CLARKE, Tom and Elspeth

A Waterman
Reports of the Okanagan Historical Society
No. 40 & 41

Tom Clarke - Pioneer Surveyor of Railroads and highways

PART 1

Editor's Foreword: Tom Clarke's recollections are mostly about other parts of BC than the Okanagan. They are included in this report because of the vivid picture which is given of the tremendous amount of construction activity going on in BC between 1908 and the mid '50s.

Tom Clarke, British Columbia Professional Engineer - Civil, was born in Bothwell, Ontario, on June 21, 1888 and like a number of young men of his era, began work in a bank. He enjoyed neither the work nor the location and after his application for a transfer to the west had been refused he quit and reached Vancouver via the prairies by Christmas, 1908.

After various unsatisfying clerical jobs, Tom left the coast in August, 1909 for the prairie harvest fields where he learned that the back-breaking work often stretched from dawn to dusk. As groaning tables of well-cooked food had yet to become a prairie tradition, he considered himself lucky if he got enough to eat. Accustomed to his parents' comfortable home in Bothwell, he had boundless admiration tinged with pity for the women who struggled bravely under conditions of primitive housing, a shortage of fuel and limited supplies of food and water. He remembers the swarms of flies some of which were exterminated by chasing them around the kitchen ceiling with a flaming torch of newspaper and sweeping up the singed remains.

Harvesters'' pay was $2 a day with board so Tom was not exactly stakey at the end of the harvest. He searched Edmonton for a job without success and was considering a bleak future over a solitary pre-dinner drink in a bar when he overheard two men discussing plans for a Canadian Northern Railroad survey. With nothing to lose, he asked if there was work and Garnet Hughes, chief of the survey party, hired him as rear chainman at $30 a month with board. Tom was too green to know that he occupied the lowest rung on the survey ladder; nor did he know that he had the right to ask for an advance to outfit himself. Instead, he borrowed $25 from a banking friend. Experience proved this inadequate. He recalled that moccasins were a dollar a pair and that little was left of his third pair by spring. On the trail, he observed that when the snow was soft, the French-Canadian axe-

man's oil-tanned moccasins kept his feet dry. Tom's were wet.

Each man added to his outfit a few meagre luxuries such as tobacco to smoke or chew. One far-sighted member of the party spent a day wandering around Edmonton hotels collecting magazines. His objective was not a selection of reading matter for the trail but a supply of toilet paper.

The party consisted of the chief, a transit man, a level man, a topographer (a draughtsman was dispensed with and the chief and transit man did what draughting was required), two chainmen, a rod man, three axe-men a cook, a bull-cook and two packers. They left Edmonton October 12, 1909, with wagons which were exchanged for pack-horses at the end of the Grand Trunk Pacific tote road. Tom's last bath before spring was taken sitting on the shore ice of the Athabasca River.

As the snow fell and feed grew scarce, Tom remembers with distaste having to drag the hungry animals away from shrubs on which they tried to browse. The last camp with the pack-horses was made after dark; it was a miserable camp lacking tent poles, adequate wood and water. There was no horse feed. Next morning, the pack train with a light load of non-perishable supplies and Tom as rear sacker went ahead a few miles and spent the night in the snow warmed by wet saddle blankets. In the morning the supplies were piled in a cache and the wretched pack train returned to camp.

The following day, the two packers took the horses back some miles to a valley where the snowfall was light enough for them to exist until spring. They rode two saddle horses back to Donald McDonald's ranch near Lac Ste. Anne.

It took three days for the French-Canadian axe-man to make hand sleighs using only axe and auger on birch wood. As the party dragged the sleighs through the heavy snow, even the chief of the party, Garnet Hughes, and transit man, Sam Workman, took turns on the tow ropes.

Daylight was growing short and the only light in camp was from candles. Butter had been finished quite early on the trail. The canned milk gave out shortly before Christmas. However, there was no lack of dried onions, potatoes, salt pork and beans, bacon and dried fruit. Tom allowed that the cook made good bread.

Lunch on the survey line always consisted of the bacon left from breakfast blanketed between slices of frozen bread which were thawed individually on the lunch fires. The man who went ahead and made the fire had the tea boiling and the loose snow on the lee side of the fire brushed away so that moccasins did not get wet. Dessert was excellent: bread well-smeared with bacon grease and sugar toasted over the lunch fire.

The only protest on the trail came on the first Sunday when hauling the hand sleighs. The transit man who was the direct contact between the chief and the 'Indians' hollered: "All out!" The rod man and the two chain-men being young and innocent turned out but the axe-man protested loudly: "No!" The chief stated that on the trail the party travelled seven days a week. "Hell, no." retorted the axe-men, "not when hauling hand sleighs." And sleighs were not hauled on Sundays.

After arriving at the Yellowhead Pass, the summit of the Rocky Mountains, about the middle of December, the party started the preliminary survey to the west on the headwaters of the Fraser, in order to tie their survey to that of another party from the west which would work up from the Albreda Summit. The camp consisted of four tents: three for sleeping and one cook tent which also served as the dining tent and the cook's quarters. Assisting the cook was the bull-cook. Apart from washing dishes and kitchen chores, he kept the cook supplied with wood as well as the three sleeping tents. After starting the cook-stove fire in the morning he started fires in the sleeping tents - a much appreciated luxury.

On the railroad survey, the surveyors run a preliminary line first and locate off that line. Heaven protect the

careless transit man who reads and books a wrong angle or the chain-man who drops the odd 100 feet either of which leads to an error in the plotting and in the projections for location where angles are translated into curves.

After Garnet Hughes' preliminary survey had joined the party from the west in charge of Mr. Hannington, the Hughes' party returned to the summit where supplies had arrived by sleigh from McDonald's ranch. This was the first horse-drawn conveyance to reach the summit. Supported by ample supplies, Hughes' party started back locating to Jasper Lake.

Completing their section of the Yellowhead Pass survey, the party left the west end of the line in March, 1910. At that season the best travelling time was between 4 and 11 a.m. while the crust on the thawing snow was hard. After camp was made, Garnet Hughes conceived the idea of sending one or two men ahead to break trail with snowshoes and return in time for supper. There was a marked lack of enthusiasm for this chore because each time a snow-shoe was lifted, the snow had to be knocked off with a stick. By this time they had run out of *babiche* (thongs of rawhide or gut) and were repairing their snow-shoes with odds and ends of string, cloth or leather.

Sam Workman and Tom were hauling the same hand-made sleigh they had hauled in but under the steady cutting of the snow crust the front runners broke.

In a few days the party met the pack train. The horses had been rounded up in the valley where they had wintered and driven to the summit to bring the survey party out. Oats were packed as there was no grass in March. These unfortunate horses, weak after a winter's rustling, were barely strong enough to pack. When it came to crossing thawing rivers, they had a terrible struggle because the shore ice remained strong forming a shelf onto which the horses in their weakened condition could not always clamber. The footing was uncertain for the packers and it was only with desperate efforts that they saved the pack train by hoisting the weak and terrified horses onto the ice.

After a few more days they reached the end of the tote road where wagons waited to take them to the end of the Grand Trunk Pacific steel at Wolf Creek. There was a hold-up at Wolf Creek until the bridge was constructed. The journey was continued by box car and completed in some style in an old passenger car to Edmonton. Late spring found Tom at Canadian Northern headquarters in Winnipeg

The work fascinated him so much, hardships notwithstanding, that he followed railroad and highway location for the next 50 years. He was re-hired in Winnipeg by Garnet Hughes, who had been appointed by the Canadian Northern as District Engineer, for work on Vancouver Island. Later in the spring of 1910 a survey party was assembled in Victoria and sent by the CPR's *SS Tees* to Port Renfrew, where the first survey work for the Canadian Northern Pacific on Vancouver Island was to start.

Sailing through the Straits of Juan de Fuca, enroute to Port Renfrew, the Indians who took passage on the *SS Tees* usually wished to disembark where no dock existed. Their canoes would be on deck with their motley possessions, wives, children and dogs. To oblige these passengers, two slings were placed under the canoe loaded with family possessions and the crane would hoist all over the side and lower it to the ocean.

After a few weeks' work at Port Renfrew, word reached Tom's party that other routes to Port Alberni and the northern part of the Island were to be surveyed. They were moved by the company's gas boat to the north end of Saanich Inlet and from there surveyed a line along the cliffs on the west side of the Inlet. Surveys continued on the southern end of the Island during the winter and the more northern and heavy snow areas in the summer.

In the spring they left the south end of the Island and started a survey of the rugged cliffs down the Alberni

Canal to Franklin River.
Port Alberni was the natural centre to which men gravitated from the camps in the area. When Tom headed in for provisions he met engineers and survey crews from the Esquimalt and Nanaimo Railway from Great Central Lake who were surveying a branch line into Port Alberni. The "Tees" brought supplies from Victoria and by tacit agreement, as soon as her whistle was heard, tools were downed and shops closed as everyone gathered at the Somas Hotel to hear the news and greet newcomers.
Fortunately for him, Tom was in town during an unusually heavy snowfall. In camp it brought down the tent on the sleeping topographer who shared it with Tom. Powerless to move, the unfortunate man had to be dug out. It was a couple of days before weather conditions permitted a return to camp with fresh supplies.
In the summer Tom's party was moved to Cowichan Lake to locate the route from the head of the lake over a low summit and down the Nitinat to its confluence with the Little Nitinat. Part of the time surveying was done where wagons could be used for transportation: on lakes it was usually done by rowboat. Fortunately on Cowichan Lake a Scot named Gillespie, had an old wood-burning steam boat capable of carrying 16 or 18 men with their equipment. The wood-burner consumed such quantities of fuel that Gillespie frequently put his passengers ashore to gather thick fir bark to fire the boiler. Fir bark can be pried off dead trees with ease and, with the aid of a pole, can be reached up to a fair height, but the man wielding the pole must be fast on his feet to dodge hunks of falling bark weighing 50 or 60 pounds.
After they reached the head of the lake it was back-packing. Two men were employed continuously in this arduous task to keep the supplies up with the men. If the supplies lagged too far behind, everyone had to turn to and back-pack. Generally the line crew only packed on moving day and maybe the following day. No one turned to this duty with a glad shout.
Later in the summer of 1911 the survey party to which Tom was attached started the preliminary line from Cowichan Lake across the summit to the Nitinat River. When the heavy rains started Tom was sent over the trail up the Little Nitinat and down Franklin River to where the pack-horses which had been supplying them for the summer were corralled. The head packer, Bill LeLievre, said that as he had another party to look after he could not go. Tom decided that his party would have to move out by boat, so he borrowed Bill's canoe to paddle to Port Alberni. He found the canoe heavy and cumbersome so when the wind rose he rigged a sail using his shirt - much to the astonishment of sport fishermen.
In the morning the service launch started down the canal, out into Barclay Sound and headed for the entrance to Nitinat Lake. For safety this had to be approached at slack tides. They chugged up the Lake and anchored at its head. Before dropping off to sleep on deck Tom was amazed by the phosphorescent trails of the multitude of salmon which had started their mysterious journey to spawn in the fresh water creeks where they had hatched.
Having worked his way through the various grades as topographer, leveller and transit man, from 1911 onwards Tom was instrument man on construction. About Christmas he got fed up with being wet and quit. He considered taking a course in mathematics but spring found him back on construction at the head of Cowichan Lake. During the summer he was transferred as instrument man to the party at Skutz Falls where the survey party had a semi-permanent camp on Indian Reserve land.
In the fall the water was very low on the Cowichan River so great numbers of salmon, unable to leap the falls, swam in frustration in the pool below. Always interested in a change of diet, Tom craved salmon. He tried fitting his shirt on a forked stick but the fish easily evaded this makeshift net. He then enlisted the aid of the resident engineer and together they took up an old carpet from the floor of their tent. This was hung from a pole close to and in front of the falls while the other end was looped up by ropes to trees or bushes. When the fish attempted to jump the falls and failed, they fell back into this trap. With this magic carpet operating successfully, they had more than enough to eat so a smoke-house was constructed to smoke the surplus for winter consumption.
While at the bar at the Lakeside Hotel, he fell into conversations with the assistant game warden who mentioned that he had heard rumours of illegal netting and smoking of salmon on the Reserve. Tom wasted no

time in returning to camp where the smoke-house was promptly dismantled and the salmon cached safely away from the camp.
In contrast to conditions in engineering camps those in railroad construction camps run by contractors were horrible. Poor food was served by unskilled cooks on enamel-ware worn to black iron. Accommodation for sleeping was in tents known as “muzzle-loaders”. These were large tents with a narrow passage between two continuous sleeping shelves stacked in two layers to right and left. Food was served in the cooking-dining tent on two long tables on each side of the tent. Tom remembered a camp where the stables were higher than the cooking-dining tent and the stable drains ran under each dining table.
1912 was the last year in which BC land could be staked for purchase, subject always to the Foot Board Measure (timber) regulations. Through an advertisement in the Gazette, Tom heard of a very good area but was too late in following this up. Nevertheless, seized with a fever to own land, he quit Skutz Falls.
He made arrangements with an eccentric acquaintance in Victoria to share this venture as a partner and went to Alberni where he bought an Indian canoe for a dollar a foot. He caught the “Tees” on her trip north and joined his partner, Archie, who had boarded in Victoria.
They landed at Nootka. On the beach, Indians were hacking out canoes, some still clad in blankets, and a few bricks remained from the fort built by the Spanish in 1789. The island had already been staked. Largely by professional homesteaders who were not too careful about the areas they staked at between $2 and $5 per acre: their interest lay in proving up their pre-emptions and selling. A far different proposition from homesteading on the open prairie where acreage had to be broken and a livable cabin built.
Tom and Archie did not always agree on the areas to search, nevertheless they proceeded up the Gold River to find only a single section that met the qualifications for land that could be purchased and this was not big enough to have a survey made and complete the transaction with any prospect of realizing a profit.
While waiting for a job to show up, Tom and a friend, Henry Schupe, camped on Sproat Lake. Henry Schupe later got the job as engineer for a reconnaissance survey for the Esquimalt and Nanaimo Railway north of Campbell River. Tom went as his assistant. The survey was made on foot and by canoe - a lovely 16-foot close-ribbed, Chestnut, made light and strong in Fredericton, New Brunswick.
After working up the Salmon River on an abandoned logging trail and climbing mountains to get the lie of the land, Tom and his chief followed the coast south to Elk Bay, the last safe landing north of Seymour Narrows.
After a week spent looking over the country to the west and south, Schupe decided on a reconnaissance of the Salmon and White Rivers area. He would walk to Campbell River and pick up a packer after taking a look at that area. Tom was to wait at Elk Bay until picked up by a CPR boat on the Vancouver/Prince Rupert/Skagway run.
Surprisingly soon Tom heard the blasts of the boat’s whistle and paddled out. Assisted by the crew, he boarded through a low cargo door. He donned the slippers which in those days were supplied to protect canvas-covered decks from caulked boots and went to see the Captain. A second unscheduled stop was not to the Captain’s liking but he was courteous and agreed to heave to at the mouth of the Salmon.
Tom stocked up with supplies at the store and paddled up the Salmon to a cabin a short way above the White. Until Schupe arrived, he spent his time exploring the area up the mountains and down the valleys taking hourly barometric readings to be checked against the chief’s readings. Altitude taken by aneroid barometers is not very accurate but taken several times and averaged it was close enough for them to survey a railroad grade at a reasonable cost. With a second packer they moved up the White River until they reached a low pass to the Davie River. The chief took one packer and went upstream. Tom took the other and plunged down the valley of the Davie through shoulder high salal and the odd devil’s club until he could see where the valleys of the Adam River and the Davie joined.
The easiest way to get to the Adam for further reconnaissance was to turn back down the White and Salmon to Johnstone Strait. A hand-logger took them in his boat to the mouth of the Adam.
Following the same routine with barometric readings they surveyed the Adam to a swampy summit and a stream which led into the Nimpkish River. By this time both packers had quit. However, as supplies were low the trip back to the mouth of the Adam was easy.
Once again they stocked up at a coastal store and hired a boat to take them to Beaver Cove where they varied

their diet by catching delectable crabs. They camped on the Nimpkish with the intention of carrying their reconnaissance to its source but snow began to fall. Unequipped for winter, they returned to Victoria to make up their reports.

Railroad construction had slowed down during the early years of World War 1 but there were still jobs available and Tom thought long and hard before he decided to enlist. He held strong views on the immorality and futility of war but he wanted the Allies to win and was not one to "let George do it." He compromised by enlisting in the Ambulance Corps in Vancouver.

An English friend, Tildsley, who had enlisted in the Siege Artillery in Victoria, managed to transfer to the Ambulance Corps. Thus on arrival in England, they found themselves in the same field hospital shuffling bedpans for war casualties: Tildsley on day duty and Tom on nights. Appalled by their duties they spent their free time working out ways to get a transfer. Fortunately for them, the Medical Corps was senior to the infantry so it was not too difficult to work a transfer to the artillery (senior to the Medical Corps) at Shornecliffe. They pulled this off just in time as the hospital unit shipped out to Cyprus within a week.

Tom fought his war dutifully but he had neither enthusiasm nor aptitude for soldiering. He claims that he marched out of step throughout the conflict because he embarked at Vancouver on his left foot for training at Esquimalt. His record does not substantiate this. No civilian at that time could imagine nor comprehend the suffering and agony of war: perhaps in a subconscious effort to preserve their sanity survivors recall the ridiculous or quasi-humourous incidents.

As bombardier Tom was in charge of the wagon lines when his battery was at rest. Also in his charge were three or four prisoners who told him one night that they knew where some champagne could be found and proposed that if he would turn them loose for a few hours they would return with some champagne. Sure enough in the morning they staggered back slightly drunk and laden with bottles of champagne.

He was ordered to take his detail of three or four men to clean up the wagon lines: a never-ending chore with artillery horses. As he rounded up the detail they observed that the quartermaster sergeant, not known for his sobriety, was drunk. As usual, Tom and his detail were broke. The temptation was too strong: they relieved the sergeant of his boots and traded them to a Belgian farmer for eggs.

In 1917 after two years of continuous action, Tom applied for a commission. His application was accepted. But before Tom could take up his cadet training he was laid low with an infection which sent him to England on a stretcher. He returned to Canada in March, 1919.

In Vancouver he was again hospitalized before being discharged as medically unfit. By late spring he had itchy feet so he went to look at the Peace River. Settlers were allowed to take up a quarter-section as a homestead and, in addition, veterans were given the option of taking up an extra quarter-section.

He travelled by Canadian Northern to Edmonton and Spirit River. Rather than continue to Grand Prairie which was the end of steel at that time, Tom walked the 60 miles from Spirit River to Pouce Coupé. En route he overtook an Englishman, Jim Matthews, who was also seeking a homestead. They stuck together and located about half a mile apart.

Jim had been a skinner on the Grand Trunk, so he got a team of horses and hauled the logs for their cabins.

At the end of summer he returned to Vancouver and enrolled in the Soldiers' Settlement Land scheme. It was stipulated that those applicants who were not farmers must spend some time working on a farm in order to qualify for benefits. Tom headed to Winfield where his Uncle Bill had a hay field. He sold the hay on condition that it was "fed on the meadow." Here Tom enjoyed a couple of months of leisurely work and here, for the first time, he fell under the spell of the Okanagan.

During the winter he met Elspeth Honeyman who had been educated at All Hallow's Girls' School at Yale. Unfortunately her parents frowned on Tom's suit and when he sought advice from Mr Honeyman on the prospect of rearing pigs in the Lower Fraser Valley, he was told that homesteading in the Peace River was infinitely more rewarding.

After Christmas the University of BC offered a course in agriculture. In the spring, after completing this course, Tom returned to his homestead in the Peace River.

In the fall of 1920 he returned to Vancouver. Faced with the choice of supporting a wife or a homestead, Tom unhesitatingly chose Elspeth. Unable to win her parents' approval the young couple met one day at the Great Northern Station in New Westminster and were married in the Presbyterian Manse. They lived in Burnaby and New Westminster, later moving to one of the Trapp houses in Ioco.

Tom started work for the Provincial Highways Department under Eric Todd, Assistant District Engineer for the Lower Mainland.

In the spring of 1922 there was heavy flooding in the Coquitlam area and as a result Tom worked on a survey of the Coquitlam River from the BC Electric dam to the CPR main line bridge at Coquitlam which had been completely washed out. In the same year a son, Bill, was born.

The Revelstoke highway bridge was started and Tom worked as assistant engineer at $125 a month till its completion in 1924. He then undertook the job of locating a highway from Box Lake near Nakusp to Rosebery on Slocan Lake. The CPR branch line operating in the Slocan Valley eased transportation problems.

At Summit Lake, where a lumber mill had burned down, houses remained standing. When Elspeth went to join Tom, he approached an American with an interest in the timber limits who had continued to live in one of the houses. The American indicated a house which in his opinion might harbour fewer bedbugs than others told the Clarkes that they were welcome to move in

In order to keep up with the survey, they moved on to Hunter's Camp where a teamster and his team had quit. The teamster stated that his house had running water and the Clarkes could have it for the price of the windows: $10. The running water came in a flume from the creek around the house and under the front steps. When they moved on to Rosebery they enjoyed both running water and continuous electric light because Mr. Hunter, who looked after the electric plant, allowed no one to turn off lights as he believed this would unbalance the generator.

By 1925 Tom was resident engineer on the re-construction of the Cariboo Road through the Fraser Canyon from Yale to Saddle Rock. The Highway was built by station work; there was not a machine on the job and the work, done by gangs of European immigrants, was steady, including Sundays. The engineering standard was to have 16 feet of road in the clear (where there had to be protection to prevent people from going into the river). The maximum grade was 8 percent and the maximum curvature 40 degrees. (Now anything over 4 percent requires a third lane and a road be of 24 feet). One of the problems of making estimates was that the width of the road might be increased when tenders were called.

When Tom took over, the final location had not been completed but the contractors were on the ground letting station work in place on the residency. To connect these odd bits of station work the location had to be definitely settled and the line cross-sectioned. This took time while other work was neglected. As early contracts and station work were completed the final quantities had to be worked out. All this should have been done before the final location was made. In retrospect Tom considered this madness, particularly as during his residency he was without an office. In order to keep up he worked evenings and often on Sundays.

A daughter, Calista, born in May 1925, was a few weeks old when they moved to Yale. When Bill developed a fever and a rash it was arranged that the CPR doctor should stop off to examine him on his first trip. Within 24 hours the doctor swung off the still-moving Trans-Continental and dashed in to see Bill. Without hesitation, he announced, "Measles" and as he dashed back to catch the train he yelled: "Keep him warm and his bowels open!"

Elspeth used to take Calista, who was breast-fed, out in the baby-carriage with Bill toddling beside her. One day as they passed a group of prospectors idling on the porch of the general store one old man teased Bill by saying that he was going to steal Calista. Bill stood his ground and asked the old man, "Have you got breasts to feed her?" "Of course not," retorted the old man. "Then you can't have Calista!" That probably took a bit of living down.

The District Engineer, McMillan, under whom Tom and an engineer named Lindsay Swan worked, always supported his assistants when arguments arose with contractors. These occurred pretty frequently. He was, however, a man of some eccentricities amongst which was an antipathy to fresh air and a fondness for warmth.

While he was in the office no window was opened so Tom and Lindsay welcomed his trips of inspection to the end of his residency about six miles upstream on the east side of the Fraser.
The original Alexandra suspension bridge, a spectacular project of Joseph Trutch's, had been carried out so soundly that the stone pier bases built in 1863 were still in fair condition. Faced with stone to resemble the original bases they were again used. The individual wires for the bridge cables were taken in from Yale on pack horses. Each cable consisted of 1264 wires bunched together on the site. They were then covered by canvas and painted. A two-foot section of this cable was cut by Harley Hatfield and Russell Palmer for the National Machinery Company Limited who wished to use it for advertising. When it had served this purpose it was presented to the Provincial Museum.
During construction the men crossed the Fraser in a bucket suspended from a cable. Propulsion was by means of a hand rope; anchored at each end. At either end it was a steep uphill pull to land.
After a month or so at Jackass Mountain, Tom was offered the position of Assistant District Engineer on a district that started at Port Essington and ended at Telkwa on the Bulkley river. As there was no road beyond Terrace and no through road between Kitwanga and Terrace the work was mostly on local roads. He was happy to accept this because it meant a permanent home for his family and when future moves came they would be to settled communities. But it did not work out.
Before the federal government under Sir Robert Borden took over and amalgamated the Grand Trunk Pacific and Canadian Northern they paralleled each other from Edmonton to Red Pass Junction. After they were taken over the government made one line, the Canadian National, from Edmonton to Red Pass Junction sometimes on Canadian Northern tracks and sometimes on the Grand Trunk. The Canadian National was the main road and as such it was maintained. From Red Pass to Prince Rupert it was virtually a branch line which was not kept up properly. At Smithers the engineers told Tom that they got the bridges that had been discarded when the lines were amalgamated and were asked to fit them into the canyons and river crossings on the Canadian National.
Tom made a reconnaissance by boat down the Skeena from Kitwanga to Usk to determine on which side of the river the prospective road should be and a rough estimate of the cost. The head boatman, Holy City Tomlinson, was the grandson of a lay preacher, William Duncan, who as a missionary in the early days had established a mission at Metlakatla on the Coast. Later he had a disagreement with the church authorities and, as a result, had established an independent mission in Alaska. The only indication of Holy City Tomlinson's calling was the celluloid collar he wore. His wife had been a Salvation Army lass whose work had been in the Whitechapel district of London which was then notorious for its violence. Nevertheless this woman had answered calls for her services as a midwife where police would not venture alone. She had adapted well to West Coast life.
Before Tom resigned in the spring of 1927 and returned to Vancouver he had formed two opinions: that on construction, horses should be replaced by machinery and that work should be divorced from politics.
When the Lytton-Spences Bridge section of the Cariboo Highway came up he accepted the job as resident engineer in charge of the construction of the road from Nicomen Creek to Spences Bridge. When Elspeth and the children joined him they lived in tents at Drynoch. Water was piped from a spring to the camp and to Tom's tent: for the camp, some enterprising soul constructed a shower fed from the spring by a three-quarter inch pipe. This was not wholly satisfactory because the pipe was exposed. The first man to use it leaped out swearing that he had been scalded; those who followed him cursed the chill.
In the summer the area abounding in rattlesnakes and cactus was sizzling hot; not an ideal environment for young children. In winter the bitter winds whistled and chilled monotonously.
From Drynoch they moved to Nicomen Creek in the spring and continued work. The family lived in a cabin which had been built during the first construction of the CPR. This was confirmed in a letter-book which contained a copy of the inventory taken by Mr Daley, superintendent for Mr Onderdunk, CPR contractor from Port Moody to the Rockies. These letter-books were stiff-covered books containing tissue-thin sheets. When a record of a letter was required a water-proof sheet was placed under the tissue; the tissue was then moistened and the written letter placed face down on it. The book was placed in a press and enough pressure applied for

an impression of ink to appear on the tissue. Thus a permanent copy remained in the letter-book.
Because of heavy wheat shipments to Vancouver, train traffic increased in the fall of 1928, making it difficult to construct a long concrete wall needed between the highway and railway before reaching Nicomen Creek. The concrete was mixed on a flat car that carried the gravel, sand and cement. An attempt was made by the telegraph operators to advise the construction crew when trains were scheduled but usually they ran ahead or behind schedule so work continued until the train stopped half a mile from the flat car and steadily blew its whistle until the track cleared. This took some time as the concrete-mixing outfit had to go to Nicomen Creek section house for the nearest siding. Meantime anyone within hearing distance was deafened.
During the winter he did various jobs; among them he located a new bridge at Ashcroft and took the foundation borings at Spences Bridge. He recalled that in late winter in Ashcroft tumble-weed and 4-gallon coal oil tins blew from one end of the village to the other and when night fell and the wind changed, they blew back.
In the spring of 1929 the family moved to Summerland where Tom was in charge of the location and construction of the high road between Summerland and Deep Creek. The first wagon road to Peachland had been a high road and a small section of the rockwork is still visible two miles from deep Creek, a few yards south of the view point. The next road, which followed every contour of the lakeshore and was frequently blocked by landslides, was far from satisfactory.
Before the Summerland-Deep Creek road was completed Tom was assigned to the Hope-Princeton road. The parting words of the Chief Engineer, Pat Phillips, were: “When you go to the Hope-Princeton job you will get the men with the big grocery bills. Do the best you can and make it long but narrow!” The Depression had set in and the progress of this road was closely linked with elections: it forged ahead when there was money to fulfill election promises and halted when the money ran out. Nevertheless, during all the time Tom worked on it, he was only once approached with a proposition to influence his vote.
Owing to delay in their departure they reached their tents (wooden floors and three-foot side-walls), which appeared to perch on the very edge of the awesome Similkameen Canyon about midnight. Across the dark void the lights of Copper Mountain mine flickered. The night was decidedly cool and it was half an hour before their air-tight heater would emit heat instead of smoke. Even Tinker, the dog, spent days beside the road gazing longingly back towards Summerland and the cozy house at Crescent Beach.
Tom was in charge of the work at Friday Creek, Copper Creek, the Falls and Ungula Camps. The work started at Whipsaw Creek repairing the road built previously. He had little equipment and it was not of the best, but he had an excellent mechanic whose inventive genius kept the old machinery going. He counted himself lucky too to have Bert Thomas as superintendent to assign men to jobs. He was on old-time Highways Department man whose knowledge of each man’s background enabled him to match the man to the right job. Men who were less than enthusiastic about work were put where they would not interfere with those who would do a fair day’s work. Whether it was called rough justice or political expediency, no one was fired.
In late fall, in order that the children could attend school without transportation difficulties, the Clarkes moved into a house in Princeton. When school closed in the spring of 1931 they were again in a tent on the Similkameen a mile or so beyond construction. It seemed to them that they were continually having to move from one job to another. As fall rolled around the prospect of returning to Princeton for the winter was gloomy. The Depression bred a dreariness of spirit in many: those who had jobs clung to them while those without tried to husband their meagre resources. The basic necessities, apart from what could be grown in a garden or hunted in the hills, were available in the general stores. Tribute has seldom been paid to the general store-keepers who, with few exceptions, extended credit until wholesalers cut off their own credit.
In the circumstances the Clarkes chose to build a cabin on Copper Creek rather than return to town dwelling. Here for two and a half years Bill and Calista continued their schooling by correspondence and were taught by Elspeth. Later the cook’s young daughter, Eileen Bacon, joined the Clarke children for lessons. Elspeth, who did all her own work including laundry, bread-baking and the preparation of venison in varied ways so that her family did not tire of it, was writing, and her poems were being published in the “New York Times”. Living simply in the Copper Creek cabin and savouring an uncluttered life, the family were without doubt less af-

fected by the Depression than town dwellers. For Tom there was personal contentment: it was the longest time that he had stayed in one place since he left home. As a family, they counted it one of their happiest periods.
In the fall of 1931 the camp accommodation at Friday, Sunday and Copper Creeks as well as at the Falls and Ungula camps was increased and filled with men on relief. Prior to this there had been standard pay. On relief the men received 25 cents a day. In addition they were supplied with food, clothing, shaving material and the solace of Kelowna Pride tobacco. The cooks were the only employees on full pay. Flunkeys and bull-cooks received the standard 25 cents a day. Foremen detailed gangs to cut wood in the bush and carry out other camp duties. Tom continued his instructions to build a narrow road on or near the located line to be used as an access road when contracts were let.
In this situation men who were unaccustomed to the backwoods and isolation suffered from loneliness, boredom and melancholy. They had abundant spare time but the means of recreation were limited, especially in winter and the Depression fostered few imaginative impulses. Without organization, supervision was always difficult and the only remedy for anti-social behaviour was eviction from the camp which was almost impossible. The situation bred discontent and an American agitator fanned the discontent into a strike for more money which was to result in the closing of the camps.
Still in charge, Tom recommended that several policemen be sent to organize the evacuation judging that by a show of force trouble could be prevented rather than provoked.
The move was carried out good-homouredly and Copper Creek was evacuated without incident. The men were taken to Princeton where the agitator absconded with what money he had collected in dues.
In 1932 Vancouver found itself no longer able to pay its proportionate share of the direct relief so the camps were re-filled with men from the city who came in by train to Princeton and by truck to camp. Regardless of the arrival hour the cooks would have hot coffee and sandwiches ready. It was not long before those hungry men found it necessary to put a “V” in the back of their trousers.
Tom completed the map and other details of his work; the last two weeks without pay, as the provincial allocation of funds was exhausted, and on November 11, 1933, he too joined the unemployed. With his children he happily turned to building a ski jump They enjoyed ski trips through the woods and in the evenings found time to read and talk.

-End of Part 1-

PART 2

Editor's Note: An error appears in Part 1 of the Tom Clarke story. "Holy City" Tomlinson was not related to William Duncan of Metlakatla but both he and his father worked with Duncan on more than one occasion.

In the spring of 1935 the family decided to look for a permanent home in the Okanagan which they had enjoyed when Tom worked on the Summerland-Deep Creek Road. Tom came ahead, looked around Oliver and moved on to Penticton where he stayed in one of the two auto camps on the shore of Okanagan Lake. He found out about orchards by calling on packing house managers and meeting orchardists. He looked over his present property of nearly 11 acres; he liked it and its price of $4000. He sent a deposit in the form of a certified cheque for $500 to the absentee owner, an accountant named Campbell who lived in Toronto. Campbell lost the cheque, the bank froze the money and the transaction did not progress beyond an agreement of sale. In fact, no bill of sale was executed until the late Harry Boyle straightened out the matter while in Toronto shortly after World War 2.

Meanwhile, believing that good faith warranted prompt action, Tom helped a carpenter, Harry Bell, to start constructing a house according to a plan drawn by the family and Harry. As the cherries ripened Tom turned from construction to help the family who were having a hard time keeping up with the ripening fruit. Construction of the house continued until the money ran out but the Clarkes had managed before with an airtight heater and this time the running water was inside the house. That fall the Valley suffered heavy frosts before the apples were off and although Tom had opened taps on the orchard irrigation system the flow was insufficient to keep the water from freezing. He spent many days cutting out split pipes and re-threading sound ones to restore water to the house. Later the pipe was buried and inside plumbing installed.

Before the apples were off Tom had been offered the preliminary survey of the road from the outlet of Okanagan River to Trout Creek. He recalled that at one time a reconnaissance had been made for a high level road to Summerland from Penticton Indian Reserve climbing to the west benches and by-passing Penticton. However, the idea would not have been acceptable to Penticton and would have entailed a high bridge crossing Trout Creek. So, until the road level was raised, tractors stood by in the spring, north of the location of the Chapaka Tourist Camp, to haul traffic through the gumbo caused by high water. This job, the first successful highway built of silt in water, kept the pot boiling for some time. During the winter Tom pruned the orchard for the first and last time.

In 1939, while he was locating engineer on a road from the Nation River to Manson Creek, Tom was asked to report to the Chief Engineer in Vancouver, so he handed over to the instrument man. The Chief said, "Tom, we want you to do a reconnaissance from Atlin to the Stikine, over the centre route being considered for the BC-Yukon-Alaska Highway. The season is already far on, so a plane will be chartered to fly you in to Atlin where horses and an outfit will be ready for you."

When Tom and his assistant landed at Atlin, neither horses nor outfit were ready. There was delay in finding a packer and helpers and rounding up the horses which were not in good condition. Finally they got away and work was completed to a point not far from Nahlin when Tom sent the horses back to Atlin for supplies while he and his assistant continued the work on foot. They reached the Yukon telegraph post (one of the posts on the line constructed by the Canadian Government between Hazelton and Dawson City during the Klondike Gold Rush) at Nahlin on September 10, 1939 to learn with feelings of grim resignation that war had been declared that day.

Tom left his assistant working near camp with instructions to proceed with the horses when the packers returned. The telegraph operator loaned him a dog which could pack 20 pounds and he set out to look at an old trail from Glenora on the Stikine to the Yukon originally followed by prospectors during the Yukon gold rush. At one time Mackenzie and Mann had considered building a railroad from Glenora to White Swan Creek at Teslin Lake but instead built this trail. Tom wanted to examine it as a possible alternate route for the new highway. Along it he found the remains of old pack saddles and discarded equipment - even a two-wheeled cart

which had been abandoned when the going got too rough.
He did not entirely trust the dog to stay with him so he carried his sleeping robe and tea; he could always bring down a fool-hen for food. However, by the second day out it was sticking so close to his heels that the animal was continually being kicked under the chin as Tom stepped over logs. It was the rutting season and moose, short on eyesight and long on bad humour, had to be driven off by Tom waving his jacket and shouting at them. The dog stuck firmly to Tom's heels.
When grub and time began to run short he climbed a hill to take a look at the country. In minutes fog came down and he made camp right there. Fortunately, a moose had stepped in a low spot and water had gathered so he and the dog had a drink even if they could not quench their thirst. Two days later the fog had not dispersed so Tom took a bearing and moved on. In an hour or two he was out of the fog and on his way back to Nahlin.
The horses and packers had returned from Atlin and with Tom's assistant had gone on to explore a route they had thought feasible but which proved too high. They had then moved further down the Nahlin River. When they returned to Nahlin, Tom sent the large pack train back to Atlin because the season was closing and he thought it foolishness to take 12 horses over the route he was reconnoitering. Besides it would cost a fair sum to winter them on the Stikine. He was able to pick up two horses and a packer at Nahlin.
It took longer than Tom expected to find the summit pass between the Nahlin and Tuya Rivers. Snow started to fall and as there was no trail down the Tuya the three men and two horses had no choice but to travel above the timberline. There was little food for the horses, which had not been in good condition when picked up at Nahlin and there was no protection from the weather. Tom led them off the bare mountains down into a creek which he knew crossed the Telegraph Creek-Dease Lake road. The horses stumbled on until the party reached a canyon out of which they could not climb in their weakened condition. They had to be abandoned and the equipment cached. Tom hoped that from Dease Lake he would be able to send Indians back to fetch them.
When the party reached the road it was late evening. They had stretched their food for the last few days and now, over a fire, ate the last of the bannock. A truck en route to Dease Lake picked them up. When they arrived at midnight, Mrs Collinson, the lady at the stopping place, kindly gave them a big meal which, in their weakened condition, so upset them that they could not sleep.
That night two feet of snow fell and it was three days before Tom could leave Dease Lake. With his assistant and two Indians he set out to search for the horses and to retrieve the abandoned equipment. They went as far as Sixteen-Mile Creek where they camped. The following day the Indians searched for the horses till noon. There was little doubt that the animals had perished so, picking up the abandoned equipment, the Indians returned to camp. One of them shot a moose and after dressing it brought a large chunk of liver into camp, so there was a second supper of fried liver. The Indians caught the next truck to Dease Lake leaving some of the meat for Tom and his assistant.
By next truck Tom went to Telegraph Creek and on to the mouth of the Tuya where there was a ranch on which the HBC had wintered their horses in the early days. He hired a couple of dog teams and their Indian mushers to help him complete his reconnaissance. He told the head musher of the route he had taken with the horses from Nahlin and where he wanted to cross their trail and pick up the reconnaissance line. At an elevation of 5000 feet they crossed the lava beds, bare and featureless, composed of monotonous humps and hillocks interspersed with willow brush. On the third day the head musher turned off down a little draw and came out where Tom had crossed the Tuya earlier. Asked how he knew where to turn off in that featureless country, he explained: "Once, when I was a boy, I came to this crossing with my grandfather."
The reconnaissance completed, Tom returned to Telegraph Creek and caught the mail plane to Atlin and Skagway. Late in the afternoon he ran into a snowstorm and after dodging between a few trees, set down on a small lake. The problem of four people sharing two sleeping bags was solved by sleeping in shifts. In the morning the pilot decided the runway was too short for the aircraft to carry both passengers and baggage. After instructing his passengers to make their way to a larger lake about two miles distant, he took off with the baggage. They were in Atlin by dusk. Tom completed his report in time to be home for Christmas after leaving in June on a short job!

During the open weather of 1940 the Hope-Princeton Highway work went ahead with Tom as location engineer.
The Alaska Highway was being pushed ahead and the General Construction Company had the contract to build an airport at Watson Lake. Light equipment had been flown in to the Lake and a small landing strip built but the heavy machinery under its own power moved with supplies from Telegraph Creek to the head of Dease Lake. Scows had been built to take it down the lake and from the foot of the lake it moved on a tote road to the site of the airport. Tom had the job of reconstructing the Telegraph Creek-Dease Lake road while heavy machinery moved on it.
Tom was supplied by the General Construction Company and had the use of their equipment while a scow was being built to transport it down Dease Lake. The company also kept the crew supplied with food. The Indians thoroughly enjoyed a steady diet of bacon and ham and in spite of bitter complaints from the company superintendent, turned a deaf ear to suggestions that abundant moose and goat could be had for the hunting. When pressure was brought to bear they hunted and returned with one very small mountain goat.
August, 1941, found Tom in the Queen Charlottes making a reconnaissance for an east side road on Graham Island from Massett to T'lell. He hired Nellie and Ivan, a Russian by birth who had taken up a homestead near T'lell. Ivan had acquired his wife through correspondence and, so far as Tom could see, the union seemed as satisfactory as most. While Tom continued his work, Nellie and Ivan broke camp as often as necessary and moved about six miles ahead or to the next creek. Before breaking camp Ivan consulted his tide-tables to ensure that Nellie and the democrat passed the various headlands and bluffs safely at low tide. Camp would be made and supper in the pot when Tom reached camp.
Wherever a creek was accessible on Graham Island there would be a cabin and, in most of them, a retort for the extraction of gold which had been amalgamated with mercury. Sharpened stakes, 8 or 10 feet high, surrounded the gardens to keep the deer out and Japanese glass net floats of all sizes decorated the gate-posts. Beside the creeks were sluice boxes for washing gold. After a sou'easter, flour gold was found washed up on the long flats exposed at low tide. To collect the gold-bearing sand men carefully skimmed it into a couple of four gallon coal oil tins. These tins were hung on a yoke for transportation to the sluice boxes where the coarser sand was washed away while the gold-bearing sand was caught on the blanket (frequently, stair-carpet) lining the box. After being cleaned in a solution of lye or soda, the gold was separated from the black sands by panning and then amalgamated with mercury. The amalgam went into the retort where the mercury was driven off by heat leaving pure gold. Chilling condensed the mercury-laden vapour and thus the mercury was recovered for further use. The cabins were vacant in 1941 because the miners had enlisted or were working for good wages in wartime industries.
A plank road existed between Massett and T'lell on the east side of Massett Inlet. It ran through swamp and consisted of two 12 inch plank tracks on stringers. Tom's road on the east shore was never built as it was found cheaper to fill the old planked road.
After Pearl Harbour in December, 1941, the federal government moved to intern Japanese living on the Pacific coast. Tom was sent to open the Hope-Princeton construction camps for the reception of Japanese men. They were provided with bunk cots and the kitchens were, in time, furnished with supplementary equipment for Japanese cooking. The only guard was at the first camp out of Princeton where non-uniformed veterans stood guard with unloaded rifles. At each camp a Canadian foreman assigned work. Machinery was needed elsewhere for essential industry so it was pick and shovel work with wheel-barrows for earth-moving. Culverts were built and the road slowly lengthened.
Very much aware of the Japanese threat to their maritime supply lines to Alaska, the United States also had doubts about the capacity of the incomplete Alaska Highway to carry sufficient supplies. Would there be enough gas and oil to fuel the vast fleet of transport vehicles required to ensure a flow of supplies? In the circumstances, they decided with the concurrence of the Canadian Government, to build a railroad from Prince George to Valdez, Alaska as an auxiliary. Finding few engineers with experience in railroad surveying available, they turned to Canada for help. Canadian engineers were frozen in their jobs but it was not long before

Tom was released from the camp job and on his way north to more agreeable work. His section was from a mile or two up the Finlay, down to Finlay Forks and up the Parsnip for 25 or 30 miles where he met the party locating down the Parsnip.

Although the railroad construction was under the direction of the United States Army, Tom's immediate boss was Major Charles of the Canadian Army. In theory the operation was governed by a monumental book of regulations often quite inapplicable to surveying parties. For instance, the use of double-bitted axes was forbidden on the trail in case a man stumbled and his axe pitched forward to split the skull of the man in front. All axemen on surveys carried a double-bitted axe with one bit razor sharp for regular work; the second bit dull, to be used whenever sand or gravel might be encountered. Hooks on boots were forbidden. Tom was required to accept a medicine chest big enough to stock a well-equipped first aid station; this he safely cached.

The survey party was moved by boat and supplied by plane. Boats even took men to and from work. Tom found the supplies far better than on any survey he had ever worked. Times had indeed changed since he worked as rear chainman in the Yellowhead Pass. He found that studying the area by flying back and forth in a small plane at tree-top level saved time and effort. In September they went into Prince George to draw up plans and estimates for the various sections. Throughout this period a courier stood by to fly plans and reports direct to Washington.

Late in December he was sent to survey the Five Finger Rapids for a railroad bridge on the Yukon River. Tom and his party had not much priority for travel. In any case no aircraft was available so the American Transport Officer allowed them to travel in US army trucks from Fort St John to Whitehorse. He warned Tom that if he wanted to keep his equipment he had better stay with it. Drivers stayed with the trucks during the day that lasted from breakfast until 2 or 3 in the morning with stops for meals at army camps. Tom remembers a huge American negro cooking under a fly, clad in a great-coat, balaclava and gloves. Cooks are notorious complainers and this one maintained their reputation although his complaint was unusual. As he stirred his dixies he muttered: "Trees, trees, ain't seen nothing but trees since I left Alabama!" Fresh drivers took over the vehicles in the morning. At Whitehorse it took a couple of days to assemble supplies for the party before leaving for Carmacks. From Carmacks it was only four or five hours by dog team to Five Finger Rapids.

Because Five Finger Rapids are on the river route from Whitehorse to Dawson City a lot of work had been done every winter to improve the channel through the rapids and a large cabin had been built. It was furnished with a huge cast iron stove more akin to a steamboat boiler than a heater and this burned vast quantities of wood. Having the cabin close at hand in which to warm up and because there was considerable manual labour involved, the men could work for short periods even at -40 and -50F. Thus, boredom and the inevitable strain caused by too many living in too close quarters in bad weather were avoided.

Construction on the railroad was never started because by 1943 the Japanese Navy was considered less of a threat.

June 1943, found Tom making a reconnaissance from Fort McLeod (McLeod Lake) through the Pine and Monkman Passes to locate the most suitable route through the Rockies for the Hart Highway. While Pattullo was premier, an oil well had been drilled up the South Pine but no oil was struck. However, a Norwegian family which had homesteaded in the area had kept the road to the well site open. There Tom picked up his pack train. It consisted of a head packer, a helper, a cook, a dozen horses and a horse-holder for Tom. The title "horse-holder" was literally true. Tom's time as chief of the survey party was valuable, as were his instruments, so time spent securing a horse every time he dismounted to explore on foot through heavy timber or deadfall or to take a reading, was time lost. The horse-holder earned his keep and wages. The man on this job was a Scandinavian who had previously cut ties on contract. He carried a round tin in which three or four exquisitely sharpened blades for a Swede saw were stored. Used extensively in that country they would all need touching up during the evening. Sven took pride in this.

Windfalls blocked the trail so badly that they were spending more time cutting trail than moving ahead, so when they reached Azouzetta Lake on the Pine Pass summit, Tom turned the pack train back and with Kelly, who knew the country, decided to push on to Fort McLeod on foot.

Travelling in the valley of the Misinchinka was such tough going that they built a raft and poled and drifted down the river for two or three days. They became so interested in a bank beaver swimming around two geese with goslings that they ran onto a rock. The raft broke up and they had to wade ashore with their gear. They continued on foot to the Parsnip where another raft had to be constructed to cross that river. A couple more days saw them at Fort McLeod, the first HBC post west of the Rockies.

At Fort McLeod the only communication was the HBC radio-telephone which, owing to bad weather, was not operating. To Tom this was pleasant news. It afforded him an opportunity to do something he had always wanted to do; he would hire Indians and a river boat to go down the Pack to the Parsnip and then down the Parsnip to the Peace. They could continue down the Peace to Peace River Landing where horses could be borrowed to ride to Dawson Creek. There he could pick up his pack train to make the reconnaissance through the Monkman Pass. Unfortunately, communications were re-established. The pack train returned to Kelly's ranch in Alberta while Tom went to Pouce Coupé to catch the train to Edmonton and Kamloops.

After a verbal report in Kamloops Tom took the train to Sinclair Mills at the mouth of the McGregor River. When he had covered all the work he could on foot, he hired a couple of Indian boatmen and went upriver to the confluence of the McGregor and Herrick where a Norwegian trapper had a cabin. Tom and the Norwegian were out covering some territory which was well-known to the Norwegian when they came to an open meadow cut by dry channels. As they entered one they saw a grizzly on the other side and suddenly the meadow seemed very small. The grizzly disappeared down one of the channels so they turned away at an angle. To their horror the bear clambered out of a channel about 100 feet in front of them manifesting displeasure. The Norwegian cried: "Yesus Christ! Yell!" Tom yelled and is still puzzled why the Norwegian did not do his own yelling. The grizzly took off.

The next day Kelly came through to tell Tom that the horses were at the Monkman summit so his explorations with the Norwegian ended.

The people of Grande Prairie were very anxious to have the road go through the Monkman Pass and bring traffic their way. To demonstrate the feasibility of the route they had hauled a car either by hand or horses over the summit and two or three miles down the west side. But Tom's instructions were to keep the route in BC, so before he reached the BC-Alberta boundary he turned north to make a reconnaissance to Pouce Coupé. En route to Swan Lake the pack train plodded through a village where the family of the Indian sacker lived. He happened to be leading at that time. His wife and children turned out to watch the procession but, as the leader of the pack train, custom forbade that he recognize them.

He rode impassively with eyes fixed unwaveringly ahead. Only when camp had been made did he take off.

When this Indian was leaving, Tom had to make out his pay-sheet and regulations had been introduced so that marital status and the number of children affected the deductions. The sacker suffered a mental block and could remember only the nickname of one of his sons. "We call him Buddy … I cannot remember his real name." Tom considered this good enough to satisfy the proliferating government regulations.

The reconnaissance ended at Swan Lake. Once more Kelly took his pack train back to his ranch and Tom returned to Kamloops and reports.

The summer of 1944 saw Tom locating the Hart Highway from McLeod Lake to Lake Azouzetta at the summit of the Pine Pass. The survey was supplied by river boats to within two miles of the summit. Tom fared badly when replacements were needed for his crew. Being the last crew serviced from the west, other parties had their pick of reinforcements so only the unchosen landed in Tom's camp.

The spring of 1945 found him once more on location on the Hope-Princeton Highway; summer saw him as divisional engineer on the Pine Pass. In the fall he built a cabin at Summit Lake where he and Elspeth lived until 1947. But the work, badly managed by the contractor, went so slowly and was so unsatisfactory that Tom returned to work on his orchard.

As resident engineer he enjoyed the reconstruction of the Penticton-Trout Creek road in 1952. The contractors had a good price and were willing and anxious to work hard. In a number of places there was subterranean water so that when fills were made culverts were required at both ends with an equalizer culvert in the middle.

Tom refuses to take any credit for the delightful picnic sites at Pyramid, Soorimpt and Kinnickinnick: they just got left. Nevertheless, a crystal decanter sits on the buffet; a presentation to mark the end of a job well done. In 1953 and 1954 Tom straightened out the curves on Waterman Hill which had been somewhat of a challenge to most cars since the Model T Ford. Later he reconstructed the highway from the head of Skaha Lake to Kaleden. He recalled new, interesting methods used to prevent wind and dust erosion from the big silt cuts. Scenic viewpoints were first developed in the 1950s; they had to be approved by the Parks Branch. We can thank Tom for that splendid curving road through the Richter Pass. The earlier road wound steeply down the south side of the pass through small timber.

Today Tom lives alone; his wife, Elspeth, died in 1962. His son, Bill, a mining engineer, lives with his wife in Smithers and his daughter, Calista, lives with her husband and family in Wales. They and their children frequently visit the comfortable home in the orchard where they find Tom cultivating a thrifty garden, drying fruit, making wine or reading. From every window in the home the lake and hills delight the eye and at night across the lake, car lights trace the road he surveyed.

END OF PART 2

Tom Clarke died in Penticton, BC on January 9, 1981. He was 92. His son then lived in Telkway, BC and his daughter, Calista lived in Wales. Elspeth died in 1962

BREAD ALONE

Elspeth Honeyman Clarke (1890-1962)

Home made bread - it is an old story now, but I never take the big brown and golden loaves out of the oven without a thrill of accomplishment. Many things are an old story now; our tar-papered shack under the tall fir trees by the river; doing without plumbing, electric light, telephone, so many things we once took for granted; cooking large and nourishing meals with very little help from the grocer, none at all from the butcher and baker; such miracles as turning the legs of old sock, 'jumped' so often that the feet have worn completely off, into warm and unshrinkable mitts; and the greatest miracle of all, the feeling of peace and security in our hearts, in this year of the depression, 1933.

My husband is a civil engineer. He was in charge of a large construction job in 1930, a Government Highway through the mountains where no road had ever been. We stayed in the small town at the beginning of the road for a few months, and school ending, I came out with our two small children to join him. We lived in tents that summer, and at the end of it we decided not to go back to town for the winter, but to build a cabin and stay where we were. By the middle of October it was ready for us, a tar-papered shanty in a clearing by the river, fairly central to the work.

Our house is thirty-six feet long and sixteen feet wide, with a verandah in front facing the river. It was divided by half-partitions into three rooms, a large main room, a bedroom for ourselves, a cubicle for the children and another, which was dignified by the name of bath-room, and does truly contain a round tin tub, wash-stand and towel-racks. Later we added a log room for the children, who had grown too big for their cubicle. The walls were covered with blue building paper, and before the partitions were put in, we had the whole floor covered with cheap oil-cloth over wall-felt. It cost two hundred and seventy-two dollars to build, including labour, the most expensive item.

The main room, or 'whole room' as our small daughter calls it, has the kitchen in one end, very compact, the dining-room in the opposite corner, and at the other end is the sitting-room, with gay curtains at the casement windows. It is heated by a discarded grease-drum, turned on its side and mounted on iron legs. This was a present from the camp one Christmas, and has proved itself an excellent heater. The pump, at the kitchen end, has a short length of rubber hose attached to it, which we use to fill the hot-water tank, another grease-drum, set on end beside the range, connected with the hot water jacket.

We moved into our new house at the end of October. On the first of November, work closed down without a moment's warning, the camps were turned into relief camps for single men, and we were left with our house, about a hundred dollars in the bank, and no possible chance of another job.

I smile now when I remember how bravely we faced our first winter out of work; but how could I know that it would prove to be one of the happiest we had ever known? Work opened up again in March, on a relief basis, the men getting their board, clothing, tobacco, and an allowance of seven dollars and fifty cents a month. This was the Single Men's Unemployment Scheme, which did not include us. My husband's salary was eighty dollars a month, while the work lasted, as engineer in charge. Work closed down again in November, and did not begin this year until June. Realizing to the full how fortunate we have been, it still seems something of a miracle that we should live for three years comfortably, happily, even delightfully on eighty dollars a month for the summer months. It can be done, as far as the necessities of life go, on less I know, but that it should bring such peace of mind, such a sense of freedom and the joy of living, is still a miracle to me. The things that happen to families have happened to us: a minor operation, necessary trips to the distant city, small catastrophes and urgent needs - we still meet them on our way, but they have ceased to be bogeys.

There are, I think, four necessities in family life - shelter, food, clothing and education. Shelter we had, wood and water were to be had for the labour of getting them, and for light we have a gasoline lamp and candles. Do you know what a good substitute for a flashlight a 'bug' is - a tin can with a hole in the side, a candle thrust through and a wire handle? Our supplies came out from town with the camp trucks. Our grocery bill has sel-

dom been more than twenty dollars a month, and this includes a case of evaporated milk each month. We had no butcher bill, for venison was plentiful in season, and kept in this cold climate for a long time. Venison soup is delicious, and the stock pot is a standby nearly all winter. We substituted cabbage for lettuce, and we ate apples instead of more expensive fruits, buying them by the sack from the fruit district not far away. I bake our own bread all year round, and I am beginning to think I have started a life-long habit, so much it is appreciated, and such fun it is to bake!

Warm winter clothing is very necessary here in winter and we have had to buy warm underwear and sweaters and mackinaw coats for the children. These could be made down from one to another, though the breeches did not always last long after the first transfer. Oil-tanned shoe-packs took the place of shoes and inside these, several pair of my husband's cast-off heavy socks, which seem to take more than one winter to reach the footless stage and turn into mitts. In summer they wear bathing suits or faded khaki overalls, and they go barefoot until snow comes and after, to the amazement of the warmly clad men in camp.

My husband began the first winter with a good supply of clothing, and my own has been the least of my problems, for garments which I should have looked askance at long ago in town, still seem fresh and fashionable to me here, and my last semi-evening dress gives me a much more festive feeling on rare occasions now, than it ever did when it was new. Cashmere stocking wore out too fast, till a visitor in camp showed me how to refoot these, by cutting a new foot out of an old stocking leg, and applying this in a neat patch to the stocking. Which had been cut to fit it. I still take ridiculous pride in my refooted stockings and I have bought no new ones.

The children's education was settled in our minds when we decided to stay, for we knew of the correspondence courses that our government provides for children in isolated places. A staff of teachers in the Department of Education sends out lessons for all grades in elementary and high school every week, and they correct the lessons that are sent in to them, returning these to the pupils. So the children go from grade to grade as they would in the public schools. When we began, our little boy had passed out of grade two in his last school, and his small sister had not been to school at all. They are now in grade six and grade three, and I know by comparing their work with last year's lessons, just how much they have improved term by term. Ours is a very elastic schedule. We begin at nine o'clock, with many small intermissions during the day, for I found that small children cannot do too much written work at one time. If any subject turns up that needs discussing, we discuss it at our leisure, and I think they are getting a rather wide, if unconventional education. What is very important to me, we all enjoy it.

We have been told sometimes, that we are wrong in depriving the children of the advantages they would have in the city. They saw their first talking-picture last summer. One picture was very good and we all enjoyed it, but we had to wade through a lurid gangster film in order to see the beginning, and it left us with no mixed feelings concerning some of the advantages. They are building a splendid foundation of health, learning simple habits of life and laying up a store of happiness which I believe will last a long way through life. There is one advantage which we consider is only second to that of their glowing health, and that is to be able to bring them up without prejudice, even without knowledge of prejudice, against nation, caste, or religion. To them a khaki shirt is a badge of honour, and in a world where possessions are so few, we are coming to look down on them, so that I sometimes feel we should throw the balance the other way a bit. Away from streets, stores, and shows, they have learned to depend on themselves for amusement, and in our three years in the woods I have never once heard them ask "What shall we do now?" They go to sleep planning the next day's doings, and the days are never long enough. There is no end to the things they make, from skis in winter to sluice-boxes for washing gold in summer, where they do actually find the odd speck of gold. No birthday passes, or rare trip to town, without ten cents worth of mixed nails making one or both happy. At nine and six years old, they built a log cabin, eight feet by ten, entirely themselves, cut and notched the logs and cut out the door and window. If it is more picturesque than weatherproof, it still stands solidly after three winters and now holds hay for the deer to feed around our camp, after the shooting season is over. Pretty things, they come quite close to our door, and some will eat out of our hands. 'Mabel" is a special pet, a pretty doe with large enquiring ears rimmed with black, that give the quaint effect of a poke-bonnet when she puts them forward.

We have made many friends, friends for life I think, among the men in camp, loggers, mechanics, office-men, miners, men from almost all walks of life and of many nationalities. (I sat, at our first Christmas dinner in camp, between a Russian and a Swede, the flunkey who waited on us was an Irishman, and one cook was American the other English). Some of the finest men we have ever known are among them, of whose friendship I am truly proud. And Christmas in the woods, - the weeks of breathless plotting, carpentering, gluing, sewing, the thrill of the thing made "all by myself" added to the joy of giving, the Christmas lists that grow and grow, yet always have room for another name, even on Christmas Eve, the glittering tree in its corner, that has been marked for our own two months ago in its place in the forest, the men dropping in all day long; a state visit from the cooks; and in the afternoon the dinner in the big cook-house, ourselves the only guests that first Christmas; the long tables, gay under the lamps with the small Christmas trees we had helped to decorate; the delicious dinner, partly contributed by the men themselves; our little girl, very shy and big-eyed in her smocked party dress, pulling crackers with the huge young German beside her, equally shy; the walk home over the crisp snow to our warm cabin, still knee-deep in parcels - such parcels, such kindness in remembering from far and near - such Christmases!

I am a busy woman. My days are fairly well-filled with teaching, cooking and housework, and I am not one of those supremely capable housekeepers whom I have so often envied. But mine is a peaceful way of being busy, free from the constant demands of the telephone and doorbell, and the ceaseless juggling of dollars and cents that never seem to fit. Rent, fuel, light, clothes - so much it takes merely to shelter our bodies, in the city. My husband has been busy, too, these workless winters. Keeping a supply of wood cut for three stoves, (one in the log bedroom) in this cold climate, is a winter's job for one man. But not too busy, on rare Saturdays to take the children with him into the woods, where they built a fire and toasted their lunch, and came home aglow with the thrill and joy of it.

Not too busy - I think I have found the key to our three happy years. For the first time in our married life we have known leisure, a second cigarette over uninterrupted meals, long evenings over books, Sundays all our own, and I have watched the lines of strain gradually fade from my husband's face. In common with so many men, his work took up very nearly all his time, so that there was little or none left over for himself or us. Often finishing one job as he began another, he worked most evenings and many Sundays, and I know now it was too big a price to pay for bread alone.

"You get your wish," our visitor said, pouring over my tea-cup. "Thank you I'm glad," I murmured, feeling guilty. I had forgotten to wish.

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