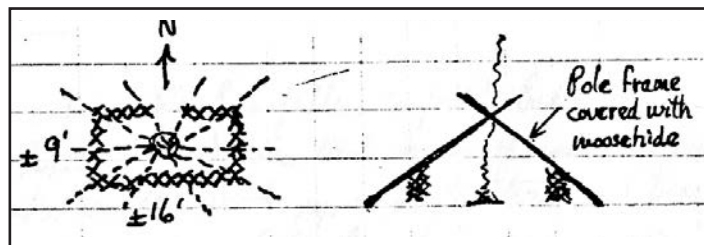
summer ought to be intensive reconnaissance, later ones could be shorter sessions of excavating. Read up Hawley, Speck, Wintenburg, Jenness especially. Visit the Nat'l Museum in Ottawa & see their collections (Jenness now retired). Discussed the Arctic Inst. Fellowships worth \$2500. & decided that amount ought to cover a summer reasonably: basic figure he uses is \$10./day, & then adds travel, equipment, etc. etc. Suggested that after I go over the literature that I write a paper on the relationship of Newfdld. With NE archeology as a whole: the problem of Eskimo, Laurentian, Beothuk, Micmac, Naskapi, & Montagnais. This ought to make a good thesis & perhaps one summer's field work would be sufficient for that purpose. As it stands now I have until the first of the year to decide if I want to tackle this beginning in 1949. Why not do that & hold the Connecticut Valley stuff for the school year? Guess archeology up there is just as tough as it is in the Yukon—specimens are pretty scarce. Rain during the night. Decided to keep this camp one more day.



Flooded out of Camp #5 at Boulder Creek

Tues. 20 July 48

Threatening morning with low cloudiness, but started off about 9 & crossed the creek. Up on the 50' terrace, almost as far down as the mouth of the Crk. found a group of 3 tepee shelters different from anything we have so far seen. They were rectangular in shape, & the space enclosed by the brush walls measured about 9'x 16'. The door, in the center of a long side faced N, & the hearth was in the center of the shelter. Sam said that poles were laid up over these walls tepee-fashion & the frame was covered with moosehide. The smoke hole was at the peak of the roof. We weren't exactly certain about the extent of the covering from Sam's description but apparently the wall



of spruce trees was laid up first (ordinary open-top brush camps have walls 4-5 trees high with alternating butts), then the frame poles laid over, then the hide covering which apparently reached down to the ground. These are supposed to have been made by local people—not outsiders & they are fairly old; one of them had a 63 yr.-old spruce tree growing inside. We excavated 2 of the 3 & got one tin dish, exactly like the 2 that came from the pole-tepee at Henry Crk, except smaller (this one measures 3"x 4" approx.) (Fred thinks the log-tepee at Henry Crk—which Moose said was sod-covered—is distinctly an aberration in this country & comes from Yukon R. way.)

In the afternoon, worked along the E side of the Crk. & down the lake as far as the Cabins of Moose & Jimmie Johnson (Sam's father). This entire stretch is also full of camps of all the aforementioned types (except the group of rectangular hide-covered tepees which are so far unique—to us). The lowest beach is strewn with drykye & fragments from recent fish camps. Picked up a wooden net float here; also numerous hearths containing burnt bone, etc., etc.

Looked around the old Johnson cabin which has fallen in pretty bad disrepair (Moose's is better) & Fred picked up several interesting old Indian tools made of nails & hafted in bone & wood. [Were given by Sam Johnson old knife, awls, and implement to make circles in sheep horn spoons. Also partly finished sheep horn spoon. These were picked up by Sam's father not far from his cabin, possibly from a nearby brush cam. Frederick Johnson field notes.] Rain set in there.

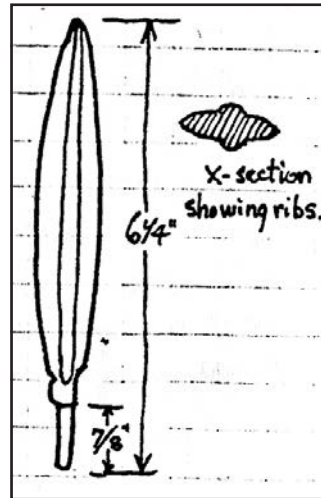
Coming back thru the woods up on the 50'

Raups and their mountain tent at Camp #6



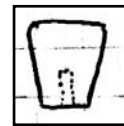
terrace (beach here?) found a couple of old tepee shelters under spruces (all these large spruces vary from 150-200 yrs. in age & their size covers a tremendous range depending on whether they have been caught in slumping.)

Digging in one of these Moose discovered a splendid bone arrowpoint—actually made of



horn (probably of moosehorn). Maximum thickness thru ribs = 5/16"; maximum width of blade = 5/8". The hafting tip carved round a bit less than 3/16" diam. The unusual thing about this point to me is the raised rib down each side. Also among the collection of awls (mentioned above)

that Fred got at the cabins was a blunt-end bird point of bone, a widespread culture trait in North.



Digging further produced nothing, & as the rain was coming down hard, set off for camp. Delayed a while with Jimmie & Sam & crawled in under the branches of a big spruce, digging a regular den in the needles—a perfect example of the Indian way of getting into dry place quick.

[Note on left margin of notebook: Yellow-jacket nests thick all thru the forest moss.]

On the way up the lake beach we discovered a burial which had a frame of 4 logs around it & a low haphazard pile of stones, the whole thing raised very little above ground level. This occasioned some talk of burials, & I think it was George who mentioned the old-time burials at Weskatahin, the abandoned village on the Tatshenshini 2-3 miles below Dalton Post, which were raised log cache burials of burned bones. This apparently was the way the old people did it before they began building the burial houses we see today. The narrator's name & the exact location of this story are hazy to me, but the cache burial of burned bones is OK.

Jimmie Joe, under the spruce tree in the rain:



Fording mountain stream in flood - above Deep Lake



Fording mountain stream en route Camp #6 to Bridge Creek

the black flint (obsidian), which is found down Champagne way, all comes from one place back in the mts.—on the S-side of the Kaskawulsh River just about opposite the confluence of the Jarvis R.

Forgotten yesterday: next to the tepee shelter where Fred got the scraper & arrow, was an empty stone cache which all the Indians agreed was older than the shelters. This was a dish shaped depression about 5' in diam. & perhaps 10" below ground level, ringed with till boulders about the size of my head. When the meat was in it the whole thing was covered with these boulders, & apparently this sort of cache is of a very temporary nature: when something more permanent is wanted, a high log cache is put up—cf. K:7-29 & B-42 [slides].

Rain all eve. Retired to tent early—wrote notes & read by candlelight.

Wed. 21 July 48

Forgotten from yesterday—Moose's story of the sweatbath: Sam has had a cold for several days & so the discussion turned into that vein while we were excavating the rectangular tepees. Fred told how he treated such an affair by sweating it out with hot whiskey etc, & then Moose came in with his version: the Indians make a little canvas tent (tepee?), then they put in a few big rocks that have been heated in a fire; then 2-3 people get in & close the canvas up tight & pour water on the hot rocks. The steam gets so thick, he said, you can scarcely breathe. This is a therapeutic sweat bath, but we couldn't get him to develop the idea any further, to see if there were any ritual connected with it.

Soft gentle rain fell all last night & continued all day today without letup. The low scud keeps coming in from the NW & we are shut in all around. By water, too: we're on an island now; the creek has risen at least a foot since the rain began 24 hrs. ago & it has turned into a wide, fast-moving river. Our tree bridge washed out last night. Decided not to move camp in the rain, as this looks pretty widespread, & it's too miserable travelling wet & setting up in the wet. Anyhow we still have time to spare: it is 3 day's travel from here to the Kluane R. Sat around all day under a big tarp before a fire, or else in the tent. Read Agatha Christie's "The Hollow" & began Ngaio

Marsh's "Death of a Peer". Have candlelight in the tent.

Thur. 22 July 48

Rain continued all night—we awoke in it & found Boulder Crk now swollen to a river about 15' from our door. Camp isolated on an island which was growing smaller by the hour. Behind us, 2 harmless-looking sloughs had become new stream channels & the driftwood was dashing past us in the flood. The weather showed no signs of clearing, & if we waited another 24 hr. we might be dangerously marooned, so decided to get out.

Got packed up, broke camp (this = #5) & left at 11:00 AM. Bad crossing the 2 sloughs & got wet to the knees when Pepper stepped into a hole. Went thru continual showers & fog & climbed up thru the soaking spruce woods over the divide & down into the valley of Deep Lake. Skirted the S shore, staying well up on the slopes & passed thru some more beautiful knob & kettle country dotted with numerous ponds which are quite hidden until you come very close to them. Bore left & climbed S up the E bank of the first main creek we came

Pack train above Bridge Creek



to: this took us up into the heart of the range that separates the Big from the Little Arm.

All the creeks are raging torrents of white water due to the past 36 hrs. of constant rain & one which we forded really took a nice bit of doing. Across the valley of Deep Lake which extends W to Whisker Crk (the latter named from “Old Man’s Beard”, a lichen which covers the spruces here) the rain continued to funnel down toward the Big Arm, obscuring the mt. tops. Two very lovely hanging valleys in the ridge N of Deep Lake. Worked our way up S into the range, gradually coming out above treeline; the going very soft & boggy, water streaming down the slopes everywhere. At 4 PM crossed the stream to the W bank & made camp on its very edge in a patch of brush willows—nothing but bushes here, the tallest of which isn’t over 10' high. Set up with crooked crotches & cinch ropes. Quite a spot!

Normally one couldn’t even conceive of a camp in a spot like this, but it’s really very lovely: the creek roars by beside us, the scrub willows give us some protection from the cold wind, & we’re less than a mile from the height of the drainage. Above us are great screes of slide rock & the heart of the range has been carved out a magnificent glacial cirque which is now half obscured by fog & low scud & patched with new-fallen snow. We got out of Boulder Crk. just in time; tomorrow we climb over the ridge & come

down Bridge Crk. back to the Little Arm.

Apparently the Muskrat People are well acquainted with the floods of Boulder Crk & Sam told a nice little story about it (this from Fred): Once upon a time (in the old days?) when all the people were in their brush camps along Boulder Crk, the stream rose very suddenly in one of its floods & forced them out so fast that all their earthly possessions were swept away from them. One old man was able to save his bow & arrows & flint & steel & with that the people went into the mountains & hunted for caribou (& presumably, were thus possibly saved from extinction). [Story from Sam’s grandmother according to Frederick Johnson’s field notes.]

Climbed part way to the peak after supper & enjoyed the wonderful view of the Alpine meadows. Cold night but weather apparently clearing.

Friday 23 July 48

Got some pictures of camp 6 & the mist-filled valley before breakfast & then broke camp. Weather still uncertain: overhead & towards the Big Arm it continues to look bad, but W toward the Little Arm it appears clear. Left at 10:30 & continued climbing toward the W, bearing left around the great central peak of this range which has magnificent cirques carved out of it on at least 3 sides. At the end of a ½ hr. on horseback (Pepper

Ridge east of Bridge Creek. Elevation close to 6000 ft.





Roundup of horses at Camp #6



Signal fire from Little Arm to Burwash



Buck Dixon's place on Kluane River

a good fellow, as usual) had to dismount & lead because the going was too stiff. Continued thus until noon, when after surmounting the last 200 ft. up a steep scree we reached the saddle of the ridge & could look down S into the drainage of Bridge Crk. Marvelous vistas of Alpine valleys here, a classic cirque in the heart of the massif with a tarn in its bottom & the solifluction slopes with their waves of turf banked terraces. Took many color pictures but cloudy overhead. Left the train at the saddle & climbed the slide of the ridge to the W & looked out across the tremendous snow-covered peaks of the coast ranges. From here on it was down all the way, & so steep to begin with that we had to lead the horses for another hour until we had swung right around the ridge & come down into the gorge of Bridge Crk. Sun out now, altho we briefly came under the edge of a convection shower. Tough going down the gorge, crossing & recrossing, then crossing again the swollen creek, until at last the trail remained put on its S bank. Here the slopes were boggy below treeline & the long heavy train scraped away the turf in many places so that those who rode last frequently had to seek new trail because of bare ice that was exposed when the turf was gone. One or 2 goes with yellow jackets, & Pepper kept up his yen for jumping small draws—he's good at it, too. Worked

our way down the last terrace on foot leading the horses again: much of the valley & lower slopes have been recently burned & the surface is brilliant with whole fields of fireweed. Came to the Little Arm river at 4:30 & setup Camp 7 on the site of Camp 1. Easy for Fred & me because our stakes & poles were all here waiting for us. Black flies & mosquitoes bad here as they were last time. Thought to go fishing & try for some more of those big grayling, but the river is at least 12" in flood & muddy so didn't bother to try. Cloudy again tonight, but I think we're better off in this valley than we were in the Big Arm.

Sat. 24 July 48

Indians worked hard for an early start & we were packed up & on our way by 9:15. Cloudy morning with threat of rain. The valley here is gorgeous now with great masses of fireweed in full blossom—unfortunately not enuf light to shoot it in color.

Followed our same trail back down, altho it was considerably soggy from all the recent rain. Rode on Pepper at the head of the pack with Sam in the lead, Jimmie Joe, Paul & Bill & had difficulty at many points in keeping the pack horses behind us: they kept pressing hard, sensing the road home.

Reached site of Camp-1 by 11:45 & kept

right on going on the last leg to the outlet of the Kluane R. About 12:30 PM we rounded a point in the Little Arm & could see Burwash perhaps 10 miles away. The Indians decided to put up a smoke signal to let them know we were coming, so they built 3 fires 100 ft. apart. While Jimmie was dragging in logs for the center fire, Moose got a great stump going on one end, & Sam calmly piled in some brush at the base of a 50 ft. spruce & before we knew it the whole tree was a thunderous blaze. I'll never forget that signal! Amazing the way these Indians treat fire—they just don't give a damn. When we left, Sam's spruce was still burning around the base & nobody seemed to mind the clump of 3 other big ones that stood right next to it.

Pushed on at a good pace, the trail following the shore line so that many times we had to wade into the lake to by-pass blowdowns & outcrops, & reached the little island opposite Buck Dixon's on the Kluane R. at 2:15 PM. Unsaddled & unpacked here in the poplar thicket & then the whole string of horses was swum across the river in high water & about an 8 knot current. The smallest colt had to hoist itself onto his mother's back in order to make it. On the other side they were rounded up & driven home to Jacquot's pasture W of the Highway. We sat around & waited until 6 PM before Wilson came in the fish-barge to pick us up—the *Josephine* is out of commission, & Wilson had been across the lake all day. Lucy rustled us a spot of grub on the island, as everyone had gotten pretty hungry waiting.

Lovely boatripe back to Burwash, altho we had to tow the barge along the island for 50 yds. to get it out of the stiff current. Arrived back at the dock by 8:30, loaded the necessary panniers into the beach wagon & pro-ceeded out to camp to set up the tents. Gorgeous, flaming sunset. Fixed for the night & then sat up by candlelight until 11:30 reading a swell batch of letters from Elaine—all's well with the family.

Sun. 25 July 48

Fine bright day. Made 2 trips in station wagon & got our cache out of Kluane Inn basement so we could reorganize. Wilson made another trip in the boat to the Kluane River & brought in the rest of the gear we had left behind last night &

we unloaded it in the cove just N of camp. Bill & I set one tent up in the spruces this time, not on the exposed point where we were before, because the wind is mighty chilly these days, & the lake is covered with chop & whitecaps. Spent the whole day getting settled down, building new caches, etc etc. Wrote to Elaine in the eve. Oh yes—a wonderful hot shower at the Inn!

Mon. 26 July 48

Expended

Stamps .40

Airmail charge on package of water colors to Elaine .50

Bow & arrows for Jack 5.00

Cloudy, windy & cold today. Spent all the morning bringing laundry up to date & strung up a good long line full of it. Wrapped all our artifacts picked up during the trip & then went in to the Post. Bought a small bow & 2 arrows for Jack, & Jimmie. Joe said they were made by his father's brother Copper Jack (who is, incidentally, Paul Nieman's father-in-law). The bow is a good birch wood model of an Athabaskan reverse curve hunting bow with sinew cord & cord stop. The arrows have fine bone points (one with a native copper tanged point), & they fit with tapered ends into holes in the arrows so that the point detaches in the animal & the arrow shaft falls away & is saved from breakage. The bow is held horizontally, hand supine, & the release is with thumb & forefinger & second finger. The arrow is held up away from the bow in first stage of pull so that feathers (usually 3) do not drag & break down. Jimmie's father, Copper Joe, always used a bow for hunting in his day, & when he finally obtained a rifle he carried it only as a standby. Moose Johnson's father is said to have once driven an arrow clean thru a bear & buried it in the ground on the other side. Jimmie says the old hunting bows were heat-hardened to whatever strength of pull a man had, & that he himself could take an 85 lb. pull.

All the Indians are drunk as lords now & have hangovers to beat hell, but they all reiterate what a great trip they had with us—the best ever, they insist. George John wants to go with us on our projected jaunt across the lake & I hope he can. At the moment our plans for that our somewhat up in



Indian women of Burwash (L to R): Jessie Joe (Jimmie's sister) Mary Jacquot (Louie's wife, Jimmie's sister) Mrs. Jimmie (Sam Johnson's mother)

the air until the *Josephine* gets fixed.

Paul went in to WH yesterday to see how his wife's accouchement was faring, & he returned today with news of a 12 lb. boy!

Tues. 27 July 48

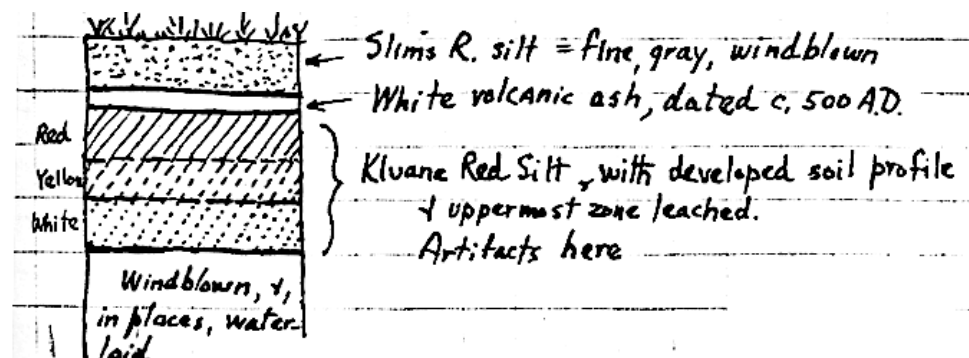
5 arrows (for Dartmouth College Museum)

Expended 5.00

Around camp most of day, continuing to reorganize affairs. Wrote some notes & about 15 postcards to people back home. Drove in to Burwash to catch the 11 AM bus to WH which takes mail in (BYN [British Yukon Navigation Co.] has the contract now).

In aft. all drove down to M-1074 to surface hunt terrace site which Fred picked up there in '44. Check places where bulldozers working on old pioneer road had stripped off upper layers & left Kluane Red Silts exposed. Numerous chips here & several utilized flakes retouched into scrapers, etc. Various materials: flint, chert, chalcedony, felsite, obsidian.

In eve after supper had a visitation—Indian women from the village—a social call: two of Jimmy Joe's sisters, Jessie & Mary (Louie Jacquot's wife); Sam Johnson's old mother; also one other whom I don't know, half a dozen kids & 4-5 of the teen-age belles with their powder,



lipstick, slacks, turbans, jacket worn capelike, etc. They thawed out remarkably well around the fire & got a huge kick out of seeing some of the "old peoples" artifacts we had found. They quite evidently think it's incredible that we should come all this way & at such expense just to collect those few paltry things. These women don't have much knowledge of the old culture: the broken red slate (?) scraper from the Henry Crk. pole tepee they called an adze blade—which it certainly is not; & the small flint knife from Ptarmigan Heart they called a fire-making flint—which it couldn't have been. Of course, they have trouble expressing themselves in English. If only we could have understood their asides to one another in their own lingo! The promised to return tomorrow aft. to show us some things.

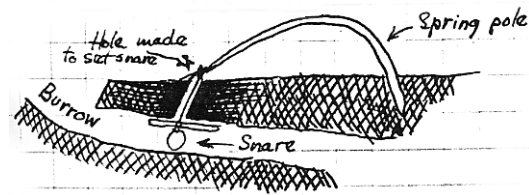
Wed. 28 July 48

Cold night & cold morning with wind out of the NW & threatening squalls all around. Fresh snow on many of the lower peaks. Summer is over! Read a whodunnit in the AM & wrote to Mother & Helen (now back in Cleveland).

In the aft. had another visitation from some of the Indian ladies of the village: old Mrs. Jimmie Johnson (Sam's mother who came originally from the Yukon R. country); Mary Jacquot (Louie's wife & sister of Jimmy Joe); Jessie Joe (another of Jimmie's 5 sisters, unmarried); also a few miscellaneous kids. Old Mrs. Jimmy had brot along some of her old things to show us: birchbark baskets stitched with spruce roots (she & Mary will try to get some birchbark from the White R. at M-1156 & make some more baskets for us in the month that we still have); an old sheep-horn spoon of her mother's (fashioned by boiling to soften so it could be split, cleaned & shaped; sinew & a piece of tanned moosehide; old Mrs. Jimmie had made herself a fine awl by setting a large steel

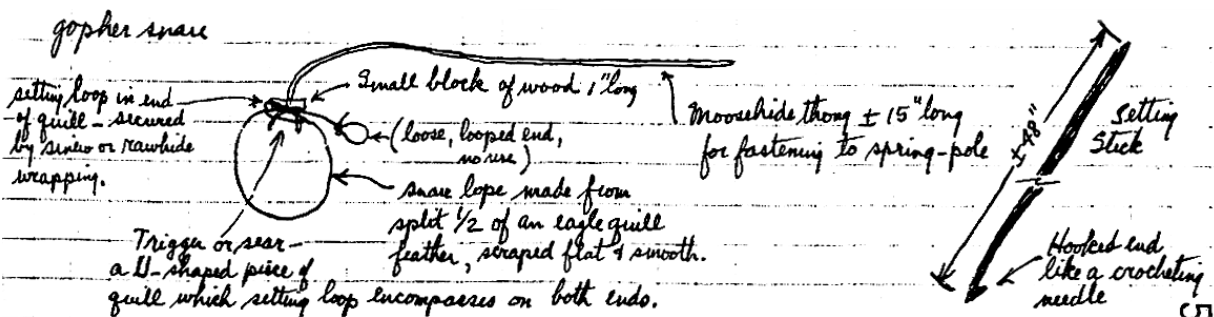
needle in lead in a handle of black goat horn; also she had a handful of gopher snares, a long crochet stick for setting them; & a couple of sinew rabbit snares. She said one woman used to carry & set as many as 250 gopher snares in a day. The gopher hides are tough & are used sewn together for blankets, some parkas, winter moccasin liners, etc. Then we went out into the woods & she showed us how to set a gopher snare.

Locating a suitable burrow, Mrs. Jimmy took her long crochet stick & poked a hole down into



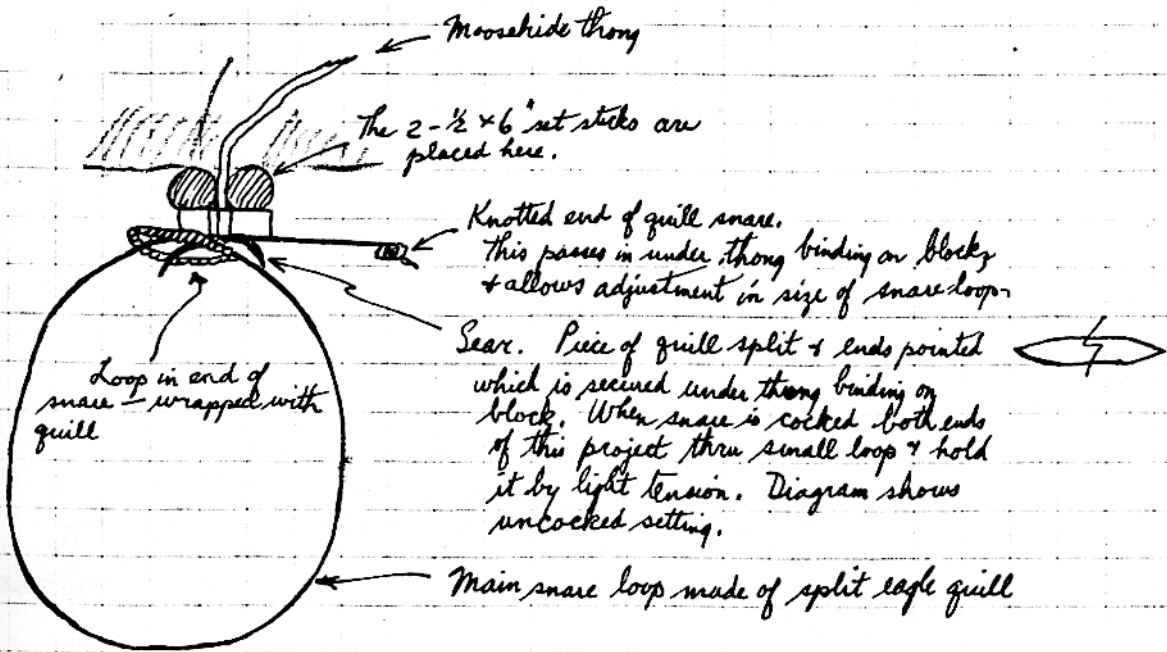
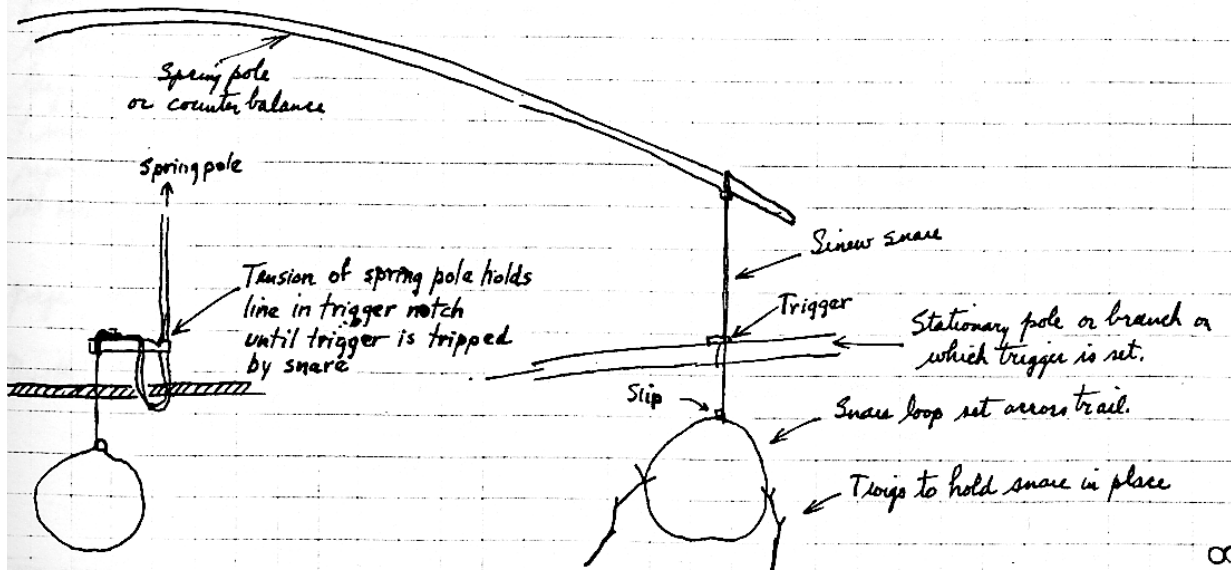
the burrow thru the surface of the ground about 12" back of the entrance. Then she stuck her spring pole in the ground (any cut green pole of suitable strength perhaps 5' long); then she took two 1/2" x 5" sticks, put them on either side of the thong on top of the safety block & reached the whole assembly into the hole with her left hand, holding it against the roof of the burrow; then she poked the crochet stick thru the upper hole with her right hand, expertly snagged the rawhide thong & pulled it out. Then maintaining tension on it to hold the trap & sticks against the roof of the burrow, she bent the spring pole down to the ground & secured the thong to it. The least pressure on the snare upsets the balance of the 2 set sticks, the spring pole flies up, & the noose trips over the sear. See next page for large detail drawing of snare set-up. The women used to take a bunch of these snares & pile them over with the sweet smelling sage (*Artemesia borealis*) to eliminate human odor & lull the suspicious gopher.

Expended: 10 Postcards 1.00 Stamps .50



[The rabbit snare Mrs. Jimmy showed us is conventional springpole type:]

The rabbit snare Mrs. Jimmy showed us is conventional springpole type;





House #1, Duke River Meadows

Thurs. 29 July 48

Cold & very windy AM, clearing to bright but still chilly. Picked up Jimmie Joe at the Post & drove down to Duke Meadows on the road back to Buck Dixon's place. This is a former flood plain & channel of the Duke R. which now flows just N of here. Boskop [Bostock?] says Duke formerly flowed directly into lake—cf. long terraces back of airstrip; we are camped on part of the old gravel fan. About a mile W of Buck's, we took off the road & drove in left to grove of large poplars. Walked in from here, following old horse trail another ½ mile thru buck brush & into an old (± 300 yrs.) spruce forest. Here we found an old pole tepee that had been reported by Walter after he once drove the horses thru here. No one else had ever even suspected its existence.

Actually this was only one of a series of 4 grouped dwellings (see sketch map next page.) We spent the day excavating #1 & checking superficially the others.

Dwelling #1 = Pole tepee constructed on or over a rectangular log base. This base measured ± 9 x 15 & there was a door midway in the N side. Excavation revealed that there had been repeated floods thru here, & the occupation floor of the tepee was buried beneath 10-12" of gray silt. This was the same as the height of the log side walls

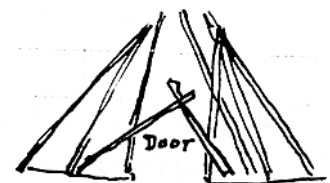
which did not show above the present surface. The superstructure of #1 was standing in good order altho a number of the poles had caved in & were buried in the silt. The height of apex was ± 9' from occupation surface. The initial construction elements were: a wide crotch; a long narrow fork; & a straight pole. As far as we could tell these were set up in a tripod, & then all the other poles added later. The tepee was poled in quite solid & apparently covered with skin or moss. Many of the small



poles that were added to fill up roof were untrimmed. On NW corner split logs 4" in diam. had been stood on end leaning against the side. Along NW side a 3' strip of split logs of 4" diam. had been laid up horizontally; 9 of these,

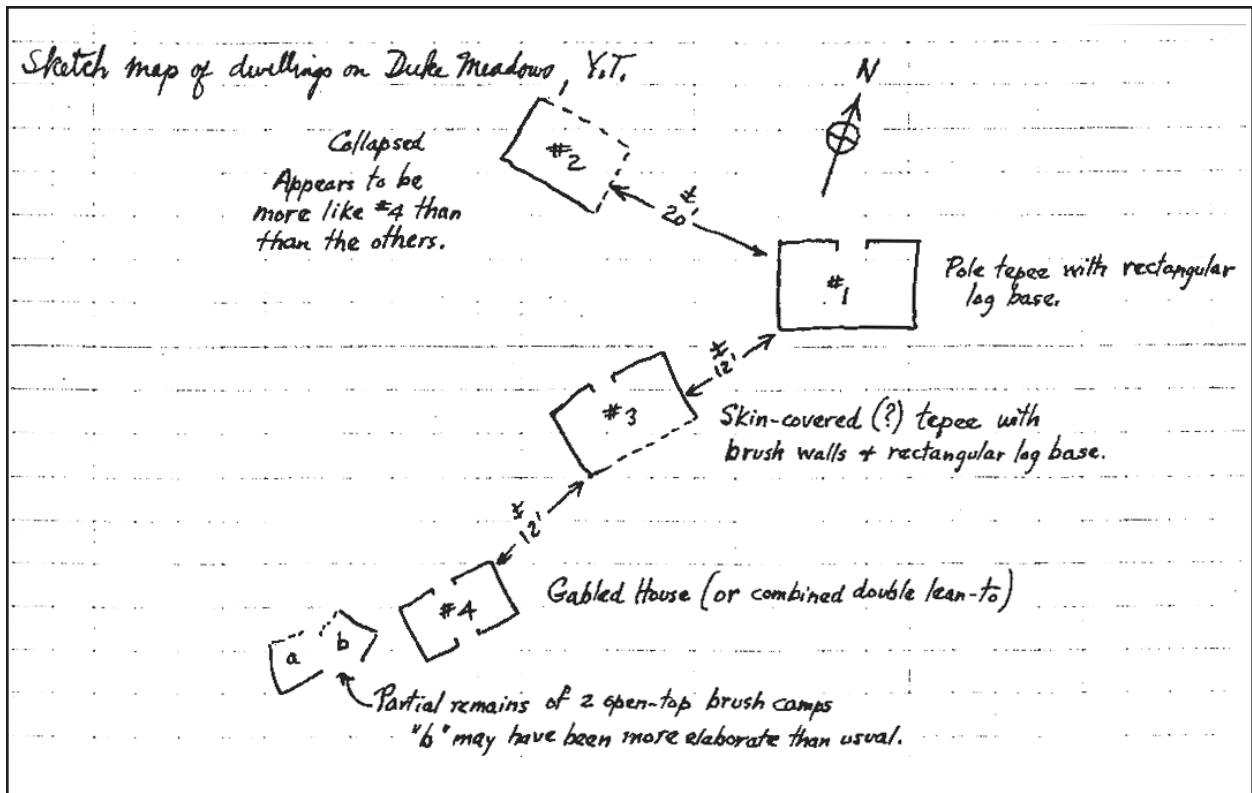
one on top of other as per sketch.

On N side between W corner & door more vertical split logs. On NE long side the door. A peaked hole about 3' square:





Excavating House #1, Duke River Meadows



made by stacking short poles on outside of main ones. Inside in center is hearth area: no apparent smoke hole in peak, but plenty of cracks up there for adequate ventilation. Some of larger poles were cut with adze (possibly stone but probably copper). Most of smaller poles were axe cut. In digging out House #1: much litter but only thin duff on surface. First located occupation floor in SW corner where a sill log showed up c.10" below surface. At bottom of this sill was a well-established floor of spruce needles, twigs, bark, etc. On SW side 2 superimposed logs appeared as foundation beneath silt—one of them cut off near middle. On this same level in center of tepee hearth was located—a bed of red ash about 4" deep: contained one fragment of green hand-blown glass, a bead, numerous fragments of small bones (gopher & rabbit according to Jimmy Joe); also 2 shapeless pieces of flat copper (one of these had been folded over as if in beating, & the other, trapezoidal in shape had slightly bevelled edges like a microlithic blade for hafting). In SW corner among the needles of occupation floor found a curl of birch bark.

Hearth area was depressed saucer-like in center & approx. round in plan, altho a tongue

of ash extended thru doorway outside. Probably dragged wood in there & let it burn back.

Query: Why was W. end of tepee built up heavier with split logs laid up horizontally & then on end around the corners?

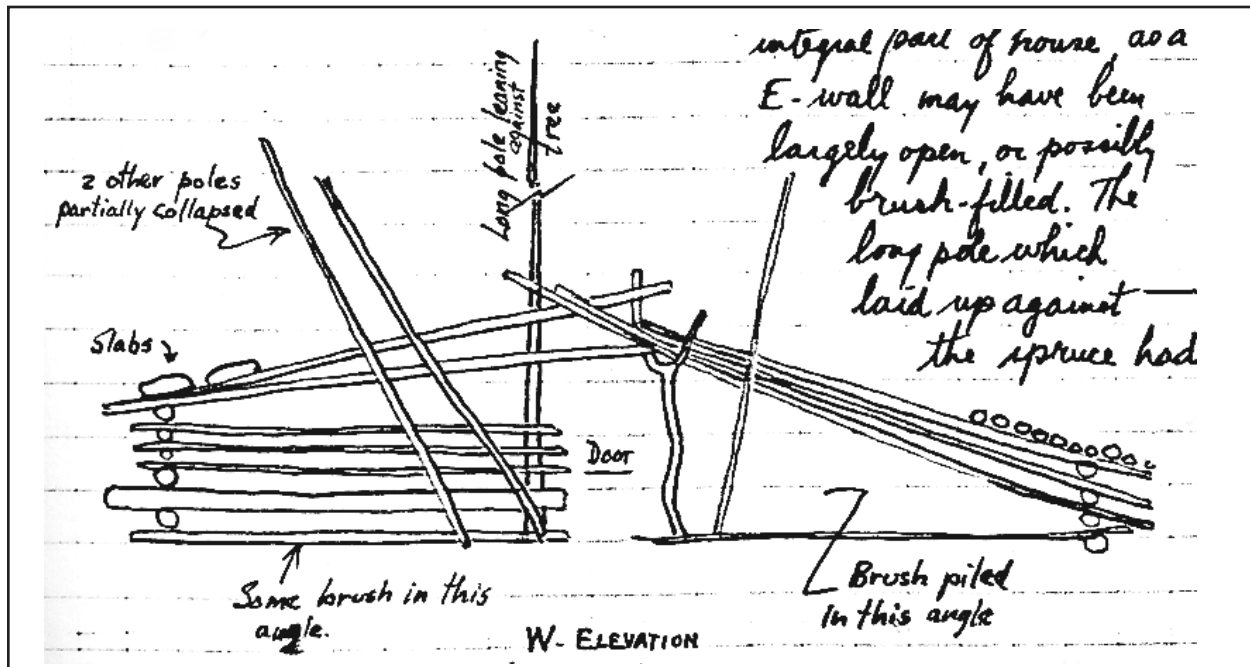
House #2

Rectangular in plan but elevations in doubt because crushed flat by large deadfall, cf. map p. 60. N-wall appears to have been built up of brush & small spruce, & S wall probably the same. E & W walls possibly partly open. Roof of at least part of N-½ laid over with poles 4-8" in diam. This house won't be dug out unless we have extra time.



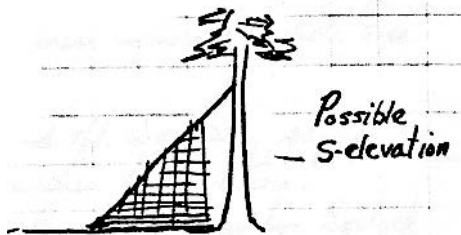
Excavating House #1, Duke R. Meadows [photos above and below]





House #3

About 10 x15 rectangular. Door in center of long W side. On N + N 1/2 of W & S walls was sill log about 10" diam; above this, walls built up about 2' by piling up logs & criss-crossing at



corners. Small spruce piled up on this base on E & W-walls, altho not enuf of E wall remains for diagnosis. Large spruce along E wall seems to have been integral part of house as a support. E-wall may have been largely open, or possibly brush-filled. The long pole which laid up against the spruce had chafed a deep scar in the side of the tree. Drury & Raup cut into this scar & determined by ring count that it was 72 yrs. old. Raup, on that basis, would date House #3 between 75-100 yrs. B.P., allowing time for pole to chafe thru to cambium layer. He also dates House #1 at about 100 yrs. BP on tentative basis of cross-dating false ring in boring from that house with similar false ring in living trees.

Left site about 5:30 & returned to Camp. Correction: site is about 2 mi. NW of Buck Dixon's; leave Highway, drive in 3.25 mi. on trail to Dixon's; turn off left there & proceed across meadow to large poplars; leave car, pick up horse trail & follow that on foot about 1/2 mi. into tall stand of spruce; trails cuts past near these camps & whole area is full of old stumps.

On returning to camp, found that Paul Nieman had shoved off in a hurry saying he had to go home & take care of his wife. Nobody knows if, as, or when he'll return.

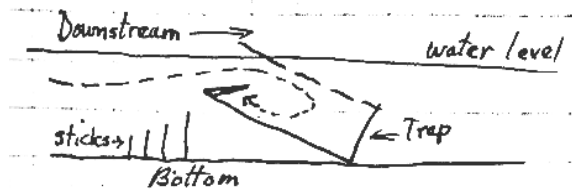
In the evening Chief Albert Isaacs [Isaac] of Aishihik came to call. Mistook us for Bostock & party whom he had met in '44. Sat down & began to talk very readily about "old people", altho most difficult to understand his poor command of English. He had come over from Aishihik by horse & pack train with his family including son's wife. Apparently came across Raft Crk. trail & then down the Big Arm. When he got to Gladstone Crk. built signal smokes & one of Jacquot's boats went over & picked them up. Isaacs said he was 74 but he looks closer to 50. Apparently had been told of our interest in the "old people" by Moose Johnson et al. in Burwash. Spoke of the first white men to come into the country, apparently for trading up the Yukon R. Traders were (in order of time)



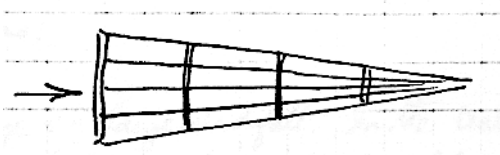
Fireweed above Kluane Lake, Mile 1074

Kirby, Manning, Harper & Jack Dalton. Manning & Harper apparently overlapped in time & were competitors. Spoke of paddle-wheel steamers used by these men up the Yukon R. & apparently well up the Nisling R.

Isaacs explained use of fish trap we saw at Bridge Crk, as per sketch. Trap tilted up on bottom of stream. Fish forced up into it, but couldn't



get back out because of sharpened sticks, which were closer to water level than I've drawn them. Fish come to sticks stuck in bottom & jump over them right into trap. Killed with clubs. Salmon traps used at Tin Cup Lake & elsewhere are long conical affairs: 6-8 ft. long & about 2' diam. at large end. Made of small poles which are lashed around the outside of a series of tapering hoops



which are placed 18" apart. Salmon swim into this & become wedged tight, when trap is full they



are killed by stabbing with bone point. Isaacs also described fish spear which he had once found a part of over at Aishihik. This apparently the familiar type used in NW only he spoke of the barbs as made of copper. He also once found a bone, barbed point possibly about 8" long.



He spoke of the birch bark canoes formerly used on the Yukon R.—mentioned their extreme tippiness

& said only an Indian who knew could paddle one by kneeling quietly in bottom & taking quick short chop strokes to either side with single-bladed paddle.

One of his best stories was about how the old people used to hunt bear. (He & all other Indians we've met up here have a very healthy respect for bears & never mess with them.) The brave stalked the bear to close, very close range, then tried to put one killing arrow into him; immediately he flattened to ground under disguise of gopher skin robe & played possum until bear had quit thrashing around. A nery procedure!

Fri. 30 July 48

Fred & Hugh stayed behind today while I took all others with me back to Duke Meadows to do a real job on House #4. Had the boys finish trowelling out House#1 hearth while I cleared the ground at #4 & got preliminary descriptions.

Description of House #4, Duke Meadows

Present state = collapsed flat to ground by age & a large deadfall. In the center was a growing willow (*Salix glauca*) which by Drury's ring count was 68 yrs. old.

Later, the excavation showed that this willow had sprouted direct from occupation flow of house (also buried by 10 - 2" of silt, as in others) & as it had been flooded by silt, adventitious roots had branched out from the trunk. This time coincides nicely with the date on House #3 & approaches sufficiently the derived date for House #1, as that it can reasonably be stated that this group of dwellings were built & used at same time.

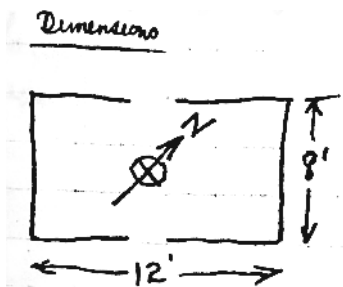
Superficially House #4 appears to have been a rectangular gabled house with vertical end walls (of undetermined height, but probably about 18"). Constructed of poles & logs 1"-10" diam. Most of

Shovelled test pit in SE corner of House #4 Bottom of lowest sill log (3"- 4" diam.) on E-wall c.12" below present surface. This appears to mark lowest & earliest habitation floor. Gray silt is here broken up by stratum full of spruce needles, twigs, bark, etc., & a few fragments of charcoal probably floated off hearth.

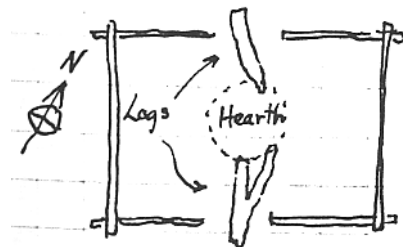
Sketch showing manner of collapse



Joined by Drury & Karl & Dave after lunch, & shortly Hugh came along. Dug out middle of both long walls to establish door(s) & hearth. Gap of $\pm 36"$ in each wall indicates 2 doors. Large logs extended thru both doors towards center. They lie on top of hearth ash, & their inside ends are charred.



poles cut with steel axes but some look like adze cuts. Rafters laid over with poles from eaves to ridge. These roof poles appear large enuf (average 2"-3") to have supported top cover of hides or moss—but not sod. Some split 1/2-logs on W side of roof near eaves.

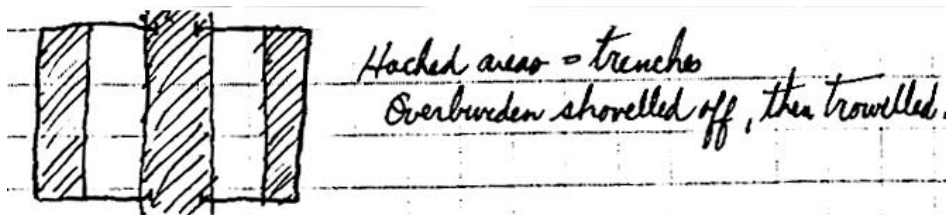


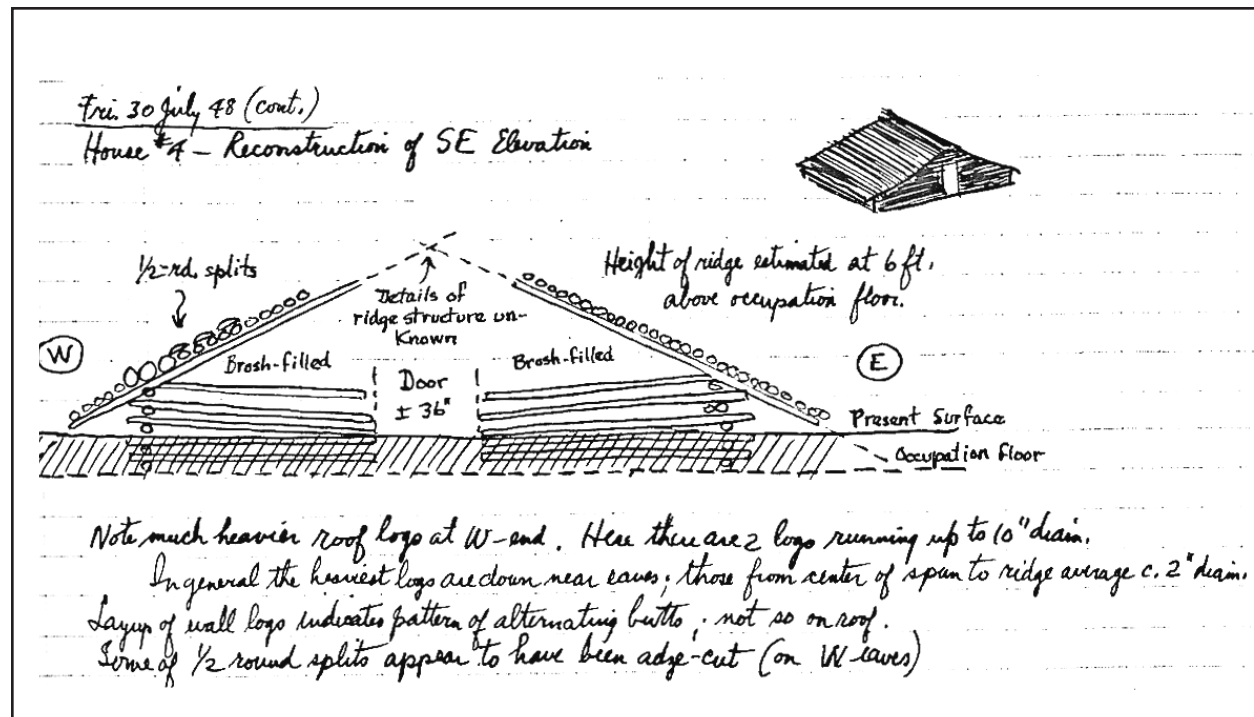
In SE corner found a bit of birch bark, a sharpened stick 4" long, & a sliver of bone.

In hearth area just inside N-door, at ash level, found a heat-cracked hammer stone or maul. The cracks were filled with the gray silt. Also 2 large fragments of burnt bone. Lowest sill logs are those on E & W ends of house.

Secured at 5 PM & returned to camp. Cloudy,

Plan for excavating House #4





House #4 - Reconstruction of SE Elevation

Note much heavier roof logs at W-end. Here there are 2 logs running up to 10" diam. In general the heaviest logs are down near eaves; those from center of span to ridge average c. 2" diam. Layup of wall logs indicates pattern of alternating butts; not so on roof. Some of 1/2 round splits appear to have been adze-cut (on W-eaves).

windy, cold day, but protected there in spruce woods & mosquitoes even bad at times—enuf to light several smudges.

Fred drove up to M-1191 with Gene Jacquot to visit Paul & get lowdown from him.

Notes on conversation of Gene via Fred:
Jack Dalton: Gene apparently knew him well: He established trail bearing his name which led from Haines up thru Chilkoot Pass to Tatshenshini R., to Klukshu, to Dezadeash Lake & down Dezadeash R., across Shawkwak valley on esker, thru present Champagne, then NE thru Hoochei pass to Dawson (thus bypassing the feared 5-Fingers Rapids in Lewes R. at WH, Lake Bennett, etc.) Dalton a hard man, but fair. Hot-tempered. Ran pony express over above trail from Haines to Dawson. Ran fur trade at his post. A great traveller with extra-ordinary knowledge of how to get about in this country. Also did prospecting for mining companies staked claims on White R. & kept 2 men panning there one summer. Spent some time

at Burwash. Once killed 2 men. Was he related to the old Dalton gang, the desperadoes?

On Joe family: the day before Copper Joe died he gathered Jimmie, Jessie & Mary about him & told them not to break up the family. They should live together happily. This resulted in upset of strong tradition which had already been broken anyhow: brothers & sisters not supposed to speak to one another or to live together "after they grow up" (puberty or marriage?). Also remarkable was fact that Copper Joe had not remarried when wife died (Jimmie about 12 then) & had insisted on bringing up his own children rather than farming them out to relatives "to become slaves" Jimmie was 12 in 1904.

Gene described sheep skin clothing worn by people in winter. Pants & parka with fur in. No underclothes. This used occasionally even now, & one old man who died a few years ago wore nothing else except at times during summer when he put on some European clothes. Gene said the



Looking west to Donjek ranges across Duke River meadows

Indians are extraordinarily careful of the children & still make sheepskin clothing for them. Also make gopher skin clothes.

Sat. 31 July 48

Clear, cold morning with threat of increasing cloudiness. All piled into wagon & drove down to Duke Meadows to finish the job on House #4. I carried on with the dig while Fred ranged the woods. Cf. my notes on his notes. Continued trowelling out same trenches begun yesterday.

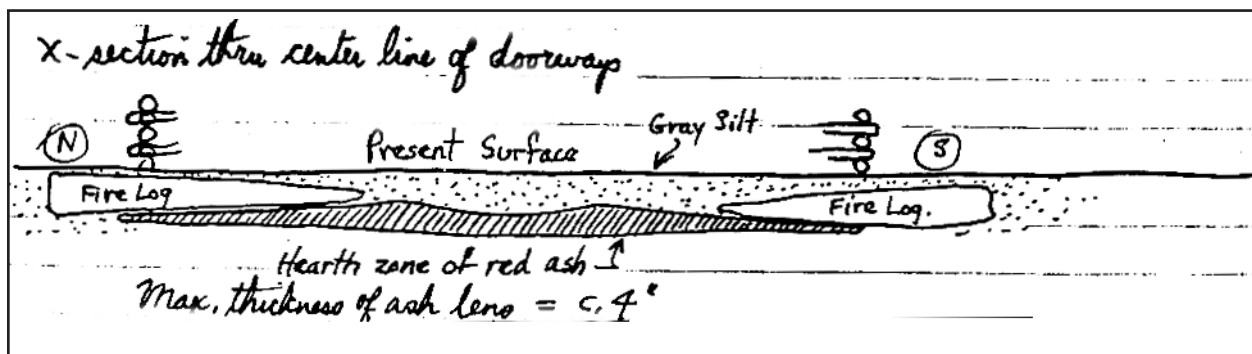
X-section thru center line of doorway
Ash is distinct reddish brown in color & is full of fragments bone (burned & unburned), mostly rabbit & gopher; also 2 large chunks as if moose or sheep.

Center of hearth mounded slightly above occupation floor—perhaps 1-2" & this concave in upper surface.

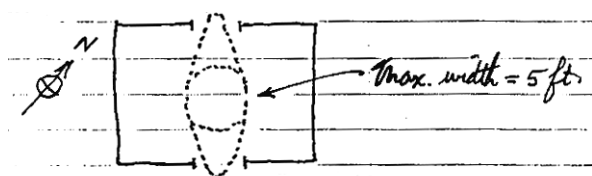
Sketch plan of hearth [see top of p.67]
Secured dig at 1 PM—no more significant finds.

From Fred's notes on ranging farther into the woods: House #2 built like House #4 & is practically identical.

The area in which the houses are found is on the old fan of the Duke R. All the houses have been filled with 10" or more of flood silt. The floors of the houses are covered with spruce boughs laid on silt. The houses are spread along an old ditch in which water runs occasionally now. They extend for about ½ mi. along this ditch as far as known now. The forest is about 200 yrs. old at



Sketch plan of hearth - House #4



a max. & is typical flood plain spruce forest. All around are old stumps, most being 4" diam. on average, but some are about 12". Many of these are cut with adze, others with steel axe.

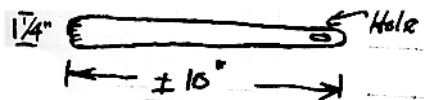
N-of the area of the 4 houses there were ruins of at least 6 others. These were made in the same manner, as #4 with variations. Some didn't have as many logs in the roof: one or 2 appeared to have but one or 2 logs. In one case a living tree had been cut off about 4' above ground & used as a door post. A second tree had been cut in the same way & used for one of the back corners. There seemed to be no particular orientation of the houses, but the locations of the doors could not be determined except in one case where at least one door faced SE, other long sides faced E, NE, etc.

In this same area there were many brush camps; some of them were close to houses & apparently later than them. Others were just scattered about.

This seems to be an area in which people lived for sometime. The fires in the houses indicate long occupation, i.e. a winter or a season. The number of houses suggests a family group altho no evidence to prove this so. Tentative dating points to an age of about 70 -100 yrs. Curious is fact that no one yet asked at Burwash remembers having heard of people camping in this area. (End of Fred's notes.)

After lunch, it began to sprinkle. Botanists began to collect on the meadows while Fred & I drove on down to Buck Dixon's (total length of this road from Highway to his cabin is 5.5 mi.) Buck getting ready to leave on hunt. Joe Jacquot now working for him. Buck gave us permission to use his boat to cross over river anytime. He spoke of many old camps on other side, on the bluff, up in the poplars. Also said Indians camped not too long ago on the meadows up near Highway. (The meadows are alive with gophers, & Dave & Karl reported seeing many spring poles for snares

there.) Buck showed us an old iron ulu that his father had found there in the garden, & a bone scraper for fleshing small animal hides which he had found: this made of flat split bone of moose leg, & hole in end probably for carrying on thong.



Buck said Indians used to cross river here in skin boats, & once he found remains of one up on the White R.: wood frame laced together with thongs & whole covered with 2 mooseskins. Took 2 men about 2 days to make one. Used to cache them for long use. Skins could always be reclaimed by soaking & removing from frames.

By the time we got back to camp it was raining hard & continued so all eve. As mail hadn't come in, Fred & Bill & I went back for it (after having dinner in the cook tent where it was warm & dry). Letter & paper & book from Elaine in Vancouver (all well). Over to the beer parlor & had a couple of bottles served up by old Bert of the long & stringy white beard. Got him to talking about his early days up here in the '98 & in the later, smaller stampede around Kluane & Burwash Crk. He spoke of some of the fabulous strikes in the Klondike where as much as a million \$ came out of a 500 ft. claim. Must get some more of that dope.

Constant rain all night long—looks like we're in for a good run from the NW.

On Kluane Lake- looking south to Kaskawulsh





Burwash Landing



Mission school at Burwash Landing

Sun. 1 August 48

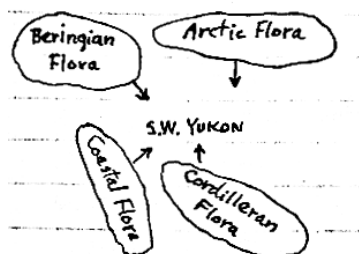
Expended

Beer (yesterday) 1.65

Awoke with the rain still coming down, & it continued to do that all day long.

Fred under the weather with a bout of intestinal grippe so drove him in to the hotel where he took a room & stayed for the night. Ate all our meals in the cook tent, & spent most of the day bringing these notes up to date. Also spent sometime reading the new whodunnit Elaine sent me (Death of a Swagman) & wrote to Elaine. When we took the mail in to catch the 11 AM bus, bumped into Jackson, one of the bridge men who worked at the Rancheria.

Hugh dropped by the tent & we talked of the area; he is constantly impressed by the magnitude of frost phenomena & their effects on the physiography of this country. Spoke of the relationship of soil stability & advance of the forest, & believes that soil must be stable before the forest can take over permanently: a marginal area illustrating this was the great drunken forest on the clay-banks at head of Big Arm. (All drunken forests we've seen are on clay subsoil which is permanently frozen & the surface just won't stay put on it.) Apparently, once the climate has ameliorated sufficiently to bring an end to frost action which is severe enuf to cause solifluction, then the forest can advance. He spoke of the small flora characteristic of this region, especially on the unglaciated mountain tops that we saw back on the Yukon Plateau, & concluded that this was drawn from 4 great reservoirs of flora that were suited to occupation of peri-glacial zone. See sketch this page. This flora came in during the period between the retreat of the ice & the advance of the forests up the valleys which thus effectively sealed off further migration & brot isolation of the mountain top species! We discussed the time factor of post-glacial times: he felt that perhaps the scale was



Fireweed in old burn, Mile 1074

too great in view of the vegetative changes that have taken place & are still to be observed in motion here (cf. the known advance of the forest down onto the Experimental Farm in last 20 yrs.); then we noted Antev's varve count of 16,000 yrs. for the ice recession in New England, & also the well-pegged varve counts on the ice-regressions in the Baltic area; these are all pretty reliable, & yet they cover long periods of time. Suggestion arising from this was one that dealt with increased tempo: after the ice retreated & perhaps after the glacial lakes had drained away there was a long period of time in which the per-glacial zone was only slightly hospitable to flora; then gradually the tundra advanced, & soon behind the fringes of the taiga, & then the true forest. With each advancing stage there was a shorter time interval before the conditions were right for the acceptance of the next; increased tempo in the vegetative sequence –perhaps equivalent to a normal growth curve which speeds up matures, & tapers off. Approximately 1000 species of flora in this region, & perhaps 300 Alpine flora on mt. tops.

Mon. 2 Aug 48

Expended

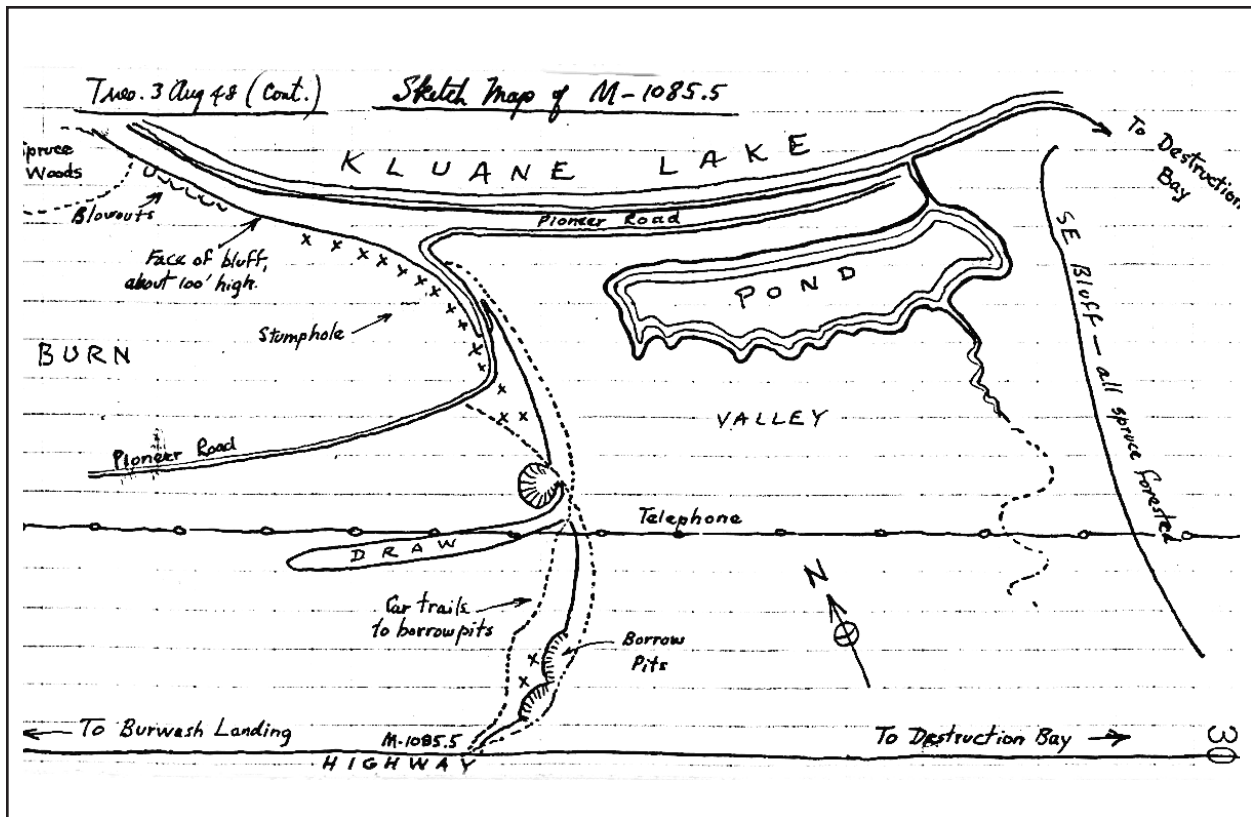
Moccasins 1.50

Knife sheath 1.00

Gopher snares (Dartmouth College Museum) .50

Gopher-skin robe (" " ") 2.50

Still a cloudy & threatening morning but the Slims R. wind has taken over now & so it will probably clear. Brought Fred back to camp & saw Mrs. Jimmie in town & arranged to get the above things.



South down Kluane Lake from bluffs at Mile 1081



In the aft. went out with Hugh & Karl & Dave to do a bit of prospecting. Turned off at M-1090.5, a draw which appears to be one of the old Northern valleys of Halfbreed Crk. [Copper Joe Creek]. A very complicated system of terraces here indicating 2 cycles of down cutting. Entire area dissected out in mature pattern, & the old shorelines, beaches, & offshore bars stand out very clearly. Walked out bluffs on N side as far as lake. Area all burned over (c. 10 yrs. ago), going tough, very little bare ground exposed, & not many cut-away sections in banks. Walked S along beach & near former mouth of the creek found large & recent abandoned Indian camp: tent stakes & crotches, fish & meat-drying racks, a skin-tanning stake, tin-cans, etc.

Returned to camp 5:30. No archeology for today. Hugh & I built open-top brush camp for eves.

Tues. 3 Aug. 48

Fine day, bright & clear, with strong Slims R. wind. Fred still not up to snuff, & the botanists collecting on the beaches here, so I got a lunch & went out for a bit of a quest on my own.

Pulled off the road at M-1085.6 where several borrow pits had been opened in the N. bluffs of a draw going down to the lake. Found 2 chips on surface of Kluane Red Silt in bulldozer scrapes above the borrow pit about 150 yds. N of Highway. There was a lot of Kluane Red exposed along the bank, but much gravel from pits & scrapings had been strewed along the surface & hunting was difficult. Square basal fragment of felsite point also found in this area.

No other finds until I crossed over the draw (cf. map, p. 70) & mounted the bluff on the N side. Here there are many bulldozer cuts (Pioneer Rd.) which have been exposed to the Slims R. wind & young blowouts are in process. Many surface finds (chips, reworked flake scrapers, etc.) along the edge of the bluff in these shallow blowouts. Checked the soil profile at several points & these artifacts are all in the Kluane Silt beneath the volcanic ash. See line of X's on map indicating extent of these finds.

Farther N-along bluff the Pioneer Rd. cuts down to the present beach level. On the bluff edge N-of this point the blowouts become natural (no

bulldozer influence). A general burned-over area follows the bluff & closer to the lake this gives way to a spruce woods. The woods is bordered on the edge of the bluff by a single line of stabilized dunes 6-10' high. Wind action is still a strong factor.

This is an important site. At the point on the map (p. 70) marked (X) a large burned spruce had blown down & the upturned stump exposed a large patch of Kluane Silt (or what may not be Kluane Silt—cf. later notes). Here I saw, half-exposed, a large gray core, & upon trowelling further under the stump I located a small snub-nosed scraper of obsidian, a large snub-nosed scraper of yellow chert, & one small obsidian flake. All of these came from area beneath stump, within a patch about 3' in diam. There are 2 distinct ash layers here, & a complex layering of windblown materials. Ash has been stripped off.

Tonight as we sat around our fire down in the shelter of the brush camp which Hugh & I made out of spruce, we saw our first real stars of the season. By 10 PM it was dark enuf for a few of the first magnitude to appear: recognized the dipper & Polaris, Casseopia's Chair, Capella; Arcturus; Vega, Deneb, & Altair. Polaris seems wrong in these latitudes & doesn't appear to fall in a straight enuf line from the pointers. Also had a mild display of Aurora Borealis over the Big Arm. Clear, cold night.

More talk today by Jimmie Joe et al. of former warfare among Indians up here, especially with those of Tanana R. & Copper R. in Alaska. Jimmie also spoke of old fort which they used: log block houses with rifle holes in the walls (certainly a

South down Kluane Lake from site on bluff at Mile 1085





Site and bluff at Mile 1085.5



Site and bluff at Mile 1085

white trait) are still to be found on Generk Crk. near where it comes into White R., & down on Salmon Flats (a former great fishing spot) on Kluane R. about 25 mi. N of lake. Potlatches are also given by these people, altho apparently the only occasion is death. Instead of property money is the only thing given away to the guests—Jimmie said the potlatch he gave for his father cost him \$1100. Usually given by eldest son or daughter & not until perhaps 2-3 yrs. after the death so as to give them some time to accumulate extra wealth. At the time of potlatch, the little wooden grave house is also built (before that time the grave is covered only with canvas or a tent. Interesting manifestation & variation of the brother-sister tabu today: Fred talking in a group with Jimmie & 3 of his sisters, Mary, Jessie, & Lillie. When he wanted to ask something of Lillie he addressed her only thru Jessie, & not direct. Funny relationship there: Mary is defunct—Louie Jacquot's wife, & Lillie is a wife (?) of defunct Jimmie Johnson, Sam's father.

Across Kluane to Big Arm from beach at Mile 1085

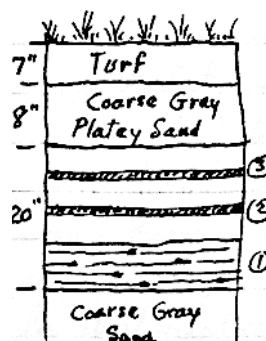


Lillie often accompanies old Mrs. Jimmy around—apparently they were wives of Jimmie Johnson concurrently altho there is considerable difference in their ages. More on relationships here: Sam, when asked if Moose were a relation of his said, “no, he’s no relation of mine—he married my sister.” (!) Mary Joe Jacquot can’t understand the dialect of her uncle Copper Jack because he lives at Snag! Anent the days of Indian fights, Jimmie spoke of an experience when he was 12 yrs. old & camped down on Salmon Flats with his family to gaff salmon for the dogs. He was awakened at 3 AM by the hooting of an owl, but since he knew that the owl shouldn’t hoot until 4 AM, he woke up his father & mother. They all covered up with some green mooseskins for disguise & sneaked out into the bush. When the owl hooted again, his father shot & a man fell out of the tree.

Wed. 4 Aug. 48

Fine bright day. Returned with whole party to site 1085. While the others continued the surface hunt & sized things up, I resumed trowelling in the tree stump hole where I found the 3 specimens in situ yesterday. Worked back & expanded the hole around S-end of stump. Normal soil profile here has been strongly modified by human occupation & there is a complex layering of wind-blown materials, hearth ash, etc. The 20" layer in profile sketch comprises the occupation zone. The lower 8" in [Level] 1 is laminated with ash layers (hearth deposits) & wind-blown materials. The laminations interrupted by chunks of charcoal & other irregularities probably due to human occupation. [Level] 2 is a layer of red hearth ash 1 ¼" thick. In this layer I found 3 more chips, 1 core,

& an excellent knife (flake retouched on both sides). Cf. pictures B-13-62 + K-8-6. [Level] 3 is another red ash layer ¾" thick in which I found yesterday's specimens. At end of this day's work divided that we needed a more complete profile. This culture zone is not in the Kluane Silt, & yet it lies beneath the volcanic ash.





Knife and chip in situ in hearth, Mile 1085.5

In the eve drove with Fred down to Destruction Bay to send a telegram. Had the Mannlicher with us & thoughts of going in to the pond at 1085 to try for the moose which has been prowling around there, but decided finally that the evening light was too poor. Returned & had a couple of beers at Bert's. Wilson came in & said he had a Finnish woman in WH lined up for as a cook if we needed her, & also commented on the good moose-hunting directly across the lake from us: he says there are a couple of ponds back in there beyond the bluffs which we can see from here.

Beer 1.10

Thurs. 5 Aug. 48

Mary Joe Jacquot came out today to cook for us until Paul returns (if he does). Mrs.

Jimmy came with her & had a nice pair of moccasins which will fit Helen's pattern.

All down to site 1085 & while Bill & Karl R. remained to help me, the others went farther down the lake for more recco. Dug a trench extending from the stump hole (where I found the artifacts in situ) to the edge of the bluff 33' away. Ran a level line & took a careful profile

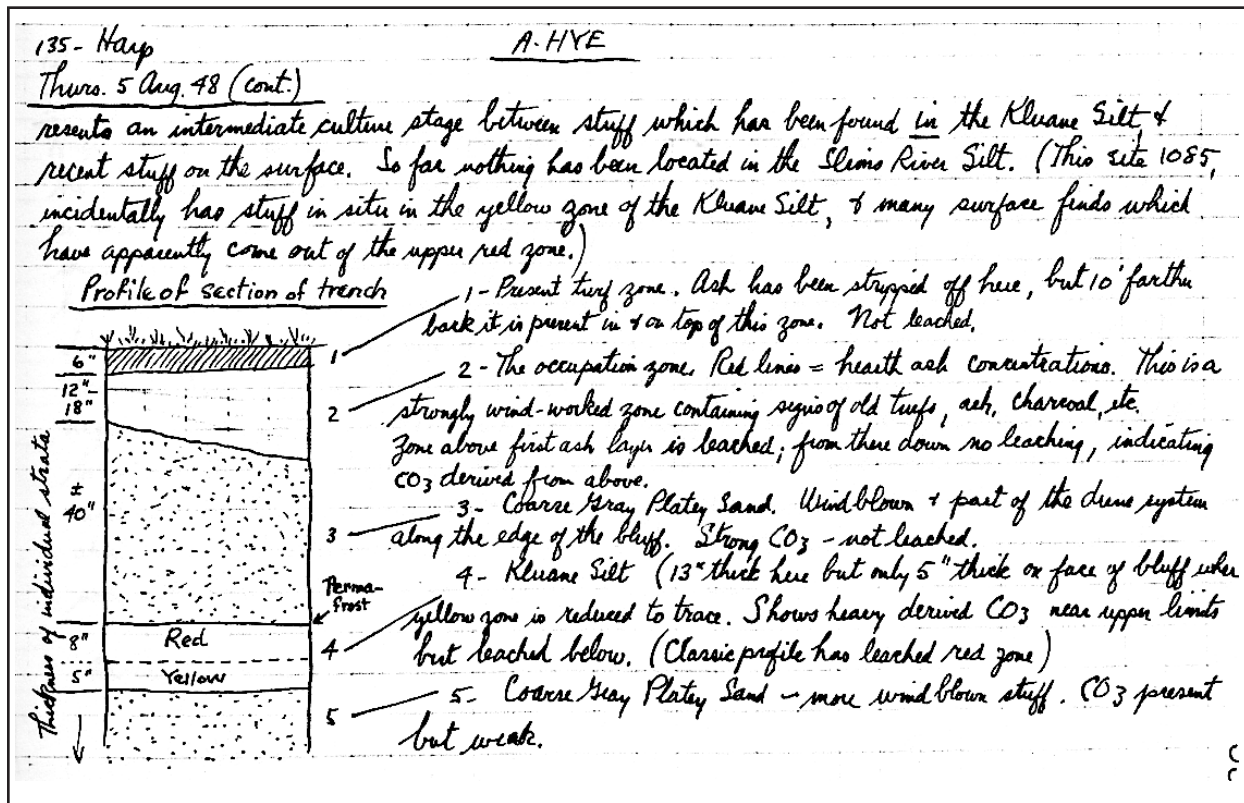
measurement of the S-face of this trench. Joined by the rest of the party for lunch down by the pond & an afternoon of discussion of the problems posed by this site. Here is something which doesn't fall into the pat scheme of things. For the first time we have culture that doesn't lie within the Kluane Silt, which lies stratigraphically far above it, & which is yet beneath the volcanic ash. Fred & I think it represents an intermediate culture stage between stuff which has been found in the Kluane Silt & recent stuff on the surface. So far nothing has been located in the Slims River Silt. (This site 1085, incidentally has stuff in situ in the yellow zone of the Kluane Silt, & many surface finds which have apparently come out of the upper red zone.)

Hugh thinks culture here deposited when upper zone of Kluane Silt was being reworked on the face of the bluff & is actually coeval with last stages of Kluane Silt. Trouble here: Kluane Silt was deposited in area as glaciers receded: then during post-glacial optimum it acquired a cover of vegetation which made humus & gave it its characteristic profile of red over yellow over gray; then leaching occurred which left the red zone free of CO₃, with increasing concentration thru yellow down into gray; then advance of Little [Ice Age] Glaciation [ca. 1450 - 1850 A.D.] & retreat & deposit of Slims River Silt on top of volcanic ash which covered all about 500 A.D. [ca. 850 A.D.]. Now, we have fully developed profile of Kluane Silt down under our Culture, & yet it has acquired more CO₃ from windblown sand above it; therefore, considerable time must have elapsed between formation of the Kluane Silt profile & the time when culture was deposited on the wind-blown surfaces well above it. This culture may be late post-post glacial optimum. Trouble is that no one knows anything about how long it takes dunes like this to form & how long the leaching process takes in various types of soils. This business is causing much hot & heavy discussion.

Expended

Moccasins (Helen) 5.00

In the eve, Mary came down to join us around the fire in the brush camp, & she was very talkative about many things, but as usual most difficult to understand. She spoke again of the battle at Dezadeash Lake, & said when she was a little girl, one of the old men, who remembered the fight as a



youth, used to tell about it. We estimated then that it may have taken place between 100 - 125 yrs. ago. She spoke of the Snag Indians coming down & killing the Coast Indians in a surprise raid, & they used long copper knives, double-edged, possibly spears, altho this wasn't too clear from her description. Apparently much of the trouble was caused by unsavory trading practice on the part of the Coast Indians who wanted far more than they were willing to give. Mary mentioned a Mrs. Joe Kane (?) at Champagne who still has a bag full of implements used by the old people. She spoke once of moose being killed with a spear having a long copper blade; this copper beaten out with use of stone mauls & then the blade edge sharpened by grinding with stone. As she talked to us she was chewing on a bit of sage (*Artemisia borealis*) & she said that this was to prevent her from getting a cold. There are many more colds among the Indians now since the Highway came thru & the whites come in from the cities. *Artemisia* is also boiled into tea, & also spruce cones, for a cold curative & preventative. Before

the whites came, the Indians were better clothed for the winter than they are now: everyone, all the children had plenty of fur garments (gopher, sheep, etc) & the severe cold didn't bother them; now they are inadequately clothed in whiteman's stuff, & they feel the cold. (Incidentally, the mosquitoes bother Indians as much as they do us, & they don't like too heavy smudges either.) Got a very nice bit of dream story from Mary, confirming the importance of dreams to these people also: she knew of a boy who one night dreamed that he was eaten by a wolf; the next day he went out & actually was eaten by a bear.

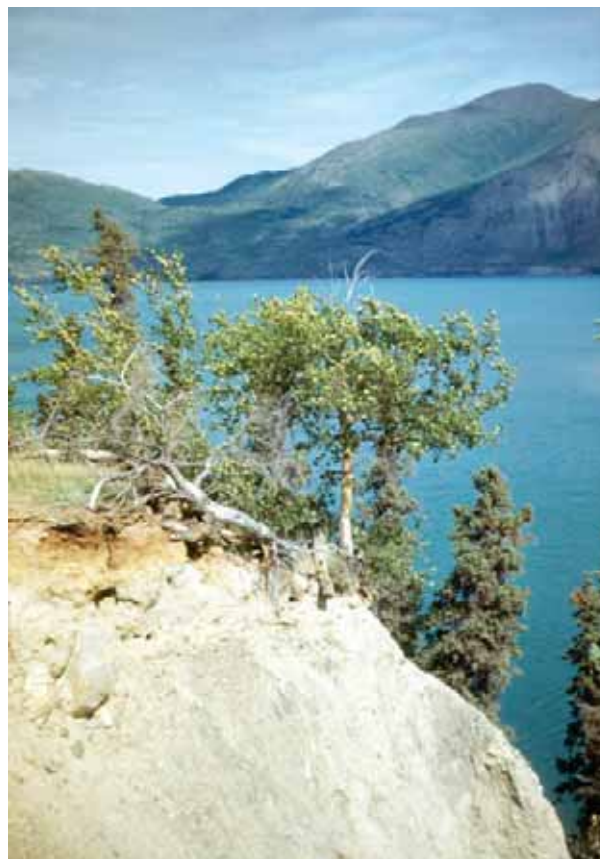
Two swell letters from Elaine this aft. & wrote her in eve.

Fri. 6 Aug. 48

Spent this day again at site 1085. Lovely warm day, some smoke haze coming up from SE & the lake frequently as calm as a mirror, which is most unusual. Spent the morning with Hugh & Bill checking soil profiles with HCl to see where leaching had taken place. Tests confirm that classic



Mouth of estuary at Mile 1075, looking north-northeast



Bluff profile overlooking estuary at Mile 1075

Kluane profile is leached in red zone, but wherever it is covered with the coarse gray platey sand it has derived CO_3 . Cf. yesterday's notes. The age of this culture is still not determined to everyone's mutual satisfaction. After lunch down by the pond, drove down to M-1091 where Fred & Hugh found chips in Kluane Silt on the bluff above lake's edge. This site similar in many ways to 1085, but, at least superficially, is not so extensive. The classic profile from Slims R. silt all the way down is present here. So far, platey coarse gray wind-blown soil has been noted only at 1085.

In the eve, read a bit, & had some more target practice with my .22, shooting at a section of stove pipe about 125 yds. away down on the beach.

I asked Hugh today for some reading on soils & he gave me the following, also saying that nothing really adequate for our purposes had yet been done:

Von Engel - Geomorphology (also recommended by Bryan)

Lutz & Chandler - Forest Soils (good, but nothing on aeolian soils)

Sat. 7 Aug. 48

Started off clear but became increasingly cloudy thru the day—less wind than usual. Left with Hugh, Fred, Bill & Karl & drove down to 1075 for a look see. Backpacked all our gear & struck down towards the lake. Went thru a heavy blowdown & burn for $\frac{1}{4}$ mile & then followed terrace edge. Fred & Hugh found chips & a hearth at one point. Stream channel here is same as others up the valley, but its mouth is an estuary about $\frac{1}{2}$ mi. long, & in that respect it is unique on this lake. Whole topography here on upper surface between the stream cuts is knob & kettle till, & we satisfied ourselves that several of the peculiar ridges were not eskers—the gravel in them showed no signs of sorting. Cooked up lunch down on the beach in the lee of some spruce, & then wondered farther up the shore before turning back & reaching the car about 4:30. Surrounded by large, brand-fresh bear tracks down there all day, but no visible sign of bruin or her cubs. Paul came back on the job today: his family in Burwash too.

Letter from Elaine—probably won't be coming up to Skagway because stray mines are being picked up along the route. News clipping



Section of turf, ash, Kluane Silt, and till, at Mile 1075 estuary

calls them Russian, but they may also be Jap. Apparently coast shipping is quite concerned. That is very disappointing news.

Sun. 8 Aug 48

Beautiful clear day. Warm & bright with no wind in the AM. Decided to stay in camp today & get caught up. Planned a fishing trip for eve, but at 12:30 the Slims R. wind came in strong & put an end to that. Wrote Elaine & some postcards. Also forwarded Kodachrome rolls 6 & 7 today (2, 3, 4, 5 sent out in pairs since we returned from pack trip). Did my laundry down on the beach, brought these notes up to date, & read Ellery Queen's "The Door Between." Back to the salt mines tomorrow. Also had a shower at the Inn when we went in with the mail—that's memorable enuf to record. High winds all aft. & eve.



Camp at Burwash

Mon. 9 Aug. 48

Threatening day with strong wind out of the NW spelling a bit of weather. Started out anyhow, & all down to 1085 by 8:30. Worked up the profile of the bluff for a length of about 250' in an attempt to see what happens there to the Kluane Silt stratum. By 11 we were finished & it was raw & sprinkling, so we moved on down the road for a quick look at the bluffs S of 1074. No culture there. More rain, so returned to camp by 1:30 & had lunch in the cook tent. Rain & cold all aft. Rigged a tarp down in the brush camp & so had a dry place to sit by the fire. Wrote to Mother & Helen.

In with Bill to get the mail, & over to Bert's for a bottle of beer. Bert said the old Chilkoot Pass up from Skagway lies N of the White Pass. The present Haines Rd. is the old Dalton Trail up as far as the Tatshenshini. The Chilkoot pass is a tougher one than the White but somewhat shorter; that's why it was used. From Hoochai Pass the Dalton trail went on to Carmacks on the Nordenskiöld R. & on down to Dawson & the Klondike.

Visited in the eve by all the Indian women. Mary Jacquot, Jessie Joe, & Mrs. Jimmy Johnson. Cancelled my order for a toilet kit from Mary who will make me a shotgun scabbard instead.

Weather cleared around dinner time & the mosquitoes came out in full force for a brief time. Then it got very cold. We should have frost tonight; the fog is drifting S down the lake & lies in low banks along the eastern hills.

Tues. 10 Aug. 48

Expended

Beer (yesterday) 1.10

Gun scabbard 10.00

Cloudy AM after a damn cold night. Had heavy frost & temp. down to 25° F. No wind, but it is gradually swinging from the SE quarter again so the weather is bound to be fair. All drove down to M-1073, arriving there at 10 AM, & worked up the details of the soil profile there: the same reworked deposition of KS & duning as at 1085. Left at noon & further checked the same data at Site 1074: here there is large duning just under the ash which may date from the Little Glaciation. Had lunch there. Afternoon lovely & warm. Then came back to Site-1085, took some soil samples for pollen analysis & a couple of rechecks on leaching.

Mary Jacquot came out in eve with a fine moosehide gun scabbard for me. Mosquitoes &

flies rather thick around the brush camp fire, so retired to tent early. Sprinkling rain about 10:30.

Wed. 11 Aug. 48

Awoke in the rain & mild sporadic showers kept up all thru the day. Not much wind, but the rain drift is from the NW as usual; this rain is also warmer than last & life in camp is not so chilly. Set off about 9 with Hugh & Bill for a walk & hunt: passed back into the bush beyond our cove & picked up an old trail which led us up onto the N terrace of the old Duke channel which once entered the lake here (our camp is on the fan). Followed this terrace in a NW direction, noting Kluane Silt with ash above it resting directly on till. Continued on bluff edge, found 2 chips near the lake end, & came down onto the airstrip at its center. Walked S down the airstrip to our road & followed that back to camp by 12:45.

Snoozed in aft & read Rufus King's "Museum Piece #13"; not bad. In to Burwash after supper to pick up some moccasins for Bill & then sat around fire in brush camp. Mosquitoes back today.

Thurs. 12 Aug. 48

Uncertain weather this morning with heavy cloudiness trending in from SE, but decided to try it anyhow. All left camp (9:05 & drove S down the lake, stopping for pictures at Slims R., & around to Jack Hayden's place & the old post of Kluane. Left car here & climbed up onto the 100 ft. bluff & worked N along E shore of lake thru burn & blowdown. Classic soil profile along here on top of bluff: Sod & Slims R. silt, then ash, then fully developed profile (red, yellow, & gray) of Kluane Silt, all resting directly on till. Some evidence of reworking, i.e., lenses of pea-sized gravel in the red zone of the KS.

About 1 mi. N of Hayden's came into an area of much tree cutting, & located a meat drying rack & an old rectangular tepee brush camp. The end walls & shorter side walls were laid up in the usual criss-cross fashion, about 4 poles high above present level of moss; probably 2 entrances as sketched. From the roof poles that had collapsed this appeared to have had a tepee super-structure, probably skin-covered. All the tree cuttings we noted had been made with steel axes.

Farther N, near mouth of Christmas Crk.



Cut bank of duned bluff at Mile 1073

estuary (± 2 mi. from Hayden's) noted numerous saw cut stumps of large spruce. No indication of purpose of these, but they may have been rolled down the bluff & floated to the village for cabin building.



Had lunch around on the beach of the estuary, the weather clearing & becoming lovely & warm, & then hiked back up the Creek, following the old Indian trail. Towards the head of the estuary, came upon the 2 abandoned cabins which the Jacquot Bros. used to have as a waystation. Before the Highway came thru, they brot their supplies by horse & wagon from WH to Christmas Crk (this journey used to take [EH leaves a blank space here] days); there the stuff was loaded into boats & brot up the lake. Two of the old wagons still there. American-made & one a beauty (green with red wheels from Chicago); had a slide run from one cabin down to beach for loading boats.

A lovely secluded spot. The old wagon trail still clear & deeply rutted, with much corduroy construction as it approached the cabins across

the beach after coming down off the bluff. Using airplane photograph to keep ourselves located, climbed the bluff & cut cross-country W toward the lake. Passed thru a lovely knob & kettle region, following a good horse trail: climbed over a series of N-S ridges, around kettle holes—a perfect terminal moraine country. Hugh noted that Porsild spruce (a variety of glauca) (almost no black spruce in this area) was the first to wood the tops of these ridges, as it had been on the lower Alsek beaches (thus confirming his belief that Porsild spruce is the pioneer variety in this area. Saw a perfect & lovely glacier up in the front range of the St. Elias, which is not visible from the road.

Arrived back at the car at 5 PM & at camp by 6:30 after stopping to take an additional picture or so (took a slew of them during the day). A thoroughly pleasurable day. Three swell letters from Elaine: 8th, 9th, 10th of Aug. & some moccasin patterns. Wrote her.

Fri. 13 Aug 48

Mailed Jack's moccasins to him in Vancouver. Warm sunny morning. All drove down (up) the lake & arrived at Jack Hayden's place at 10:30. His wife said we couldn't park there (possibly because we didn't go in for a visit last night), so we continued on up the Highway another mile to a borrowpit where Jacquot's wagon trail comes out. Parked here & set out along the wagon trail towards the estuary: followed it for about 2 miles thru the lovely knob & kettle section (put up a flight of about 30 ducks on one of the ponds), & then branched off toward E onto the old Indian trail.

Hot sun & heavy packs made the walking sweaty. Kept on the Indian trail, uphill & down dale until we came to Christmas Crk. which we forded on bare feet a short distance above the head of the estuary. Then climbed the 100 ft. bluff on E side of estuary & had lunch on top. Trail divides here: one branch appears to follow up E side of lake, & the other bears E & apparently crosses thru a glaciated divide into the valley of Cultus Crk; thence it could go E to Aishihik or N to Gladstone Crk—I'm not certain. Found culture along the E bluff in blownout sections of Kluane Silt. Later Bill & worked another mile N along the bluff until we came beyond the mouth of the

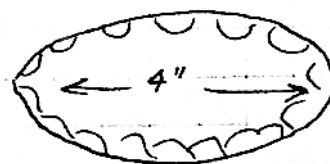
estuary. Found 2 more site locales, both producing many chips, & I also found, in the wind cut edge of the bluff, in situ in the Kluane Silt yellow zone, a crude core or chopping tool—about on a par with some of the SE Asiatic chopping tools. Much of the bluff here showed reworking under the strong influence of winds from the Slims R. gap, but in general the profile is classic & rests directly on till. Much frost action current on some of these slopes—strong solifluction even at this comparatively low altitude. The entire bluff on this side, as far as we went, is ridged with stabilized dunes which are backed by spruce forests. Lovely country.

Unfortunately the afternoon became heavily overcast from the NW & spoiled a lot of pictures. Left bluff at 4, got back to car by 5:20, & arrived in camp 6:45. All fairly well tired tonight—a good hike. This was my first try at moccasins for all day use in the bush, & they worked excellently; get a real foot grip with them, & not tiring at all.

Sat. 14 Aug 48

Bright warm day, turning to hot. All drove over to Buck Dixon's, except Bill who stayed behind to collect poplars. Buck out on a hunt, but we finally located his rowboat downstream in the bushes & rowed ourselves across the river in two trips.

Had lunch there on the beach of the N shore & then spent the aft. exploring the bluffs around into the Little Arm. Usual wind-riven exposure along these cliffs, but here & there a classic section on the till; most of it redeposited. Found an extensive site along the big bend at the base of the Little Arm: the usual reworked flake scrapers & chips in situ in the red zone of KS in association with hearth & burnt bone; also a hammerstone in situ in the Slims R. silt. Others found a fine core knife (like a Hopewellian cache-knife) rudely chipped



by percussion & use (like my chopper from Xmas Crk); this blade found on surface, but probably came

from red of KS. Followed along some of the horse trails along N side of river & found a couple of recent tent camp sites. Rowed back over about 4:30 & returned to camp. Letter from Elaine—she's



Bill and Karl after lunch at estuary at Mile 1075



South up Kluane Lake from bluff at Mile 1074



Blownout bluff, southwest end of Little Arm, caused by gopher burrows



Blownout spruce on bluff, southwest end of Little Arm

coming to Skagway after all!

Enjoyed some target shooting with the .22 after supper & then went in for a bottle of beer: crowd there in the old shack & just after we got there, the changeover was made to the new beer parlor, & we all tramped down the road, bottles in hand, following the cash register! Sat around & helped drink up two barrels of free beer in honor of the occasion. Read a bit afterwards. Cold clear night. More & more stars visible now after 10 PM.

Sun. 15 Aug 48

Bright warm & clear day. Wrote Elaine in AM & then drove in to BL & had a shower. Fred left for WH after lunch to work on car sale. Duck season opened today, so in mid-afternoon Bill & I sneaked out thru the small poplars on the beach & took a couple of shots at a flight of pintails—no ducks. Read a whodunnit in the aft & got caught up the laundry situation. After supper took a stroll with the boys N along the old trail toward Kluaner.—with ducks in mind. But didn't see any.

Mon. 16 Aug 48

Left at 9 with Hugh & Bill & the boys for a recon hike: went up the lake shore about ½ mi. beyond Mary Jacquot's cabin before deciding no % there & turned back. There is no high terrace worth hunting there. Noted a likely deep fishing hole back of the sand spit by Jacquot's cabin. Followed the bluff around Burwash & finally ended up on the highest terrace in the horse pasture S of the Highway—back of the 1944 camp. Found some chips here in a tree-stump blowout—they appear to have been associated with a hearth which lies in the Slims R. silt above the ash: this is important enough for a retake & more digging, as Fred has never found any chipped stone culture above the ash. While I was up on that hill with Dave, the others were cruising the bluff along the lake & picked up some stuff above French Paul's cabin. Very hot morning & uncomfortable hiking.

Returned to camp by 1:30 Spent afternoon reading, snoozing & wrapping up specimens. About 4 PM got the beginning of a gale wind in from the NW—wouldn't be surprised if we had more coming from that sector in the next 24 hrs.

Visited in the eve by 2 ♀ ethnologists, graduate students at U. of Calif. in Berkeley.

Katherine [Catherine] McClellan & Dorothy Ranier by name. Pleasant. Working on \$ from Nat'l Museum in Ottawa; they say Leechman is in the country & has been over at Champagne & up at Hutshi (where he is said to have raised hell by excavating a modern grave 20 odd yrs. old!) They all expect to be going down on same boat with us. The girls started out at Carcross, spent time at Champagne & Klukshu, & expect to nose around here until Friday. Apparently they are getting dope on acculturation & also what dope they can about the relationships between the Coast & interior peoples. In many ways they are still as much in the dark as we, but they have established the existence of Wolf & Crow moieties (?) up here—which would explain why Sam & Moose are “not related”, tho still brothers-in-law. Fred back from WH at 10:30. No mail for our crowd today.

Tues. 17 Aug 48

Woke up about 4:30 with what sounded like a cloud burst coming down, & as it continued to rain off & on nobody bothered to turn out until 8 o'clock. Spent much of the morning down in the brush camp by the fire, as the day was miserable & cold. Read a whodunnit, then later switched over to Denny & Sticht's MS on “The Late Quaternary Geology of Alaska Highway”, taking notes on this. Later in the aft. all had a hot buttered rum by the fire, Fred having brought back a bottle of excellent Hudson Bay Co's Demarrara. Fred wanted to meet McClellan & Ranier so he went in & picked them up & we spent the eve in the brush camp exchanging views & hearing what they had, which wasn't much. Visited by Archie & couple of duck-hunting friends of his from WH. They said (this chap Williams (?) is in the Highway Dept.) that the Aishihik road is now open & they made a round trip from Canyon in 7 hrs. Also mentioned good rainbow fishing in the narrows between Beaver Falls & the lake (at S end of Aishihik lake proper). Weather cleared off late in aft. & evening was very pleasant. Cold night.

Wed. 18 Aug. 48

Gorgeous fall day—sun warm & clear but a tinge of frost in the air. All over to Burwash 3; Bill & Karl & I stalked for ducks on the way but didn't see any. Excavated all AM at B-3, but couldn't

find anything more than chips & many of these (red jasper) were unquestionably congelifrats. Decided to return after lunch for another try for specimens, which did. Five minutes after we started trowelling I found in situ a good red jasper scraper (retouched flake, as usual), & later we struck the major hearth area which contained many large fragments of bone (some moose), more chips, including some obsidian, & 2 fragments of semi-lunar slate skin scrapers. This now becomes an important site—the first find of a chipped stone industry in the Slims River Silt & on top of the ash, which dates the stuff post-500 AD [850 A.D.]. See profile sketch.

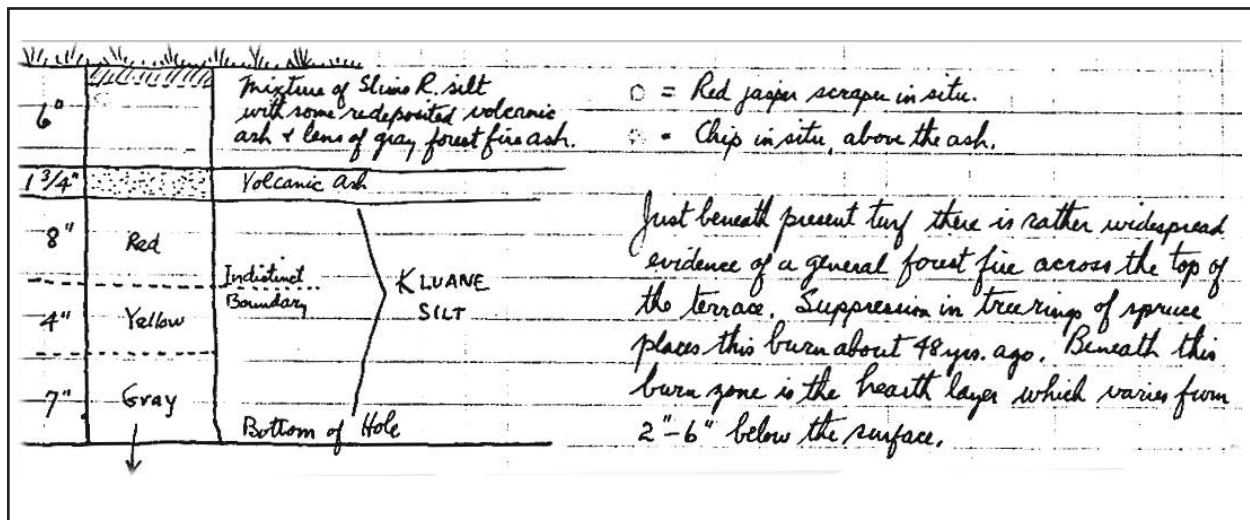
On the way back to camp Bill & Karl & I dropped off at Burwash to stalk ducks on the way along the road. Our technique is fun: we snake thru the grass until within .22 range; then the ones with the rifles open up, while I wait until the ducks are in the air before opening up the shotgun. Missed our shots at a small flight of 4 teal along the marshy edge of the lake, then tracked back in to the small pond that lies N of the trail to camp: spotted 3 green-wing teal there & 4 canvasbacks, but the latter were too far out of range. The boys missed their shots at the teal but I took one in the air & Bill retrieved it from the pond. McClellan & Ranier out for dinner.

At 7 Archie came along & beached the *Josephine* in the cove & suggested we go across the lake for some more duck-hunting. He had two

12 ga. pump guns along, of which Fred used one. Headed directly across in a slight quartering sea but the *Josephine* rolled & pitched as if we were in a gale. No wonder these people are afraid of the lake—they haven't got a decent boat to put on it. Old Louie Jacquot built this *Josephine* 20 yrs. ago & she's powered by a 4-cylinder Kermath which drives her at the magnificent speed of 3 knots. Took us 30 min. to reach the opposite shore at a low section just E of the long point that sticks out toward our camp. Here there's a chain of 4 or more ponds which lie just back of the beach & which were once past of the lake, & are now cut off from it by off-shore bars.

The rifles missed & so did I on a high overhead going-away shot. My little 20 ga. just isn't meant for ducks—it can't reach. At the second pond Dave got one bufflehead on the water & Archie got 2 in the air, but they were all just youngsters. Happy, Archie's Labrador retriever, could find only 2 of them. I missed the shooting on this pond but continued on down the beach to the 4th pond where I stalked in on a flight of about a dozen great Canada geese. Couldn't get close enuf thru the marsh for a shot however, & it finally got too dark before they came my way so I hiked back to the boat. Got back to camp abbit after 10—much fun.

Burwash-3: August 18, 1948





Burwash-3: first find of chipped stone culture above the ash

Thur. 19 Aug 48

A dark threatening AM but we left at 9AM anyhow, as per plan, in the *Josephine* with Wilson & Happy along. McClellan & Ranier invited themselves at the last minute so they could work on Albert Isaac. Got across in 1 hr. 40 m. in a glassy sea & dropped the girls at Isaac's camp about 1 mi. N of the Gladstone estuary. Also bought a rack of sheep ribs from Isaac to roast for our lunch & then continued by boat around as far as we could go up into the estuary. All of us disembarked here except Lucy who went with Wilson down by boat to the point to start the ribs roasting for lunch.

We scouted along the high ($\pm 100'$) till bluffs on the N side of the estuary & found almost one continuous site for a distance of $\frac{1}{2}$ mile. Classic profile here has been disturbed by strong Slims R. wind action & the entire rim of the bluff is ridged with high stabilized sand dunes. All of the culture we found was in blowouts or slumps, none in situ; the usual things: retouched flake scrapers, snub-nosed scrapers, several fragments of knives, fragment of square-based un-notched points, & one perfect notched obsidian arrow point about 1 $\frac{1}{2}$ " long (this unique for the summer); many chips of felsite, chert, obsidian, jasper. I located

one hearth in the Slims R. silt but all it contained was bones & heat-cracked rock. Most of the other specimens undoubtedly came from the red zone of the KS. Had an excellent lunch of sheep ribs down on the beach & then worked the bluffs the rest of the way around to Isaac's camp, arriving there by 3 PM.

Albert Isaac is the chief of the Aishihik lake group of Indians, & every summer he comes across & sets up a hunting camp near the base of the Big Arm, on the N shore. His trail comes across through the head of Raft Crk. & he travels down the Big Arm above timberline so he doesn't have to fight the bush. He had a string of about 10 excellent looking horses & 3 colts grazing around camp when we came in. He has 4 canvas tents set up there in a wide draw, one of them surrounded by an artificial wind break of cut poplars. The sled dogs were all tied up on the low ridge behind the tents.

This camp is probably more exposed than the usual bush Indian camp, but it is apparently placed so that signal fires can easily be seen over at Burwash when they want the boat to come over with supplies. (Wilson brought a package of beads over to Mrs. Isaac today). There were 2 huge drying racks loaded down with at least 6 mountain



Till bluffs north side Gladstone estuary, looking east

sheep & some fish (I counted that many livers), & no doubt there is plenty more moose & sheep jerky cached away.

Sometime in the fall Isaac moves his outfit back to Aishihik with the winter's supply of food, & when spring comes again he returns to Kluane. Wilson said Isaac has a gold claim staked out somewhere on Raft or Gladstone, but he apparently isn't working it now. Old Albert rides a horse like an Arab, altho he must be well in his 50's. Saw the moose scapula which he rubs against trees to attract another moose when he is hunting.

Here appears to be some sort of an extended family group: Albert has his wife, daughter & younger son (both teen age), plus a married son & his wife & 2 small children, & at least one old crone who kept peering out from behind the windbreak of poplars. Sophie Watts (Jim Watt's mother) was also over there. She showed how they make a skin scraper nowadays, their only knowledge of stone-working: they get a thin slab of slaty stone & rap the edge of it vertically down on any convenient anvil boulder; the chips fly off haphazardly at the edge, & they work it around until the whole assumes a rough semi-lunar shape. This percussion technique is very rude, but it

makes the kind of edge they want—sinuous & not too sharp.

There was also a tanned moosehide nearby still twisted up on the cut-tree tanning stanchion: this apparently allowed to dry twisted, then re-soaked, retwisted until dry, & smoked a second time.

When we left at 4 a fair wind was blowing from the NW & our load was as follows: the 7 of us, Wilson, the 2 female ethnologists, 7 Indians, 2 husky sled dogs chained fore & aft, Happy the retriever, 2 dead mountain sheep (*Ovis dalli*), ½ a moose in the form of jerky, & plenty of miscellaneous duffle! Hugh & Karl & I made the trip on the brief afterdeck in company with one very nervous husky—what a scrum!

Arrived back in Burwash at 5:40 & found that Gene had picked up the mail in WH but then had left it there. Damn such meddling! Ducks for dinner. The weather held off until eve where it finally began to rain. Wrote Elaine in eve.

Fri. 20 Aug 48

More rain in the night. Still cloudy this AM. but a hint of clearing. Everyone willing to stick around camp today. Got off some post cards, cleaned my

guns, patched up the old gun case, & later went in to Burwash with Bill to order some moccasins. Mrs. Jimmy didn't have any skin left so Mrs. Bill Jimm will do them (she is George John's mother, & Jimmy Joe's eldest sister). Brought these notes up to date.

Wrapped & catalogued specimens to date. Went fishing with the boys in the eve: drove down to 1085 & tried the pond, but the only take was my 9" grayling; built a fire there on the beach & watched the full moon rise. Mary out with some of the moccasin orders, but she was all fouled up & I didn't get what I ordered. Cold night.

Sat. 21 Aug 48

Again a cloudy rather threatening morning so decided not to take any extended trip. Spent AM up on the hill of Burwash—3 digging holes & checking soil profiles. Hugh has a theory that wherever forest occurs or has occurred there will be much root disturbance in the soil profile & the anomalies in the ash layer (passage of ash into root holes, etc.) appear to back this up. Because there are no similar disturbances in the KS profile he argues there was never any extensive forest on that surface. Fred disagreed on grounds that the great time interval might have wiped out such traces.

Forest sequence in area such as this, according

to Hugh's theory of tree succession, is: first white spruce; right behind it black spruce; next poplar; next pine. Kluane Lake is a marginal area which has a quite recent forest in it: only white spruce here (with Porsildii the pioneer variety of that), & some poplars: black spruce, coming in from the N, appear above the head of the Little Arm, & coming in from the S, they show around Bear Crk. The northernmost pine occurs just a few miles N of Champagne (lodgepole). This same forest sequence has been noted by Raup over in the Mackenzie Mts. The natural prairies in the Shakwak valley between Champagne & Bear Crk. have, as yet, never been forested, altho the forest now appears to be encroaching upon them.

Dug some more profiles in the aft, in a drunken spruce forest on a solifluction slop above Destruction Bay. Still no signs of forest cover below the ash.

Rec'd Elaine's of the 17th & wrote to her in eve. Still some mail missing, I think. Overcast slowly moving in all aft & some rain in the eve, tho calm.

Expended

1 pr. Moccasins (for me) [all] made by Mary Joe Jacquot 2.50

1 pr. (for Museum) 2.50

1 pr. rubbers 2.25

Our brushcamp at Burwash in the snow





Camp after the snow storm, August 23



Southeast down Kluane Lake at evening

Sun. 22 Aug.48

Again a rather chilly, threatening morning but no actual rain. Sat around the fire a bit & then decided to go out & dig a few holes & try to get some definitive profiles for the agreement about forest on the KS red.

Went up to hill of Burwash-3 again, & later down into a borrowpit along the Highway. Nothing positive in way of proof pro or con & the fight still rages. Some spitting rain after lunch & we stayed in, fortunately, because the afternoon got steadily worse & presently it was raining hard & blowing from the NW. Read some more of the geology MS, & went into Burwash with Fred about 3 PM for a shave & a shower. Came back & plugged some of the windy corners of the brush camp, & kept the fire burning high. Read some Kipling short stories.

Had dinner in the cook tent. About 7 PM it began to sleet, & then it turned to snow, & before we knew it the ground was white. Mixed a round of hot buttered rum (with the Hudson Bay Co's Demararra), & after the rest of the folks turned in Fred & Bill & I stayed up by the fire for one more round to finish the bottle. Shook off the tent flies before turning in.

[EH makes the following entries at top of page]

Mon. 23 Aug 48

Lighter flints .10

Moccasin tops 1.00

Wed. 25 Aug

Beer 1.65

Fri. 27 Aug

Beer 4.35

Sun. 29 Aug

Moccasins made by Jessie Joe for Jack 2.25,
Geoff 1.75

Tues. 31 Aug

Moccasins (Mother G, Elaine) 2@ 4.00, all made
by Mrs. Bill Jimm (Copper Kitty)

Mon. 23 Aug.48

Woke up this AM in the middle of winter, with the temperature about 30° & a good 3" of snow on the level. Plenty of low scud still moving in from the NW & still occasional flurries. The camp & the surrounding mountains are lovely in their new cover, & the spruces are heavily frosted with wet

snow. Breakfast in the cook tent—all of our meals there now until a bit of summer returns. Chased around a good bit of the morning taking pictures of the snow, etc. & drove in to Burwash for a bit.

In the aft. took a drive up the Highway about as far as M-1126 to the height of land above the Donjek R. All the mountains are snow covered, but not all of the valleys & flats—Burwash is in a storm track so we got a good dose. Squalls still moving down from the Yukon. Returned to camp about 5. Rec'd 3 letters from Elaine—her last of the 20th & 2 older ones that Gene lost several days ago—also one from Mother. Wrote Elaine in eve.

Sat around the fire in eve—cold. Down to 29° by 8 PM, but Hugh can't use his max-min. thermometer because the magnet is missing. Fred & Dave & Wilson out duck hunting & got 3 golden-eyes which we'll keep in Jacquot's freezer until we bring in enuf for a meal. Read some more Kipling SS, but not in the tent!

Tues. 24 Aug.48

Crisp cold morning but fine & bracing. Looks like snow is over for the time being & it seems like a clear day coming up. Sat around the brush camp for a while after breakfast writing notes.

Drove down Highway to Destruction Bay & 1085 to dig some profile holes, but at the former couldn't go below 12" because permafrost there. Watched the first party of hunters come back from the Donjek a week early with their trophies, a couple of caribou, 2 sheep, & a moose. In aft went up to Duke Meadows & checked more profiles: no forest has ever had time to develop on the latest meadows & yet the thin silt layer which covers the gravel about 2" deep contains ½" lumps of charcoal from burnt over willow shrubs—& this size charcoal has been pointed up as evidence of forest cover on KS by Fred. So the case for no forest on the KS looks better & better. Lovely afternoon, perfectly clear & the air still as if the wind were going to shift into another quarter, but every time a breeze came down out of the Duke it was mighty cold. Stopped off at Burwash on way in, borrowed 2-12 ga. pump guns from Archie, & went with Fred & Bill to stalk a flight of mallards that we had seen settling into the pond nearby. Got the signals crossed, however, & they all got away. Stopped to take some pictures of Burwash from



Drunken Spruce forest at Mile 1181 Permafrost at 12" on 3° slope



Burwash Lodge at evening from across cove

across the cove on the way home.

Visited in eve by Mrs. Jimmie, Sophie Watt, & some other girl (married) whose name we don't know. In the course of the talk, got what may be a fairly accurate tanning procedure:

Flesh the hide.

Smoke it dry—about 2 hrs—usually use driftwood.

Medium heat.

Soak it in water (brain water?) Yes—brain water: up to ½ of brains in 5 gal. water.

Fold up into small tight bundle & let stand damp & couple of hours. Scrape one side smooth.

Smoke it dry—about 2 hrs.

Then repeat 3,4,5.

As we sat in the brush camp the nite was crystal clear, the waning moon rose, & it got colder by the minute. As soon as the sun dropped behind the forest the thermometer stood at 30°, & by the time we turned in around 10:30 it was 22°. Drained the truck radiator tonight!

Wed. 25 Aug 48

Up at 7 & a gorgeous crisp clear morning. The low for the night was 15° & the ground was frozen hard & frosted heavily. Went down onto the point to get some pictures after breakfast, then sat around in the brush camp. Air still very chill but the sun is warming. Hugh chewed over the soil profile situation in the light of yesterday's finds:

Visited in AM by John Osborne who was out on recent hunt with Jim Kennedy the millionaire oil man from Tulsa. Kennedy is epitome of the big-game hunting "sport" with no end of \$ & he capers around in a 10 gal. hat, cowboy boots, & a long-fringed buckskin jacket. He is making a collection of N.A.M. big game heads & came up here to complete it with a Stoneye sheep; the collection is supposed to go ultimately to the U. of Oklahoma. Osborne is a registered guide who lives in Juneau & he is along this trip as a companion only.

Drove down to destruction Bay & nearby sections in afternoon scouting out further developmental soil profiles for the KS series that Hugh is trying to establish. In eve walked up to Indian village with Bill & checked with Mrs. Bill Jimm (Copper Kitty Joe) on our moccasin orders. God knows if she's got it straight—I don't! Also ordered 2 more pair from Jessie Joe for Jack &



Moosejaw Viereck, Ellen Kingsbury, Ed Miller

Geoff. Stopped & had a couple of beers on the way back & picked up Lucy who had been doing laundry at the Inn.

Thurs. 26 August 48

Fine clear morning but still frosty—down to 25° last night. Fred left after breakfast for WH taking Gene Jacquot over with him, for purpose of transferring station wagon ownership to him.

During the morning I got some laundry out of the way while Hugh & Bill checked some nearby soil profiles. Later I finished reading & taking notes on Denny & Sticht's MS, & after lunch we sat around the brush camp chewing over the various pros & cons anent the evolution of the soil profile in the KS.

About 3 o'clock I heard a "Hello, Elmer!" & there was Moosejaw Viereck & Ed Miller, each with a good growth of beard, & a girl, who turned out to be Jaw's fiancée, Ellen Kingsbury. They were all en route Fairbanks in a couple of trucks loaded with electrical equipment for the pig-farmer (Kuntz?) in Alaska for whom Jaw worked before. They had been having all kinds of trouble along the road, with the trucks, the heavy load, waiting here & there for money to be wired ahead to them. This aft. their army 6x6 had stalled

down by French Paul's cabin & so they walked out (From Boston to Kluane in 59 days!).

Ellen met them in Edmonton after attending a summer geology session in Wyoming; she is an undergrad at Vassar, & she & Jaw plan to be married sometime next year after Jaw works in Alaska this winter—if he can get a job. Bill & I walked back in to Burwash with them to get the 6x6 started but we couldn't. So we went to get the other truck, a big GMC tractor & trailer, parked smack in front of the Inn. Found that the tractor had a flat on the right front so we proceeded to get that off & patch it, deciding in the meantime that perhaps the 3 had better stay the night with us. (They apparently had some canned grub, but no money, & just enuf gas to reach Fairbanks.)

By the time we had the tire patched & ready to inflate, John had closed up the garage for the dinner hour (with the compressor in it), so we decided to all return to camp. Planned to put Ellen in Fred's tent for the night & offered Jaw & Ed the choice of the brush camp or splitting up in the tents with us, they choosing the former.

After a delicious sheep dinner we went back in for another go at the 6x6; the tractor, unhitched & alone, wouldn't budge it forward or back, so we thot to hitch the trailer back onto it & try that



On Duke Meadows looking south



Albert Isaac, Laughing George John, Bill Jimmie

combination for a tow. By then it was dark, & the trailer slipped on the slope & jammed up the hitch, thus effectively securing that operation for the night. Bought some beer to take back to camp afterward & shipped 4 bottles to George John outside the bar.

At 9 PM the rest of the folks came in from camp & we crowded into the beer parlor with all & sundry residents of Burwash, including Indians et al, to see Jim Kennedy's colored movies of past big-game hunts in B.C. These were the epitome of egregiousness in home-made movies & a rather disgusting spectacle of whiskey bottles & handshakes over the body of one dead animal after another.

When it was all over, Mrs. Jennings put on an awfully chewed up reel which, however, had some good winter scenes of Burwash & the people in it. Archie presented Kennedy with 2 lovely sheep horn spoons made by Albert Isaac & Albert was there, having been especially brot across the lake for the occasion, beaming thru his black horn-rimmed spectacles. (I wonder what their prescription is!) Then Jimmy Joe said he was going to do a dance for us, being half-tight, as were most all there, so we cleared to the back of the room. Jimmy wanted Sam to dance with him, but Sam who is very shy & who holds his beer better than the others, suddenly faded out of the room & left.

Next Jimmy enticed Bill Jimm to join him: they took the floor, Jimmy gesturing with a broom, in lieu of a regular dancing ceremonial wand, & gave us part of Jimmy Johnson's potlatch dance (I later verified this with Bill Jimm). They stamped & gyrated about in regular Indian fashion, posturing, Jimmy singing out in a loud clear voice, altho his lingo was unintelligible to us except for occasional interjections of "Jimmy Johnson". Jimmy's actions & voice were clear, positive, & authoritative (as would seem to fit his position of shaman, which Gene says he is); Bill Jimm was somewhat befuddled by beer, & he shuffled about, weaving his hands in & out & gesturing with them in a very Oriental fashion.

Wish we could have seen more of this & delved into it for some explanation, but of course that was neither time nor place. As it was the climax for us, we left it then being 11 PM, & all

strolled back out to camp. (Heard the next day that Kennedy, in regular swell fashion, had beer ladled out to the entire crowd at the entertainment's end.) We sat around the fire awhile & had some coffee to warm us up; brilliantly clear & very cold night.

Had a sweet letter from Elaine & Jack in a peach of an envelope addressed by Jack. Turned in at 12:15 AM – some sort of a record for the summer.

Friday 27 August 48

Down to 27° last night, but a bright clear morning with some promise of warming up.

After breakfast Jaw & Ed & Ellen packed into Burwash to see if they could get started, I planning to look in on them later in the morning after seeing how our own plans developed. Paul said they got away OK about 10:30 so they apparently had no further trouble.

Sat around in the brush camp discussing the KS soil profile development, & then I gave Hugh a haircut which he had been wanting for some time. After lunch Paul gave me one, too, a regular scalping, but it'll have a couple of weeks to grow before I hit civilization. Following that I went down to the beach & had an icy shampoo.

Around 2:30 Hugh, Bill, & I strolled in the trail to check a profile across the road from the Mission, & in Burwash we bumped into Albert Isaac & proceeded to converse. Somehow or other the question of ages came up & he told me to guess his: I tried with 55 & he guffawed in amazement at my apparent lack of discernment. Then he pegged me at 37, which was damn close & said he was 78 yrs. old! That is hard to believe, especially after having seen him on horseback, but I expect he should know his own age at least within 10 yrs. Again he launched into tales of early days about his boyhood at Aishihik (his father was chief before him & he is now); about the first white men who came into that country by boat up the Nisling R. to trade; how Jack Dalton blazed an overland trail thru & brought the first horses they had ever seen: the horses were so astounding that the Indians called them "big dogs" & cached their food higher up in the trees so they couldn't eat it.

Then Albert told the old tale of the Indian Skookum Jim who first discovered gold on the Klondike R. & so started the stampede of '98:



After the hunt: Gene, Mrs. Gene, Kennedy, Osborne, et al.



Copper Lillie, Mrs. Jimmie Johnson, Lena Johnson, Hughie Jhnson on hill at Burwash-3

Albert took the shovel from my hand & proceeded to act out this find of Skookum Jim's; the gold-bearing sands were so black & heavy that Jim couldn't lift a whole shovelfull, much less a pan full, so he filled the pan with as much as he could handle, & laboriously washed it, & lo! the bottom of the pan was covered with the yellow stuff. The first pan load contained \$500. worth of gold & so a new bit of history began. Jim's wife was with him at the time & also someone else whose name I didn't get.

Albert also told me that if I was interested I could pan for gold anywhere in the Big Arm, from Gladstone to Raft creek—I suppose he meant in the streams coming down from the mts, or else in the sands at the base of the outwash gravels. (That, according to Gene Jacquot, is theoretically the place to find the gold – at the base of the gravels, & he tells about how the early prospectors used to dig down into these gravels: when they came to permafrost they built fires to thaw out a few inches at a time; & when the shafts were so deep that fires wouldn't draw in them, they heated up rocks & tossed them in to speed the thawing. He once saw some miners expose a sheep skull 35 ft. deep in such gravels.) Cf. other notes on Albert Isaac & early traders to Aishihik.

We complimented Albert on his horn spoons & ordered 2 of them, one for me & one for Raups, at \$7.50 each, the same large size as Kennedy's. Apparently he has no sheephorn left at the moment, but he will try to get them made before we go, & if that isn't possible we'll arrange with Gene to have them mailed out.

While we were examining the "marble cake" profile across from the Mission, Fred & Gene returned from WH: the deal is consummated & the wagon now belongs to Gene; we have the use of it until Sept. 9th. On the trip Fred got all sorts of stories from Gene:

1 - He & Louie originally emigrated from Alsace, as young men & came to the wheat-farming country of W Canada. Louie, being older & having an itchy foot, always seemed to get on the move before Gene who generally followed in a year or so.

When they perceived in a year or so that they weren't going to be successful farmers, Louie moved on again & presently ended up in Needles,



Trail from Burwash to camp

Calif. where he worked for Fred Harvey on the Santa Fe: because of his prowess as a baker he soon became Chief Pastry Cook. Then he sent for Gene who came down to Needles & was Ass't Pastry Cook. When the '98 Stampede came, Louie moved on again into the Yukon & Gene kept hearing from him & also getting requests for \$ because the pickings were lean. So Gene mailed him \$200. in Skagway—which Louie never got.

After a while Gene got tired of his job as Ass't. Pastry Cook & left for Skagway. On the way he had a dream about a letter so he stopped in the P.O. at Skagway to see if there were any mail for him: here they told him there was another L. (for Louise) Jacquot in town & so he went there & found upon inquiry that she had received his letter & the 200 meant for Louie. To make the coincidence even more striking, Gene had mailed the money from Indiana (where he had gone for some reason I forget between Needles & the Yukon) & Louise Jacquot of Skagway had an old



Slims River mudflats - downstream

uncle Jacquot somewhere in Indiana who could have sent her the \$. Anyhow Gene got the money from her & went on over the Chilkoot to join Louie.

This old Mrs. Allen, the mother of Sam Johnson's wife & French Paul's wife, whom we've seen around lately, is the widow of an old Tanana slave captured & kept by Copper Joe. After this Allen, brot back as a slave, had been around here for some time, he eloped with this girl & they ran off to Selkirk on the Lewes where they lived for 10 yrs. Old Mrs. Allen must be in her late 70's now.

Copper Lillie & Mary Jacquot out in the eve with some more moccasins (none for me) & afterwards we sat by the fire in the brush camp & drank the beer which I had bought last night but it was too cold then.

Sat. 28 August 48

Looked as if it might be clear & bright all day so decided to pack a lunch & run N up the Highway as far as possible for a look-see & also to check a peculiar speckled tree pattern that appears on the air-photos of the muskegs N of Dry Crk. Cleared from Burwash at 9:30 & enjoyed a fine drive. Crossed the 7 channels of the Donjek (6 bridges)

& held up a few minutes there where they are driving some new piles under bridge #6. Halted again at the White R. to get some pictures, & again at M1157 between the 2 crossings of Koidern Crk. where Fred & I climbed up into the woods & skinned off as much birchbark as we could get in a ½ hr.

This is the spot where the Burwash Indians go for bark, as it is the closest to Kluane Lake. Passed Paul Nieman's place at about M-1191 (just N of the turnoff to Snag): he has 2 neat-looking little cabins finished & 3rd started, altho he doesn't seem to have too good a tourist spot, what with the nearness of Dry Crk. Inn, & the muskeg & mud. But I wish him luck. Lovely country up thru there, altho it is all a giant black spruce muskeg; a few black flies out but they didn't seem to be biting, & fortunately all the mosquitoes all frozen out. The muskegs have now turned a beautiful fall color with the *Betula* & *Arctostaphylos* going red, the *Salix* yellow, etc. The black spruce which grows weakly on the muskeg is the most stunted & tortured I have ever seen because of the intensive congeliturbation still going on. The permafrost zone is only 12" deep under the surface moss.

We never did find the answer to the peculiar



Island of drunken spruce in muskeg kettlehole, Mile 1179



Upstream Jarvis Creek from bridge



Paul giving me a haircut



East across lake from "our creek"

spruce clumps because we didn't have time to dig enuf thru the permafrost—it's almost as easy to penetrate as concrete! These spruce clumps are characterized by a group of perhaps 6-12 trees which grow noticeably taller & straighter than the surrounding trees & in every case they are located on a low mound rising 1-2 ft. above the level of the surrounding muskeg. The only old stumps we noted are also located around the central point of these clumps. Something about these mounds, which are spaced roughly 200 ft. apart in all directions—has caused reduced congeliturbation & allowed the trees to grow more rapidly & straighter to heights of 20-30 ft., while the general run of the muskeg spruce is crooked & twisted & little more than 10 ft. tall.

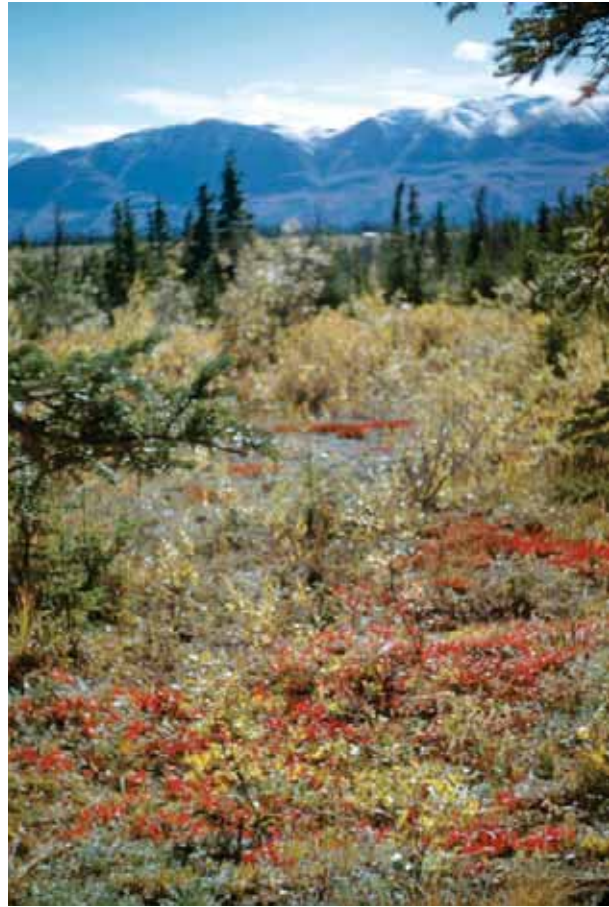
Had lunch of barbecued sheep steaks on the rim of a borrow pit just S of [Sanpete] Crk. There is also much [tussock] tundra in this section of the Beaver Cr., Muskegs. It is apparently a knob & kettle moraine area, & to the W the Nutzotin range of Alaska is clearly visible. After lunch, & an hour spent trying to dig futile holes in & around the spruce clumps, we shoved on up the Highway to a little beyond M-1200, just a few miles short of the Alaska border, then we turned about & headed for camp. That whole section of road is very rough as they are trying to build up the grade level without size gravel.

Arrived back in camp about 7:45 for late supper & a brief evening by the fire. Found a nice letter from Elaine waiting, but too late to write her. Below freezing again tonight.

Sunday 29 August 48

A dark morning but the wind is SE again once more, out of the Slims R. which it hasn't been for a good many days. Wrote Elaine & Jack in time to catch the 10:30 bus out & then went in with Fred & Bill for a shower. By noon the sky had cleared off & there was even a touch of warmth in the sun so Hugh, Fred, Bill, Karl & I drove out to check the profile once more at Burwash-3 & a few other places.

Stopped in Burwash while Fred & I took our birchbark up to Mrs. Jimmie. We more or less ducked out alone for this deal because most of our past experience with the Indian women has been fouled up by too many people trying to do



Scarlet bearberry (Arctostaphylos rubra), golden willow, etc. on trail between camp and Burwash

business at once. Mrs. Jimmie checked over the bark & said she'd make some baskets for us: then she went around pointing to various pots & pans in the cabin so we'd get an idea of size. I wanted especially a baby cradle so that was good for some joking & she seemed pleased at the idea of making one. Then she showed me how the bark is worked: the piece must be fairly solid with not too many knot holes; it is thinned down by peeling from the bark surface in toward the cambium; then for softness & malleability it is held over heat for a few moments after which it may be bent, folded & shaped most anyway desired. Later, when we went up to Burwash-3 to check the profile again, we bumped into Mrs. Jimmy over there in company with Copper Lillie, Lina Johnson (Moose's daughter who works in the café), and young Hughie Johnson. Mrs. J. had her canvas bag & 5 ft double-pointed digging stick & she & Copper Lillie were on a spruce-root-digging



Copper Lillie and Mrs. Jimmie digging spruce roots at Burwash-3

expedition. We snapped some good pictures of them, & Lena took one of all of us because she had a new Kodak, then Fred & I went along to help dig the roots. Mrs. J. picked a clump of 2-3 spruces which stood about 30 ft. tall on the open slope of the terrace (I guess so there wouldn't be a forest maze of roots & proceeded to probe with her stick until she struck a root which could then be grasped by hand & pulled up along its length. Apparently the best roots are about pencil-size or slightly larger in diameter, & the longer they are the better.

On the way back to camp Fred & [I?] dropped off in Burwash & climbed up to the village to watch Mrs. J. prepare the roots. She picks up any root, strokes off some of the dirt & loose bark in her fingers, then splits one end (the larger usually) down for about an inch with a knife; then she grasps one of the split halves in her teeth, as a vise, & begins to peel the strip off with her hands—the trick here is to play with the curved tension of the root at the point of splitting so that the strips works off along the grain & doesn't split off to the side & thus be too short; the fingers & thumb pressure are important at this stage in both hands; the teeth merely hold. After a long strip has been thus split

off, she scrapes it down with the back edge of a knife, removing the bark, etc, & small shavings so that it becomes uniform in width & thickness. Lastly the strip is coiled & stored in a pan of water to keep it soft until it is used in stitching on a basket.

Saw Jessie on the way down the hill & got the wrap-top moccasins with red trim that she made for Jack & Geoff.

Another cold, clear night, with bright display of Aurora borealis.

Monday 30 August 48

Thermometer hit a low of 27° last night – not bad at all, but it is cold as hell getting into the sack at night, & difficult to leave in the morning! Got a slow start after breakfast & took a drive with Hugh, Fred, Bill & Karl to check the profiles at 1092, 1085, & Destruction Bay. It is now getting tiresome looking into these same damn holes! Much serious talk of packing & baggage now.

Went in to Burwash with Fred & scrounged a lot of old ½" plywood & miscellaneous lumber & returned to camp where we spent the afternoon building a large shipping case, primarily for our adze-cut tree stumps & anything else that will



Fred Johnson and Gene Jacquot at Burwash

go into it. The wind shifted back into the NW quarter afternoon & became bitterly cold, with the thermometer dropping to 34° by 3 PM.

Nice letter from Elaine & sat in the brush camp after supper writing to her (the last of this season, as she sails for Skagway on the 4th), & then read by kerosene lamp light until 10 PM. Soft cold rain all evening.

Tuesday 31 August 48

Had planned to run down to Pine Crk. today, but the morning's weather was out of the NW & dark & uncertain, so we postponed the trip. Fresh snow on the mountains right down to the gravel fans, so we narrowly missed it last night.

In to Burwash with Fred & went up to Mrs. Jimmy to check on the baskets: she has 2 lovely baby cradles finished & several other bowl-types half done. Picked up Elaine's moccasins from Mrs. Bill Jim, & I hope, straightened her out on one more pair for Bessie. Came back & packed the large crate.

Sat by the fire in the aft bringing these notes up to date over the past 4 days, & read a bit. Started & finished another whodunnit during the eve. Drove up to village with Fred & Bill & Dave

& walked up to see how Mrs. Jimmy was faring: coming fine & staying right with it. Two other baskets (small mulligan pots) finished besides the baby cradles. Cold rainy night, but not quite down to freezing.

Wednesday 1 Sept.48

Chilly drizzly morning after a low of 34° last night. Weather too uncertain for trip to Pine Crk. so decided to stay in camp for some odds & ends of packing.

Drove in to Burwash with Fred & ordered 3 more pairs of moccasins from Mary Jacquot, then went up to Mrs. Jimmie's with Fred to watch her & get some pictures of her making baskets.

She operates with an awl that tapers back from round into a rectangular x-section, & handles it the same way as in sewing moccasins: the awl is punched thru & momentarily left in the hole while she grasps the pointed end of spruce root (or sinew), between thumb & index-finger; then she grips awl between 2nd & 3rd fingers, pulls it out, & while still holding it thus, quickly inserts the spruce rt. into the hole before it has a chance to close, the bead running around the rim of the basket is a green willow shoot. When she comes to



West into mountains between Kloo Lake and Christmas Creek, about Mile 1144

the end of a section of root she places an end to be laced under the next 3-4 loops; the new section is knotted before being placed thru its first hole. The split & coiled roots are kept submerged in a pan of water. The best time to cut bark is in the spring when the sap is rising; it can also be cut at the end of the growing season as "winter bark", which Fred says is used for canoe building in the E. Mary Jacquot says that bark can be cut in wintertime by building a brush fire encircling the base of the tree; then when the trunk has warmed up the bark can be stripped quickly before cooling sets in.

In the afternoon, took a drive down to M-1074 with Hugh, Fred, Bill & Karl: went down into the draw to look at a patch of fine mud polygons: ran 6-8 ft. in diam. & were domed up as high as 2 ft. above the bottoms of the grass-grown ditches that ran between them. Lovely fall coloration on the forest floor now: the sedges & willows golden; the scarlet & green *Arctostaphylos*, pinkish shrubby cinquefoil (the roots of this are akin to spruce in their excellence for stitching small basketry, etc.) orange wild rose bushes, & the black dark green of the spruces. A tinge of red is now noticeable on the hill slopes. Checked a few profiles on the

way back to camp, after a short session of surface-hunting at 1074 where we picked up 2 more scrapers; both retouched flakes; one a classic snub-nosed job, but the other different as per sketch:



Lovely clearing afternoon down the road, but back into the cloudiness & showers at camp. Mild evening, in the low forties, & some rain. Wrote up some notes & read a bit.

[EH makes the following entries at top of page]

Wed. 1 Sept 48

Moccasins (for Geoff grown-up) – made by Paul's wife 2.50

Thurs 2. Sept 48

Caribou skin bag (for Mother – made by Mrs. Jimmie) 5.00

Moccasins (for Bessie – made by Mrs. Bill Jimm) 4.00

Fri. 3 Sept 48

Stamps .40

Beer 2.20

Postage for 2 rolls Kodachrome .20



Breaking camp, Burwash



Golden poplars on beach of camp Burwash

Thursday 2 Sept 48

Another dark rainy day so we were confined to camp. Did some laundry. Wrote some notes & had a visitation of Indian women in the aft: Mrs. Jimmie, Mary Jacquot, Copper Lillie, Jessie Joe, & 2 from Aishihik. (Albert Isaac broke his Big Arm camp several days ago & has his whole gang over here now for a while prior to returning to Aishihik.) Mrs. Jimmie brot out the baskets she had finished, & I got the last of the 3 prs. of moccasins I ordered from Mrs.; Bill Jimm. Mrs. J. described the rigging used to secure a baby in the birchbark cradle & Fred & I are each going to try to get one. Drove into town for mail & I rec'd Elaine's of Aug. 30th. Chilly rainy night: sat in the brush camp, wrote Mother & Helen, & read "The Man-Eating-Leopard of Rudraprayag" by Jim Corbett. Very good!

Friday 3 Sept 48

Another dark, drizzly day without much promise of clearing. Sent off Kodachrome rolls #10 & #11, each with [?] included. Otherwise I have forgotten the minor details of the day, since I am now writing this aboard the *Princess Louise* between Kechikan & Prince Rupert on Sat. 11 Sept.

In the eve Fred & Bill & I went in to Burwash for some beer & after we'd had a couple of rounds, Gene Jacquot came in & joined us. He's a wonderful story-teller when he gets started & a wonderful repository of Yukon tales. The following notes, elaborated from the pencilled ones on opposite page, are the substance of what I can remember that evening's conversation:

1 – I asked Gene how old Albert Isaac is & he said "about 60". He scoffed at Albert's own story that he is 78. Gene is now 70 (Archie) & he says Albert was a young boy when he first came into the country (Hinton says Gene 74)

2 – Walter David is one of the Aishihik Indians

3 – Gene's record wagon run from Christmas Crk. cabin to WH = 10 days one way; 22 days round trip allowing couple of days to rest horses in WH

4 – Copper Joe came from the Copper River country in Alaska, & his wife came from Copper Center, was in that area. He was the son of a chief there & apparently just moved on into greener



Mooserib roast in the brush camp with Gene and Pete Jacquot

pastures in the Yukon. The cabin on Lake Crk which Jimmie Joe took Fred to in '44 & which Fred excavated as a contact site, was built by Copper Joe & his father—according to Gene.

5 – Old Granny Allen is Mrs. Copper Joe's sister, according to Gene, which makes her jibe as Mary Joe Jacquot's cousin. This from Gene.

6 – In speaking about Toad & Racing river country down in B.C., Gene said the Highway there follows the old Klondike trail. He also knows Charley MacDonald the old Indian who still lives down there & who used to camp on the same site we surface-collected there at M-422. The bone scraper & stone chisel I found there NE of the present lodge may even have come from an old camp of his.

7 – Jimmie Allen was about 17 yrs. old when Copper Joe brought him in as his slave from the Tanana country. Old Joe used to call him his "pack dog". There was possibly a feud (family or clan?) involved here in this slave-taking, & probably "a debt to be paid". Gene says Old Joe was a man with a terrific temper & that he had killed "several" Indians in his time. Gene said that Jimmy Allen when he grew up just eloped with "Granny Allen", but Pete insists that Copper Joe

freed Jimmy Allen in the classic way by singeing his hair, after which he married "Granny Allen" & went down to Selkirk with her. Pete also says that "Granny Allen" was a cousin of Copper Joe's wife not a sister. (But Mary Joe Jacquot calls "Granny Allen" her cousin.?)

8 – We had the marriage system figured out here as involving 2 exogamous moieties? (Wolf & Crow) with matrilineal descent (cf. genealogy) & this night Gene told us of an example that illustrates beautifully the breakdown of Indian culture under its impact with that of the whites. Sam Johnson & his wife are both Crows & they wanted to get married; all the rules were against it but they did so anyhow, & as a result there was all kinds of trouble around Burwash for 2 yrs. People ostracized them & here Gene seemed to intimate that active harm was almost done: he mentioned the counter-evil sign—the first 2 fingers extended towards (or into) the evil doer's eyes. After a while people gradually forgot & things returned to some sort of normal, & now, as far as I can see Sam & his wife are perfectly acceptable as regular members of the community. But what becomes of the 6 children they have? And now that the tradition & customary behaviour has been



Burwash Indians who came down to say goodbye to us

shattered for the first time, will someone else follow suit?

9 – Dutchman’s Flats: this is the proper local name for the high flats in the Dezadeash valley between 1016 & Canyon (not “Deadman’s Flats” as we have been in the habit of calling them). Apparently this name derives from a Dutchman who did some farming down in there near the Big Bend, 4-5 miles E of 1016, back along the Pioneer Road. Gene spoke of the old lakes in the valley & said drykye can be seen from 1016 all the way E to Marshall Crk. Old Indian Wolverine John lived in that country while the last lake existed, & his daughter, Sore-eyed Susie, now(?) 80 yrs. old, also remembers the last lake, Gene can remember when the lowest beach was barren of forest.

10 – Moose Johnson is a Tlingit who was brot up from the Coast as a young orphan—some Kloo lake Indians adopted him & he was reared there. His first foster-mother died & he later had a second. His name was adopted from his foster-father “John”. He is a member of the Wolf moiety [moiety] (whether by birth or adoption I don’t know), & he later married one of Sam Johnson’s sisters, who of course was Crow. (She died a couple of years ago.) Moose originated

around Haines.

11 – Old Copper Joe was an unusual Indian in many respects. When he came up into the Yukon country (from Copper R.) with his wife, they settled for a while in the Nisling River country. This apparently long enuf to raise their entire brood of 5 girls & 1 boy. Here Mrs. Joe lost her life in falling from a cache & being pierced thru the breast by a moosehorn. This occurred when young Jimmie was about 12 yrs. old. Copper Joe moved away from that country then & never returned. Nor did he ever marry again. Cf. earlier notes on Jimmie Joe’s family life & history. Apparently the Dickson’s [Dixon] helped a good deal in bringing up the Joe children from that time on: Pete speaks of playing with them as children. For some reason or other Jimmie Joe today has no use for Buck Dickson or for his father, Old Tom Dickson.

12 – Albert Isaac used to go out with Gene’s hunting parties, but he came to be such a beggar of nuisance to the white hunters by asking for the shirts off their backs, that Gene finally let him go. Remember the story about Albert, a white hunter named Baxter, & a horse called [C_____r] which was one day fording a stream!

Moose Johnson, incidentally is quite a beggar,



Southwest to Decoeli group from Jarvis bridge



View across Kluane Lake from Mile 1088



Old Burt's cabin

even as Albert was. Moose manages to wangle a good many things out of the hunters: he got a 2-man mountain tent from the Raups, & he tried to get a wool CPO shirt from me.

Saturday 4 Sept 48

All up at 5:30 AM as it promised to be a pleasant day & this was our last chance to return to Pine Crk. for a recheck on some of old beach levels. Left camp by 7:30 with our lunch. Perfectly gorgeous morning with the air clear as crystal & the early shadows on the mountains so delightfully new that we stopped every few miles for the first 2-3 hours & snapped numerous Kodachromes. Arrived the Experimental Farm around 10:30 & went back up to Pine Crk. Canyon & located Leahy's pit so Hugh could have another look at the soil profile. Then we chased back & forth around 1013 taking barometric altitudes, etc. Got back to camp around 5 PM, picked up 3 letters from Elaine, & spent the evening in the brush camp. This was a lovely fall day—the coloring in valley of Jarvis Crk. was especially beautiful.

Sunday 5 Sept 48

Another fine bright day. Our luck seems to be holding for this matter of breaking camp & inasmuch as the wind is still out of the SE we shouldn't have any rain for 2 day[s] more. Cleared all our gear out of the tent & hoisted the bottom up so it could get thoroly dry. Spread all my stuff around to warm it up & commenced repacking.

Mrs. Jimmie & Copper Lillie came out with the 2 baby carriers for Fred & me & they're both beautiful jobs. I have the small one now, all of which was done by Copper Lillie—the covering is moosehide & the beaded decoration excellent. Price most reasonable too—the coverings being only 10.00 each. (Fred paid for this & I must reimburse him later)

Mary also dropped out in the aft with my last moccasin orders (for Elaine, Jack, & me)—they're very nice, indeed, with white caribou tongues. Trouble is that Mary ran out of fur & put white domestic rabbit on 2 of the prs, so I shall have to pick up a muskrat skin somewhere & return them. Jessie also came out, bringing the gopher-skin



North up lake across Slims River estuary

boots I ordered from her. Later I picked up the 2 bone points which Albert Isaac made: actually these are made of moosehorn.

Along about 5 PM Gene & his wife Pete came out for a mooserib supper in the brush camp: they furnished the ribs (actually a rack brot in by Moose & lifted from the cooler) & some beer. Paul had roasted the ribs all afternoon at an outdoor fire beside his tent, & his wife Agnes came out with the kids to supervize. The roasted ribs were delicious, & the combination with beer is really

something! Later in the eve, all went in to the moosehorn cabin (the 2 boys staying in camp) & Pete & Archie mixed up a Yukon eggnog which was excellent altho it might have been stronger.

Postage for K-12 .10

3 pr. Moccasins (4.00 + 4.00 + 3.00)

11.00 (made by Mary Jacquot)

Gopher Boots 1.00 (made by Jessie Joe)

Bone arrow points -2 @ 1.00 2.00 (made by Albert Isaac)

South wall Slims River estuary from point at Mile1064





Elmer and Elaine Harp aboard "The Princess Louise", returning from Skagway, Alaska, September 1948, to Vancouver, BC

APPENDIX

1. Notes on a few sites checked briefly along the Alaska Highway & a single one discovered on the approach from Edmonton, Alta to Dawson Crk, B.C.
2. Also brief notes on Canyon & Champagne sites in Dezadeash Valley, Y.T.

Calais, Sturgeon Lake, Alta

16 May 48

The hamlet of Calais lies on S shore of Sturgeon Lake. On S-side of Highway is D& B trading store & cabins; directly across from there is Calais Café, rented & operated by the McCrackens. W. of the café a car trail leads down to lake shore about 200 yds. to N. Several cabins here. Specimens came from washed out wheel tracks in trail at a point where it slopes down off a wide grassy bench at a distance of about 100 yds. from the lake, & at a height of about 20 ft. above present lake level (in spring flood).

In a quick survey, no other finds spotted except the chip. Area is open & grassy with clumps of poplar, aspen, & birch along shore. Soil is some sort of gumbo till. This is in territory of Cree Indian Reservation. Saw one Indian last night in a dugout canoe.

Specimens:

1. A small chert snub-nosed scraper made on a flake by retouching one end & one side. Found on the surface by Mrs. McCracken & given to me.
2. A quartzite chip, not reworked.

See sketch map page 111 [map – 16 May]

M-147, Alaska Highway

18 May 48

Beatton R. Crossing, B.C.

Recco along SS & gravel; terrace for about ½ mi. on N side of river going downstream E of bridge. Terrace about 30 ft. high. S. side of stream here is meander flood plain. Found nothing.

M-201, Alaska Highway Trutch, B.C.

Scouted along banks of un-named creek 0.4 mi. S-of Repeater Station at M-201.

Unable to find anyone at the Station who knows where Trutch Crk is, but map shows it heading up across height of land E of Highway.

No surface finds in this area. Away from cut banks of creek & road the area is heavily seeded with your spruce. Unable to locate the site discovered somewhere around here by Oscar Lewis.

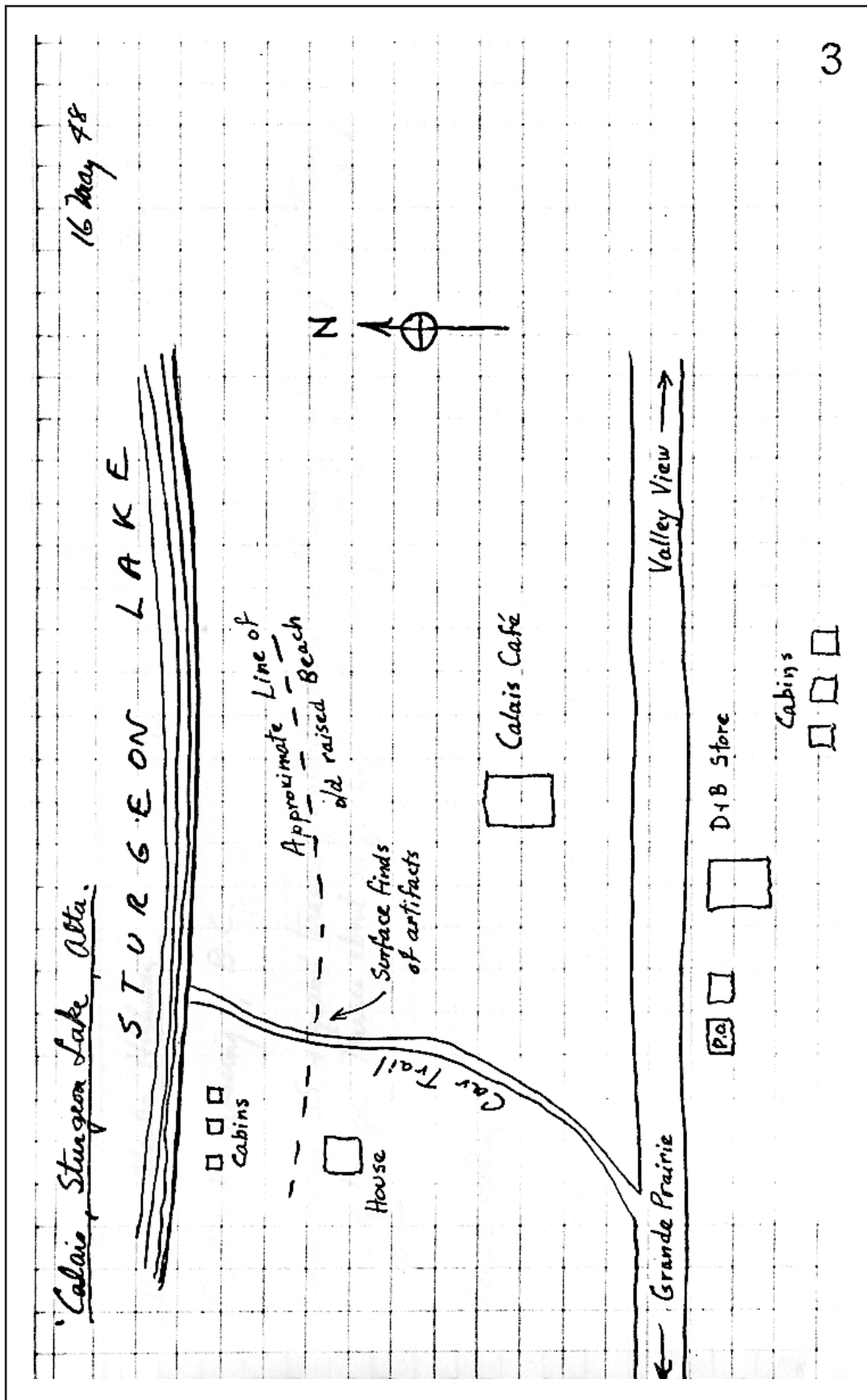
M-290 (to 300), Alaska Highway

19 May 48

Muskua R. Crossing

Scouted N bank of river for about ½ mi. E of bridge. Sandy flood plain about 15 ft. above present water level covered with dense stand of old poplar. Gravel point 3/8 mi. E of bridge quarried out for road-building.

Found nothing.



[sketch map Calais, Sturgeon Lake, Alta. - 16 May, 1948]

M-363, Alaska Highway – Mill Creek
Camped here night of 19th; checked site AM of 20th.

19-20 May 48

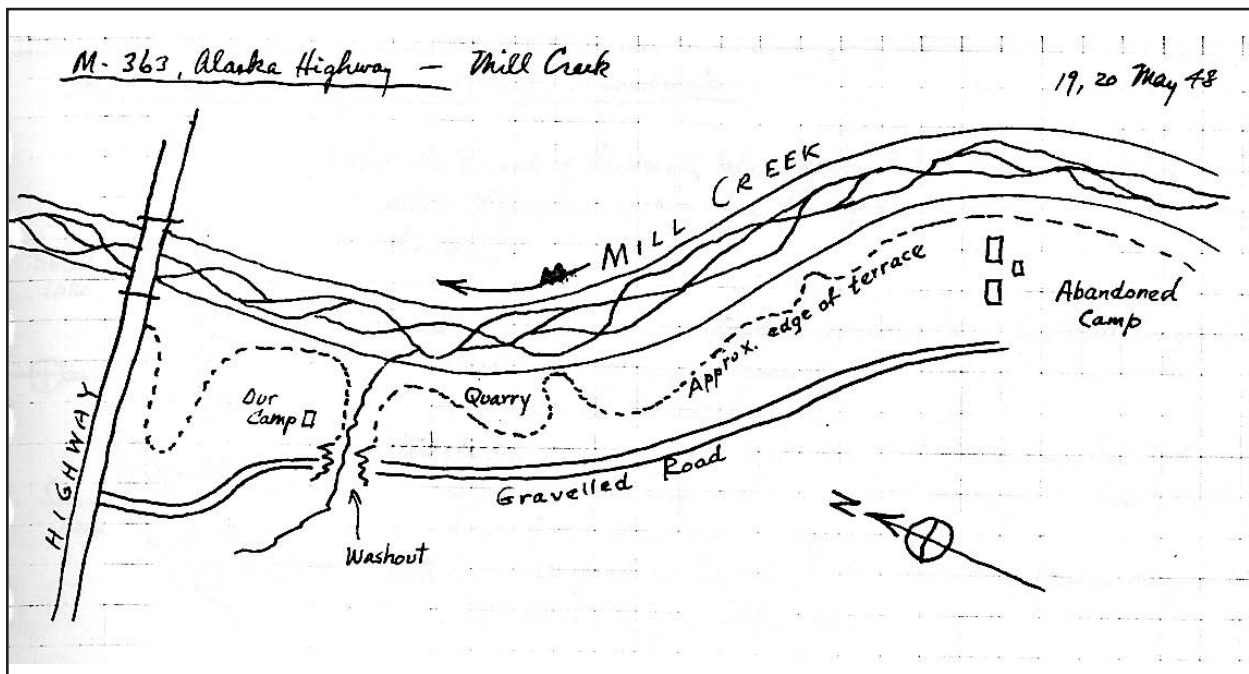
Located S of Highway on W. bank of Mill Crk.
Gravelled road leads back into abandoned camp ¼ mi. from Highway.
This road now cut off by washout + 100 yds in from Highway.

Collected some chips on terrace S of washout between road & edge of bluff.
Terrace composed of muck on gravel & it has been deeply quarried for road gravel.

My reaction is one of skepticism:

- 1- Either the site has been thoroly picked over or else the stuff is much cruder than anything I am accustomed to.
- 2- It lies a little too close to gravel side of road for comfort.

[sketch map M363, Alaska Highway - Mill Creek May 19, 20 1948]



M-394, Alaska Highway - (Small) Summit Lake

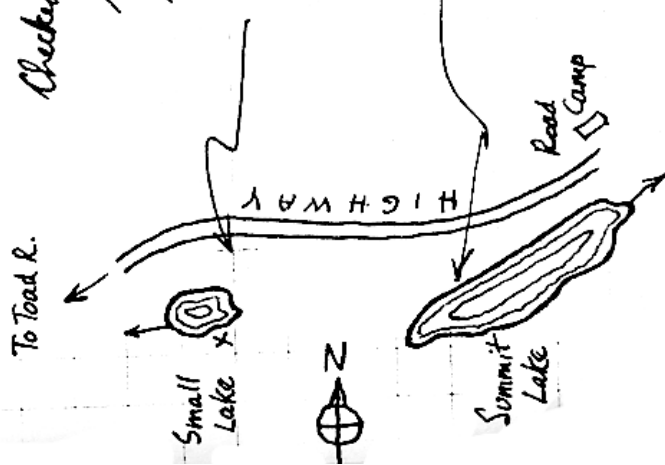
20 May 48

Checked the E-end of the small lake, between lake + road. (Expedition camped where X marked in 1944, but this spot all washed with snow runoff this date.)

Picked up a few chips + amorphous specimens here. Don't feel too good about them because of nearness of road (10-20 ft. away) which is paved with Achenbach handaxes.

Also checked the area of large lake where Fred found stuff, but I got nothing. Bank here grown up with spruce with many gravel fans spreading down from mountain runoffs.

Both lakes still frozen in this date, + all surrounding terrain very wet + soft with runoff + melting snow.



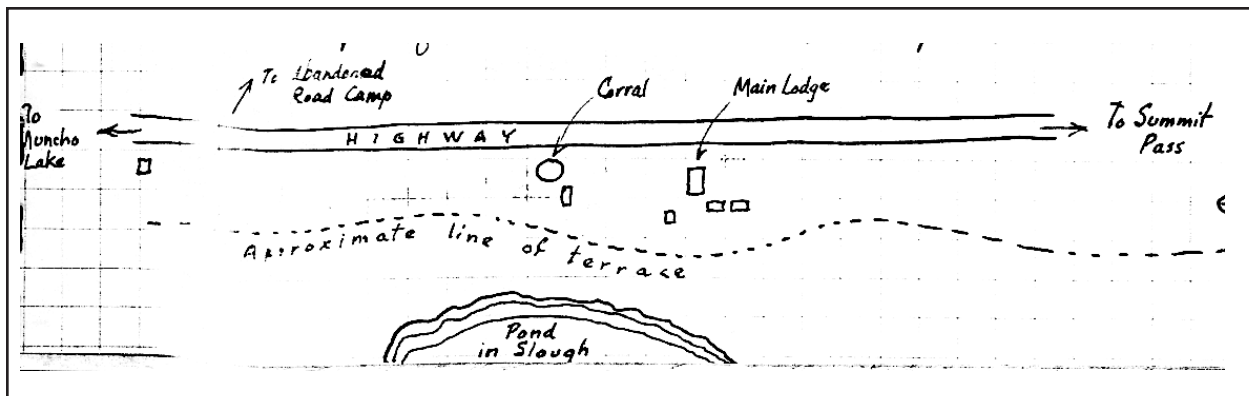
[sketch map M-394, Alaska Highway - (Small) Summit Lake]

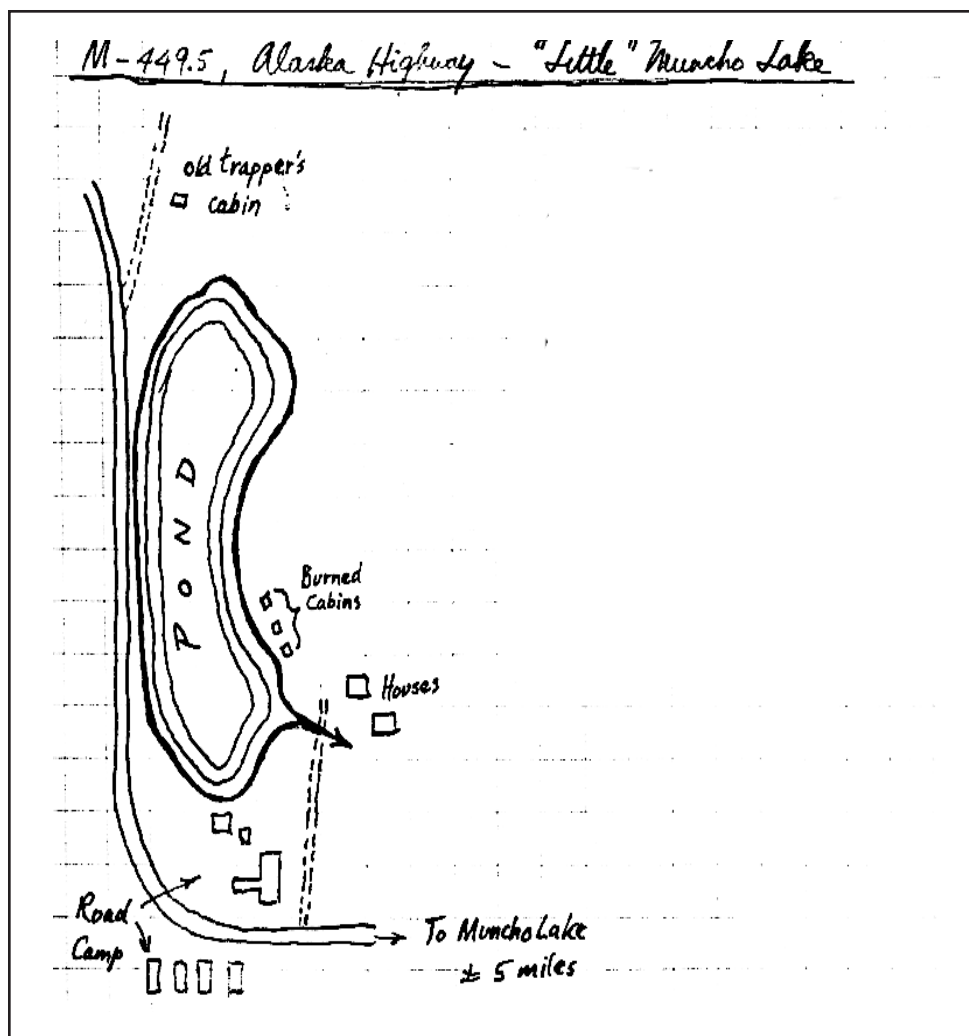
Stopped here for the night. New setup since Johnson came then in '44—meals, gas, lodging available.

The entire terrace along the Highway (see map) seems to have been an Indian camping ground from present time back to chipped stone culture. Indians positively known to camp here just before Highway came thru.

Followed a horse trail all along the edge of the terrace & found plenty of chips (felsite?), snub-nose & side scrapers, fragments of chipped axes, etc. Also a single obsidian flake. All these specimens at the surface where the sod had been worn away. NE of the main lodge, where recent Indians are said to have camped I found a two-handed notched bone skin scraper & a thin stone chisel.

[Sketch map M-422, Alaska Highway – Toad River]

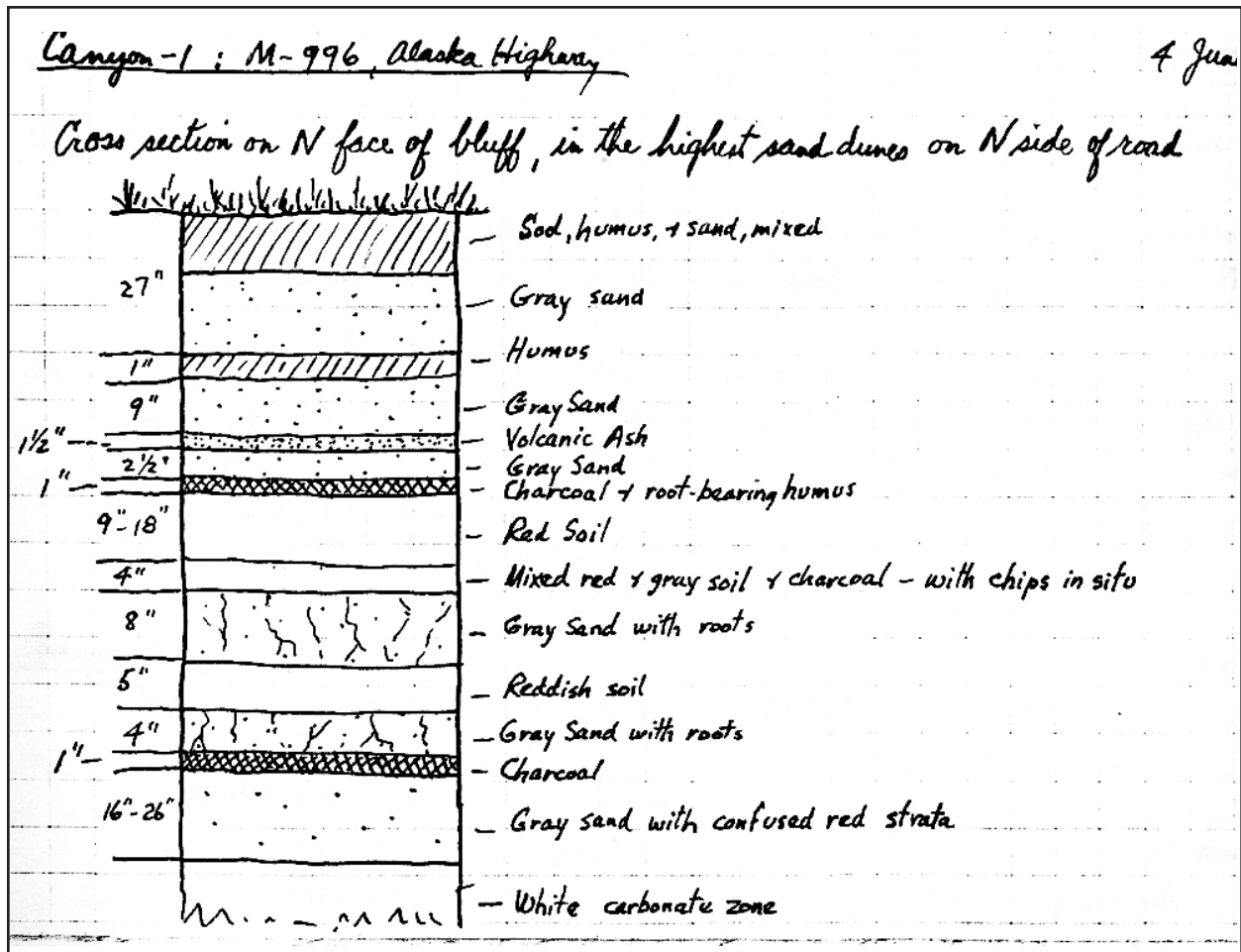




Not certain if this is same as Johnson's '44 site but it's the closest thing I could find that resembles his sketch map.

Checked S end of lake & came along E shore, then around to hillside of W bank. This W side has been burned over in last several years, & nothing remains of 3 cabins. Also, the fire has severely modified the rocky outcrops & all the scrap stone & slide rock lying on the surface.

Found only 3 chips, one of them obsidian, near the houses. They lay on a washed-out surface & seem to occur in a stratum or reddish soil which showed only in spots. Everywhere was a litter of fire-spalled SS chips.



June 19 48

Champagne - 3

(NB: The Champagne series of sites are located in blowouts along N bank of Dezadeash R. about 1/2 mi. almost due S of trading post.) -Numbered 1-3 from W→E.

Began trowelling back a 15' face, divided into 5' sections, near center of blowout

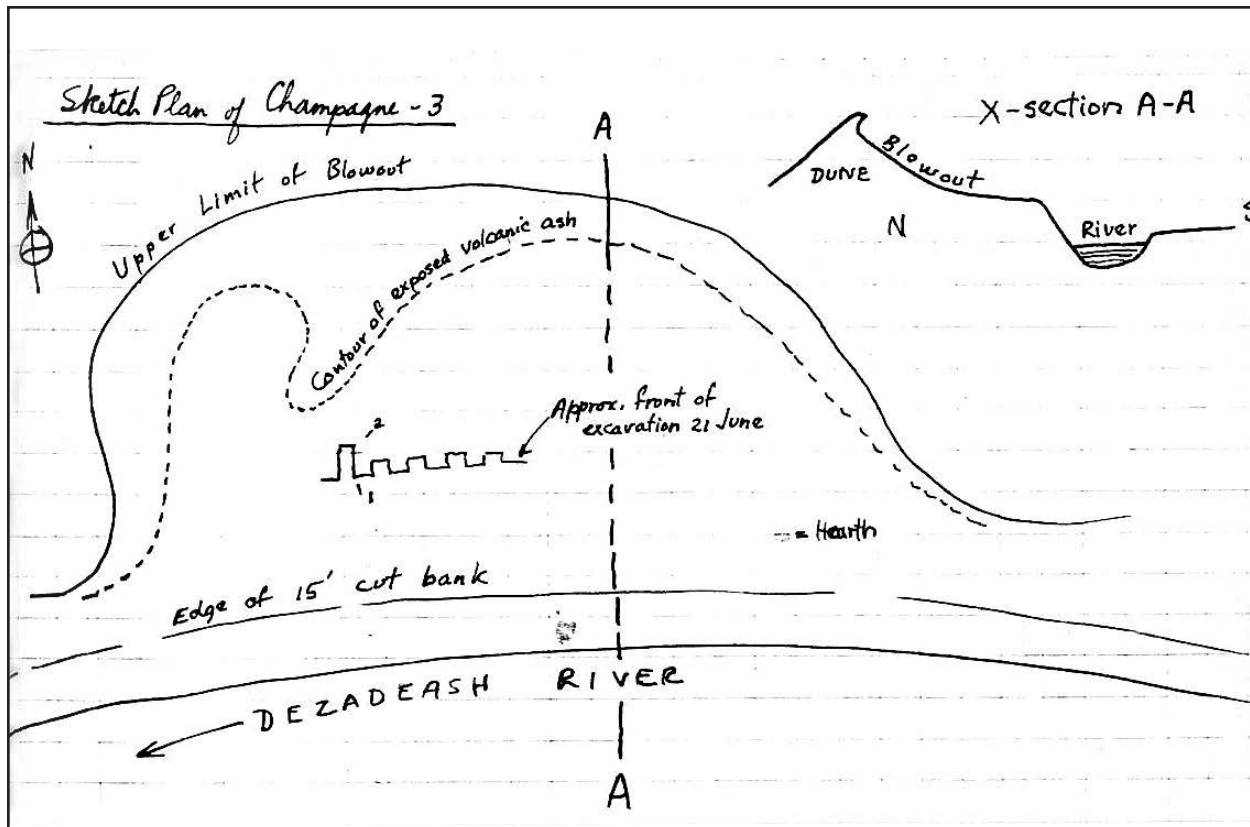
- 1- Beginning at level of red soil stratum which immediately overlies the coarse gray waterlaid sand.
- 2- This lowest red zone is overlaid with a burned zone which is blackened & hard & contains roots, bone, charcoal.

One bone specimen in situ in the ash layer, #2

Champagne - 1

Dug a 3' layered trench vertically into face of bluff at about center of blowout. Trowelled or screened all contents as far down as coarse gray sand. Worked from volcanic ash downward
A few small bits of bone in second charcoal layer beneath ash—above red sand.
Nothing found in red sand stratum immediately above coarse gray sand.

[sketch map Canyon-1: M-996, Alaska Highway 4 June 48]



Champagne - 2

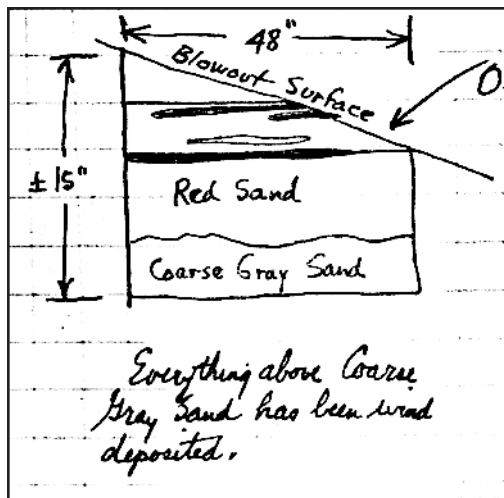
Made a vertical cut in bank to check stratigraphy & trowelled out a number of chips in & near the bottom of the red sand layer which lies directly over the coarse gray sand.

Champagne - 3

Continued trowelling back into dune face

Ash layer over red soil (over gray sand) is heavily laden with scattered charcoal, burned & unburned bone & chips.

Spot concentrations of burnt bone indicates presence of hearth areas, but not pattern.



Occupation Zone: up to 8" thick, with superimposed lenses of charcoal, red ash, white ash, Ash hard packed. Entire zone full of fragments of burned & unburned bone & charcoal. No plan. Appears to have been a series of camp fires built on top of each other within a general area (extent of which not yet determined) sometimes with layers of windblown soil wedging between them, indicating a passage of time & a sequence of culture. Red sand stratum carries scattered fragments of charcoal & bone, in lesser amounts, thruout its entire depth. (Found snub-nosed scrapers in situ in hearth zone, & chips in situ in red sand beneath it.)



View from *Haines Rd. Mile 151*

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