

THE BLEZARD VALLEY

By

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A thesis presented to the Department of Geography,
McMaster University, Hamilton, Ontario in partial
fulfillment of the requirements for the degree
Bachelor of Arts. May, 1956.

*Received and passed by the
Department, March 1956.*

A C K N O W L E D G E M E N T S

My appreciation must be expressed to certain individuals without whose help this study could not have been accomplished. Dr. Gordon Colgrove and Mr. Everet Staples of the Geological Department at International Nickel Company were of exceedingly great help in furnishing me with information on the geological aspects of the basin. Mr. Romeo Laroux, the district representative of the Department of Agriculture along with Mr. C. M. Ferguson, the agricultural representative of the International Nickel Company were generous with their time and information on the agricultural conditions in the valley both past and present. The township clerks of Balfour, Rayside, Hanmer, and Blizard^e were also most co-operative in answering my questions. Appreciation must also be expressed to my parents for the use of the family car, without which, a good deal of the field work for this thesis could not have been realized.

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I N T R O D U C T I O N

The peculiar geological structure of the Sudbury Basin, with its agricultural land surrounded by a rocky rim, highly concentrated with nickel, is unique in the Pre-Cambrian of Northern Ontario. On the rim of the basin are located seven nickel mines, which at present are producing 90 - 95% of the world's nickel. Due to this fact, numerous geological studies have been undertaken in the Sudbury area. All the papers that have been written on the basin, deal exclusively with geological features. Very little, if any study has been made of the other aspects within the basin.

This thesis, will deal mainly with the floor of this geo-syncline or as we will call it -- the Blizzard Valley. Unlike the rim of the basin, this lowland has only one small nickel mine. Agriculture is the main activity in this region, with large farms found on the sand loam and clay soils. This study will endeavour to give a historical picture of agriculture in the valley, with an attempt to see what changes have taken place since the area was first settled.

In the first chapter, the geology of the Sudbury Basin will be discussed. A rather full account will be given of how the basin originated. Also in this chapter, the physiography and drainage patterns will be described.

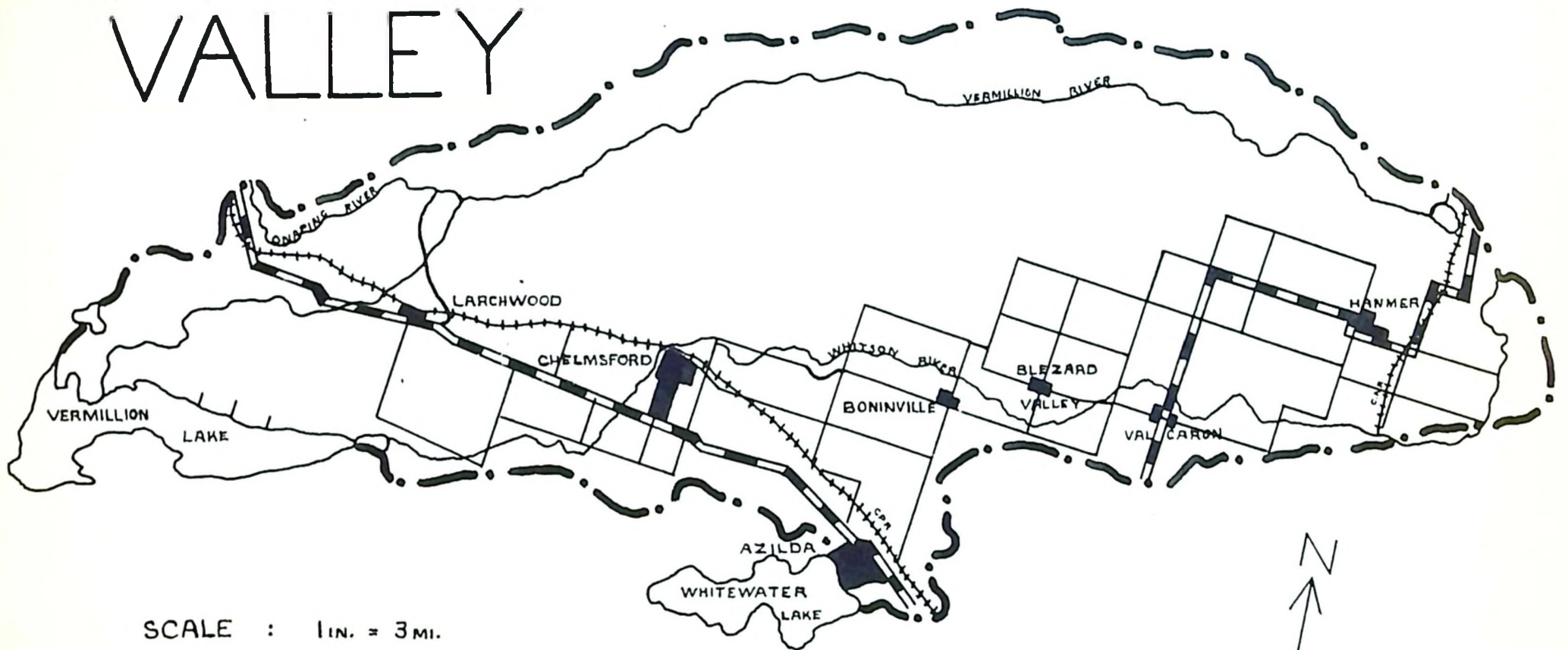
In the second chapter, there will be a discussion on climate, vegetation and soils, to complete the section on physical geography. Here, an attempt will be made to show how the three aspects affect agriculture in the valley.

The history of settlement, will be the theme of the third chapter. It will be seen from this chapter, the important roles played by the Canadian Pacific Railway, the lumbering camps, and the mines in opening up this valley. Portions of this chapter will deal only indirectly with the historical settlement of the lowland.

The fourth chapter will be a discussion on the main economy of the valley -- agriculture. A description of past and present agriculture will be undertaken along with an account of how agricultural changes are taking place as a result of outside forces. The latter part of this chapter will deal with the problems facing agriculture.

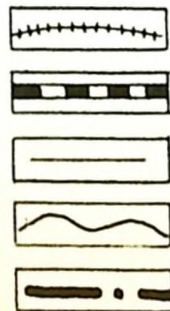
The last chapter will deal with the present population pattern in the valley. A brief description will be given of the small urban communities, along with an analysis of the rapid rate of growth of these centres within the last two or three years. A look into the future, in regard possible population growth, will be given in conclusion.

BLEZARD VALLEY



SCALE : 1 in. = 3 mi.

KEY



RAILWAY

PAVED ROAD

GRAVEL ROAD

RIVER

REGIONAL BOUNDARY

MAP 1

CHAPTER ONE

GEOLOGY AND PHYSIOGRAPHY

On studying the physiography of the immediate Sudbury area, one finds that it is entirely dependent on local geological conditions. Due to this, the geology and the physiography of this region will be discussed together.

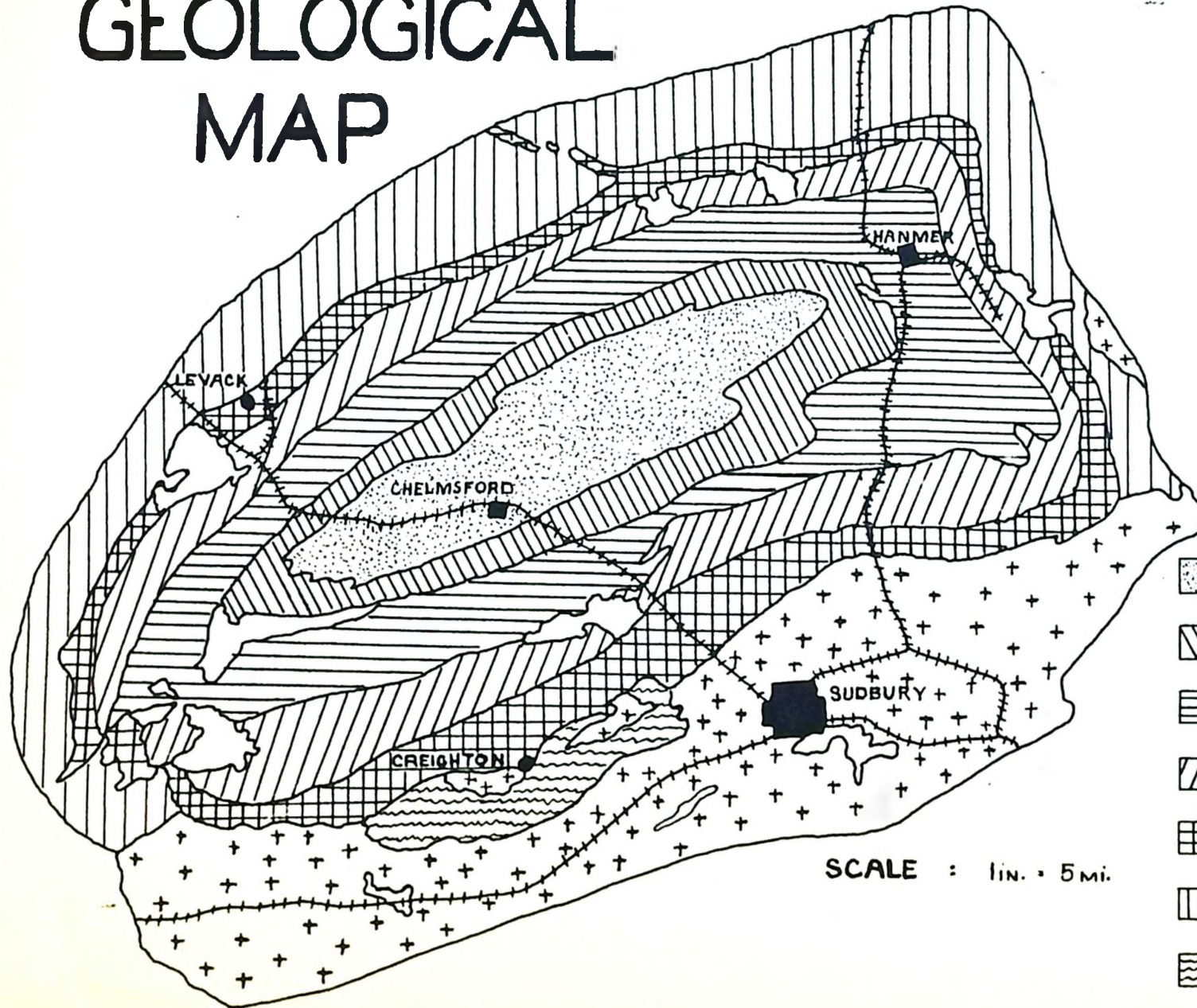
The Sudbury district is located in the large physiographic region known as the Canadian Shield. One striking feature of the shield, is its level character. The monotonous relief is broken only by the valleys of the larger rivers, lakes, and the occasional high hills. Although, there is only slight relief, the surfaces are usually rugged and formed of low, rocky hills. The landscape of the Shield is changed to a great degree when the Sudbury area is reached.

Here, we have what may be described as a warped plain, with minor inequalities marked by scattered lakes and ponds.


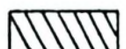
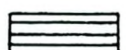

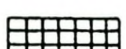


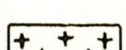
The "Sudbury Basin" as it is commonly called, is roughly a large 'boat-shaped' syncline. The pointed end faces to the south-west and the squared-end to the north-east. At its longest, the basin is thirty-six miles with a maximum width of seventeen miles. A thick layer of sandstone marks the centre of the synclinal trough, from the west end of Vermillion Lake to the east side of the township of Hammer.

The actual formation of the Sudbury Basin is still somewhat uncertain. With this region producing 90% of the world's nickel, it

GEOLOGICAL MAP



KEY

-  CHELMSFORD SANDSTONE
-  ONWATIN SLATE
-  ONAPING TUFF
-  MICROPEGMATITE
-  NORITE
-  GNEISSES + GRANITE
-  CREIGHTON GRANITE
-  FOOTWALL COMPLEX

SCALE : 1 in. = 5 mi.

AFTER I.N.CO. MAP

MAP 2

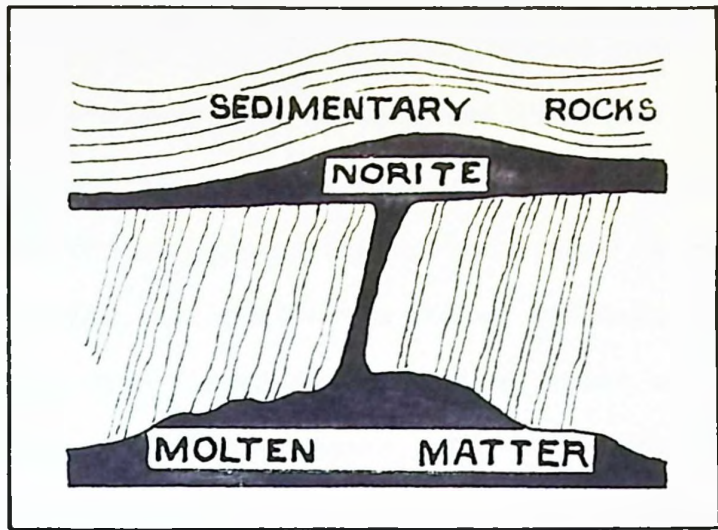
is only natural that intensive geological field work has been carried on here. At a very early date, it was seen that all the important outcrops of nickel and copper-bearing rocks were located on the periphery of the basin. The continued work of these field parties soon brought forth the geological map of the district as shown by Map 2. Even to the present day, the processes which formed the basin are still somewhat obscure. Two theories have been advanced, concerning the origin, but they only agree to a certain point.

The first theory suggests, that during the Keweenawan period, a mass of molten matter deep within the earth was forced by subterranean pressures, toward the surface. The mass was checked in its upward movement by a solid layer of sandstone and slate, probably of the Animiki period. Consequently, the molten stream spread out between the sediments and the rocks below, forming a gigantic laccolith. To this point, the two theories are fairly unanimous.

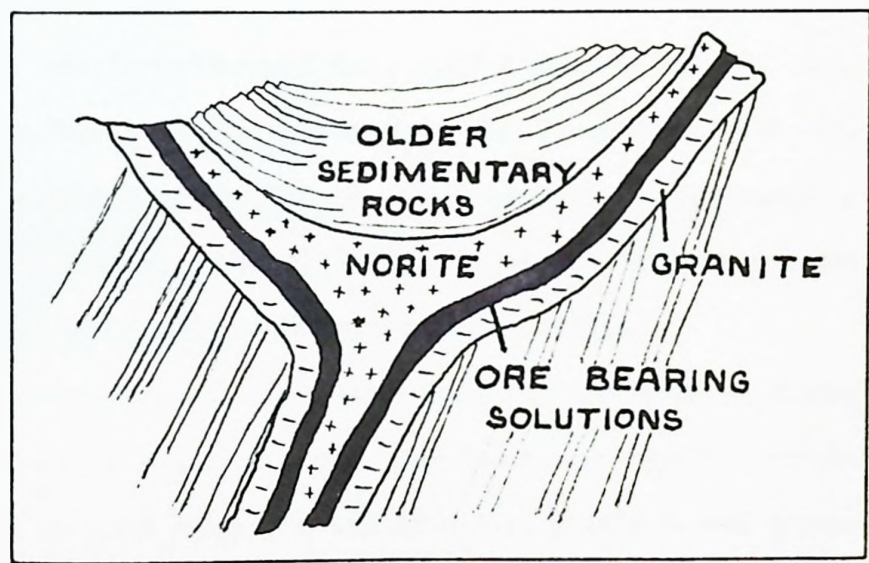
At this point, the first theory proposes that the intrusive differentiated into layers as cooling continued. It is believed that the lighter, more acidic portion moved upward to crystallize into "micropegmatite", a granitic rock, while the heavier more basic portion sank to the bottom to form the "norite".

Then, owing to the heavy weight of sediments overlying the mass, combined with a lack of underlying support, the centre of the intrusive mass sank into the chasm from which it had emerged. The sediments above and the magma below are greatly disrupted. According to the first theory, this is the manner in which the basin originated.

The second theory suggests that there were more than one



Molten matter, forced up through the earth's crust, came in contact with the under side of layers of overlying sedimentary rocks and spread out.



Cross section of Sudbury Basin as geologists believe it exists today.

Fig. 1.

upward movement of magma. The first upward thrust resulted in the formation of a large oval-shaped crystalline intrusion known as "norite". The second thrust was molten matter of a granite type which hardened into granite along the margins of the norite. This is the "micropegmatite". At roughly this period, the norite was folded and warped downward and the overlying sediments were forced down into the centre of the bowl. Later, a third molten mass carried the copper, nickel, and other important elements toward the surface. This cooled in the margins of the granite and norite. This view is highly held and accounts for the precious metals being under a deep cover of volcanic, and sedimentary rocks.

Outside this large syncline there are the rugged and irregular mixture of hills and valleys of moderate heights that are common in Archean regions. The basic edge of the southern nickel range follows with a belt of accentuated surfaces for a width of about two miles; followed by a belt of quite precipitous hills along the acid edge. The adjoining metamorphosed conglomerate and tuff make a narrow band of very steep hills. The softer tuff and slate form the floor of a wide valley, followed by a series of sandstone antyclines which are roughly fifty to one hundred feet high. The floor of the basin, is between two hundred and six hundred feet below the surrounding hills.

Like the rest of Northern Ontario, the Sudbury Basin shows the effect of Pleistocene glaciation. The bare and usually rounded hills in the basin are covered with glacial striae. Erratics and perched boulders along with moranic accumulations are found in numerous localities, particularly in the northern nickel range. Throughout the northern range, we find good examples of gravel terraces along with small remnants of wave cut beaches.

Due to the synclinal shape of the Sudbury Basin, it is quite possible that at the lower levels of Lake Algonquin, the basin was submerged in water. The ice at this time was slowly retreating or stagnating in the eastern end of the basin.

As the ice retreated, the region to the north-east began to rise with the result that the enlarging waters of the lake stood^d relatively lower and lower toward the northern end. The result of this could have been the formation of the beaches mentioned above.

It is quite possible that as the water level of the lake fell still further, the basin became a lake, completely enclosed. Drainage at this point would be through the southern nickel range via the Vermillion River pass.

At this period, streams were entering the lake from the northern and eastern ranges. These streams must have been torrential currents, carrying enormous loads of debris. Their loads would be deposited in the lake. A fine example of this is seen at the north-eastern end of the basin, where the Vermillion River enters from the surrounding hills. Here, on the valley floor, where the river turns and runs true west, there are extensive sand and gravel plains. From the bank of the river, south to the village of Hanmer, there is a perfect example of a deltaic deposit. Along the river the gravel is very coarse, roughly three to five inches in diameter and well rounded. Further from the river, the material gradually becomes finer until a powdery sand is found near Hanmer. These plains are three to five miles long, along the river.

Sand and gravel terraces stretch bay-like into all the stream valleys which come south through the northern nickel range. It is

possible that these are deltaic deposits also. Examples are seen along Island and Sand Cherry Creeks.

While these broad gravel plains were being deposited at higher levels, sand was being deposited in the shallow water and clay in the deeper parts of the lake to the south-west. A large clay plain covers most of this area. The streams cut deeply into these deposits.

In the eastern rim of the valley, which is the lowest portion on the periphery, there are small sand and gravel plains along with an occasional kettle hole. It is possible that as the ice stagnated in this region, portions of it were buried under the deposits of sand and gravel which had been carried by sub-glacial and extra-glacial streams. Later the ice melted and produced these kettles.

In the lowland of the basin, the main drainage channels are the Vermillion and Whitson Rivers. It is possible that in pre-glacial times, these rivers were joined together. At present, the head of the Whitson River is very near the point where the Vermillion River turns due west as it enters the valley. Before the ice sheet this was one large river, but after the lake drained from the valley, leaving the deltaic deposits emerged, the river course was cut in two and the stream entering from the northern rim had to find an alternate channel. This other channel was found in the weaker band of slate. It follows this band for the greater part of its course, until it flows out of the valley, through the southern rim. The Whitson River also flows in the band of slate until it flows out of the valley via the same pass.

The Vermillion River is the largest river in the basin. It has a well-developed flood plain which is covered with numerous meanders

and ox-bow lakes. The flood plain, for the most part, is too wet to be of any use. The remainder of the streams in the valley are much smaller but are of sufficient number to keep the basin well drained. Both the two main rivers drain the basin from the north-east to the south-west.

The floor of the basin is very flat. There is only a gradual rise of fifty to seventy-five feet from the western end of the valley near Vermillion Lake to the village of Hanmer in the east. In the southern part of the valley, the land is flat with no outstanding elevations whatsoever. The only noticeable elevations are the sandstone ridges to the north.

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"The Romance of Nickel" - International Nickel Company.

Interviews - Dr. Gordon Colgrove
Mr. Everet Staples

CHAPTER TWO

CLIMATE

Although the Sudbury Basin is only forty miles north of Georgian Bay, the climate is not affected by this body of water. The climate is transitional between the climates which are affected by the great lakes such as Sault Ste. Marie and those climates of the northern areas around Kapuskasing.

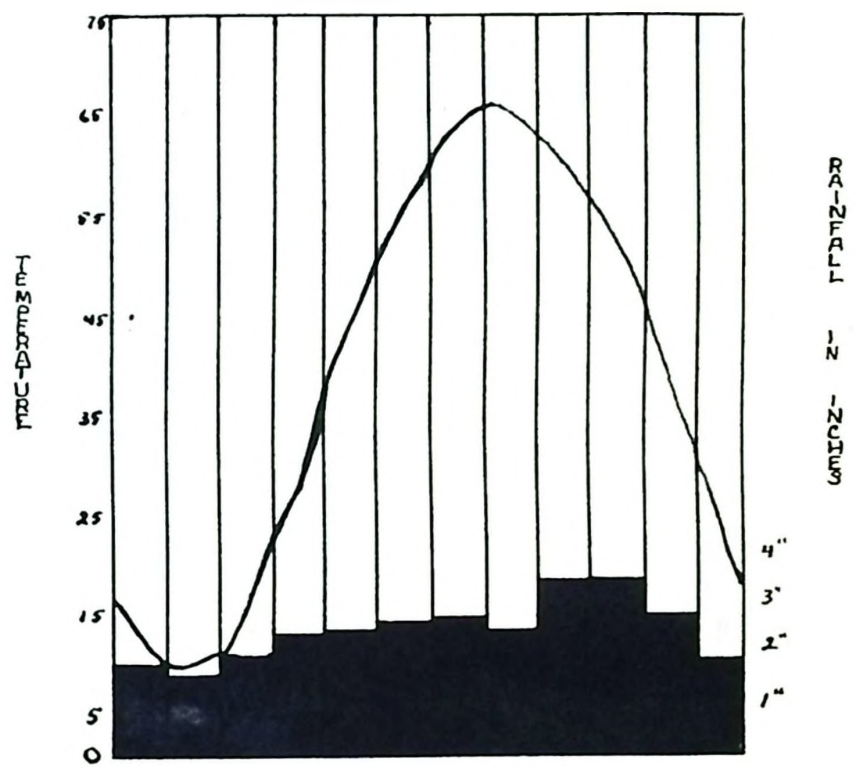
In the Sudbury Basin, we find a very continental climate with an annual range of 50 degrees between the warmest and coldest months. On the whole, the climate is cool with a mean annual temperature in the vicinity of 39 degrees.

The Sudbury Basin lies within the zone of comfort according to Griffith Taylor's assessment. Five months of the year are within this zone, while July, with a mean temperature of 66 degrees is within one degree of being included.

Total precipitation for the basin is 29.36 inches. This amount is evenly distributed throughout the year, although there is a slight maximum in the early fall when there is a total of 6.84 inches in September and October. February on the other hand, has only 1.46 inches of precipitation and represents the smallest monthly average.

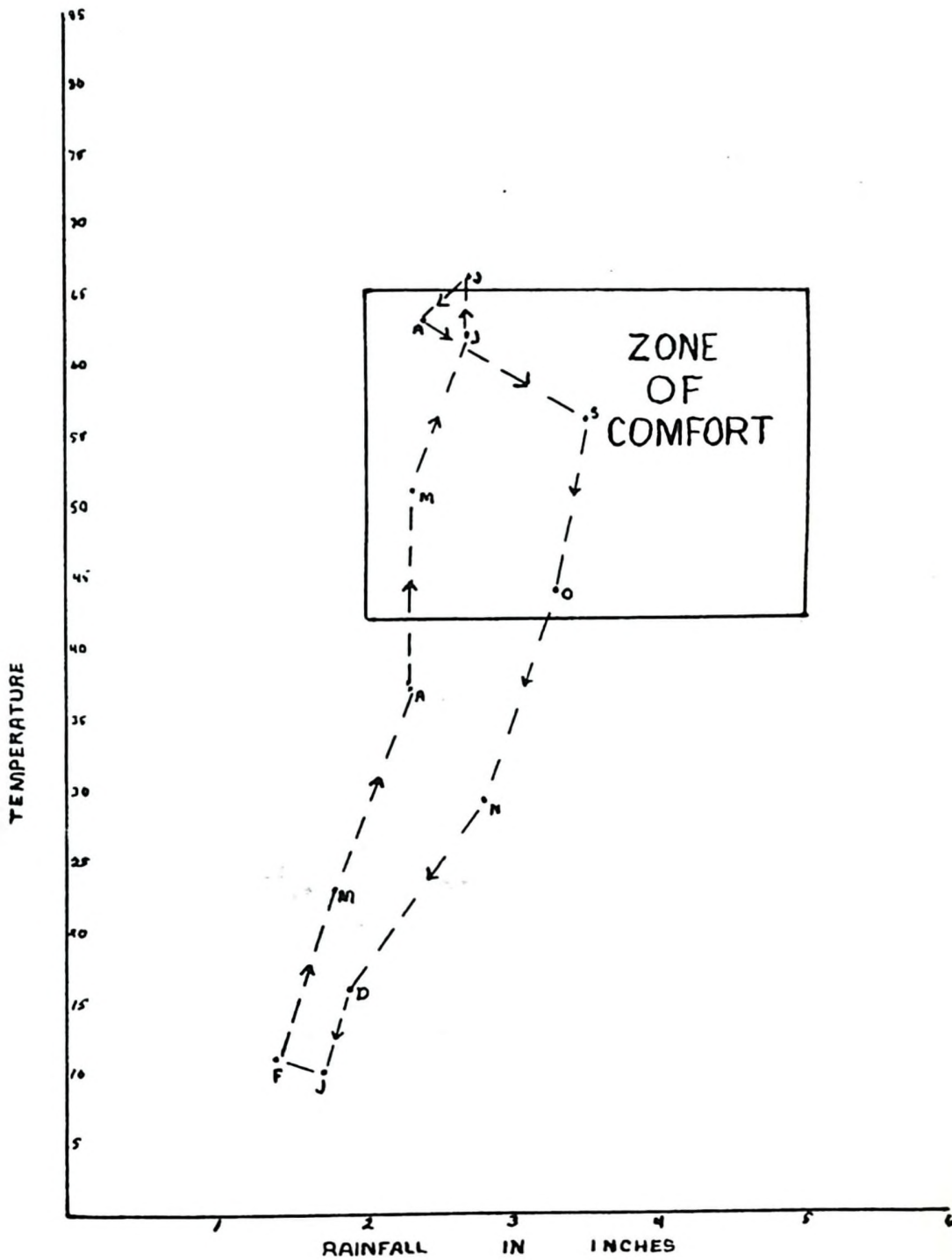
In the winter months, the actual precipitation is less as there are 72.5 inches of snow. The heaviest snow fall is in November when there is 2.87 inches. On the whole, the winter months are cold, with an

SUDBURY —



CLIMATIC CHART

Fig 2.



HYTHERGRAPH — SUDBURY DISTRICT

Fig. 3

average temperature of roughly 18 degrees. As Sudbury is located at
? we can expect that the polar continental air masses will be dominant in keeping these winter temperatures at a low level. Its location in regard to latitude will also be conducive for a cool summer climate.

The Sudbury lowland is noted for its excellent potato crop. On reviewing the climatic requirements one can see that temperature and precipitation are of great importance. In the different regions of the world, the potato has made its greatest development in the cooler sections, where the mean annual temperature is between 40 degrees F. and 50 degrees F. and where the mean temperature for July is not over 70 degrees. Furthermore, the greatest yields per acre are where the mean annual temperature is below 45 degrees, and with the mean of the warmest month not far below 65 degrees F.

The temperatures of the Sudbury Basin are within those limits. The mean annual temperature is around 39 degrees and the mean for the warmest month is 66 degrees. With a rainfall of 29.36 inches we find that the basin has a cool humid climate. Due to this fact, many of the diseases which commonly affect the potato are missing.

The growing season in the Sudbury area is 90 to 120 days. Frequently, this whole period is not able to be used. In the short spring, the heavy snow cover melts rapidly and in some cases, on the more heavy-textured soils, the fields remain under water for some time. Also, in the spring, the heavy frost begins to leave the ground and a visit to the area, at this time of year, shows numerous frost boils in the fields, thus preventing early planting.

As a result of this, planting is usually postponed with the result that the crops may not mature before the early frost in the fall. In many cases acres of potatoes and vegetables have been ruined by early frost.

Another inhibiting factor is the maximum precipitation in the fall. Often, the heavy rains at harvest time have rendered the fields too 'soggy' to allow mechanical pickers to go on the land, with the result that a good deal of the crops have been left in the fields.

Many farmers have tried to surmount this obstacle in the fall by planting early, when conditions are suitable. In some of these cases, the plants matured too early and wouldn't keep.

This past summer (1955) witnessed one of the infrequent dry 'spells'. The spring was warm and fairly moist, and the potato began its growth early. During the relatively dry summer, growth was at a minimum. In late August, when more rain finally arrived, the potatoes began to grow once again. As a result, they did not reach full maturity till near the middle of September. This renewed growth, produced a potato with a 'knobby' shape. The quality produced was not up to par for this area.

According to climatic statistics, the Sudbury Basin is in that large climatic area Dbf as designed by Köppen.

VEGETATION

Only a few small remnants of the original vegetation are seen in the Sudbury District. What trees remain are mainly second growth. When the railway first opened up this area there were extensive stands of red and white pine. The large areas of sandy soil were the principle pine-producing regions. /91

In 1888, when the smelter was built at Copper Cliff, a good deal of the vegetation was destroyed by the sulphur fumes from the smelting processes. Then, in 1935-6, there occurred one of the worst fires in the history of the basin, when most of the forest in the townships of Morgan, Blizzard, and Hanmer were destroyed. At present, there are only small patches of forest in the valley.

The greatest area left in forest is located on the sandstone anticlines. Here, there is sufficient soil to support a mixed forest. Once again, the pine is the dominant species^S, along with some birch and poplar. There are large patches, barren of vegetation, in this area, where the sandstone outcrops.

Between the sandstone outcrops and the northern nickel rim, there is the Vermillion River and its flood plain. In this area, there are small patches of swamp, but the majority of the land is covered with short bushes and small trees such as the willow, hazel, and poplar.

To the east and south of Hanmer, we have a large area of trees along the Whitson River. This area was formerly a swamp, but is now covered in tall grasses. The tree cover is mainly spruce and pine along with maple and birch. The soil in this area is extremely sandy, with the result that the pine tree is dominant species^S.

The banks of the Whitson River are forest covered. In this area the willow and the alder are predominant.

Many areas in the south-west of the valley still remain in mixed forest. Some of the farmers have left portions of their farms in woodlots. The heavy clay soil is not well-suited to agriculture, with the result that much of the land is still in forest. Poor drainage in many areas also accounts for a good deal of forest in this section of the valley.

The cool humid climate of the Sudbury Basin is conducive to a mixed forest ^{but} by _^ the balance here leans slightly to the coniferous type. Scattered areas of conifers are found throughout the rim of the basin. In the lowland however, the pine tree is the dominant specie^S_^. It was this tree that led the lumber camps to the Sudbury Basin. The reason that the pine tree is dominant, is due to the predominance of a sandy soil.

S O I L

The soils in this valley are mainly lacustrine in origin. They have resulted from deposition within the post glacial lake which covered the floor of the basin following the retreat of the ice sheet.

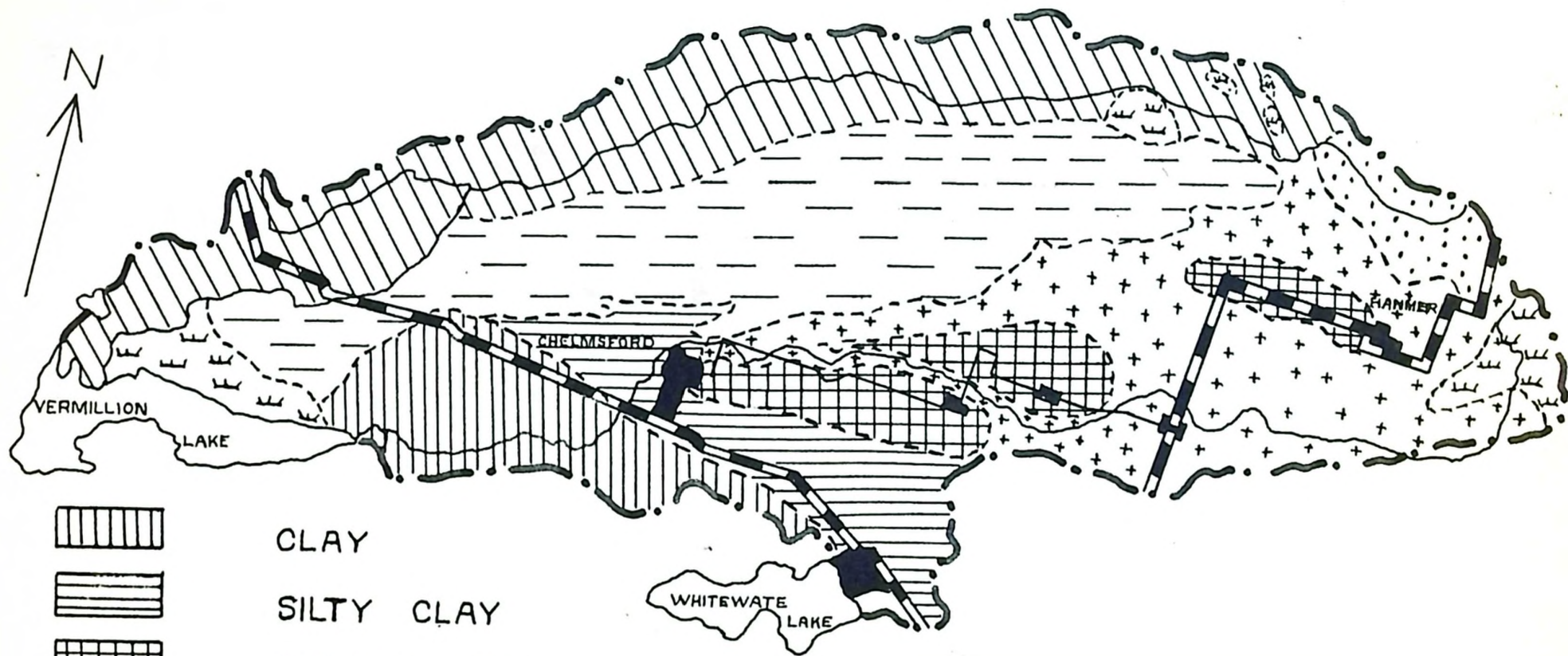
On looking at the generalized soil map, (Map 3) one is able to see a graduation of parent material from east to west. In the eastern portion of the valley, there is an extensive sand and gravel plain. This plain is a deltaic deposit.

In the western portion of the valley, there are deep clay deposits. The post-glacial lake was possibly deeper and calmer here to allow these fine particles to be laid down.

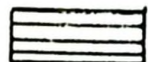
Between these two extremes of soil texture in the valley, there are sandy-loam and silty-clay soils. These sandy-loam soils are the best agricultural soils in the valley, while the silty-clay soils are used more extensively in agricultural development.

Extensive areas of sand are noticed along the banks of the Whitson River. These sand deposits extend to two hundred feet from the river.

The whole valley has been drift covered. This fine debris allows good percolation and gives a top soil that is friable.



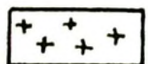
CLAY



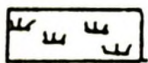
SILTY CLAY



SANDY LOAM



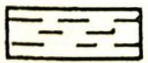
SAND



MARSH



GRAVEL



ROCK BARRENS



UNDIFFERENTIATED FLOOD PLAIN

GENERALIZED SOIL MAP

SCALE : 1 IN. = 3 MI.

MAP 3.

The best agricultural soils are found between Chelmsford and Blizard Valley, and in the western portion of Hanmer township. The soil here is a rich, fertile, sandy-loam. This land is used intensively with a predominance of truck crops. The water table for the whole valley is roughly twelve feet below the surface and this keeps the soil cool.

The soils in the valley are slightly acid; roughly 4.4 on the pH scale. This is only natural as they are formed in a cool humid climate under a vegetation that is mainly coniferous forest. It is a general practice throughout the valley to add clover in the rotation system in an endeavour to counteract some of the acidity by adding humus to the soil. However, it is considered suitable by most farmers to have the soil slightly acidic in order to counteract diseases which attack the potato plant, their chief market garden product.

In these parts of the valley where the land is used intensively, great demands are made on the soil. As barnyard manures are at a premium, much commercial fertilizer must be purchased. The valley as a whole this year, used roughly fifteen hundred tons of fertilizer. The most important varieties were 5-10-13 and 4-12-10, of which eight hundred tons were used. The rest of the total was divided among 4-24-12, 4-24-20, and 2-12-10.

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CHAPTER THREE

HISTORY OF SETTLEMENT

In 1882, the C. P. R. transcontinental railway was begun. The first acts were to acquire the Canadian Central Railway connecting Ottawa and Pembroke and other lines, giving it access to Montreal. Consequently construction really began at Pembroke. The line proceeded westward up the Mattawa River to Lake Nipissing. From here, the railway was to run to the north side of Lake Superior.

As construction continued, small settlements were established at regular four mile intervals along the line, to house and feed the workers. As most of the settlements were passed by, they became abandoned. Many of these still remain however, and Sudbury was one of these that had its beginning in this way.

Plans had been laid to locate the line south of Lake Ramsey on which Sudbury is located. Some unexplained miscalculation diverted the line to the north of the lake. This error was not seen in time and so the mistake was not erased. Consequently, the site of Sudbury was accidentally located at the junction of the two streams to the north of the lake.

In 1883, the railway reached this site. Two cabins were set up. One was the general company store, and the other was a boarding house. As each site was given a name, this one was called "Sudbury" after the birth-place of the chief engineer's wife. No more attention was paid to this site than any of the many others along the rail line.

The railway was not the first sign of activity in this area.

Timber which covered this whole area north of Lake Huron had been cut and floated down streams to Georgian Bay. Timber had been taken out of this area, chiefly by way of the Vermillion and Spanish Rivers. However, a great deal of the forest was still standing by the time the railway arrived.

As the railway was pushed on, a blast in a rock-cut three miles to the west of Sudbury exposed rocks that were stained with a brownish tinge. This was to be the beginning of a rich and colourful future in mining.

A mile or so beyond this rock-cut, the railway descended into a flat valley covered, like the rest of the district, with great stands of white pine. Within this valley, which appeared to be the bed of an inter or post-glacial lake, sidings were established at Azilda, Chelmsford, and Larchwood. These sidings quickly became lumber camps. The railway then passed out of the valley, once more into the rocky and hilly country of the shield.

In the valley or basin, in these early days, the lumbering industry was very important. At least three different lumber companies were working in the valley. Extensive stands of white pine were found close to fine water routes. Very soon after the railway passed through Chelmsford, a saw-mill was established here on the Whitson River. The river was also a good source of drinking water and so the settlement at Chelmsford rapidly outgrew the other two settlements in the valley.

Soon the forests began to recede further into the hinterland. The lumber companies moved further afield and the employees of the railway pushed further west. The population of Sudbury fell from 1500 to 300.

It looked as if this was going to be just another abandoned town.

Why didn't Sudbury remain just another siding on the railway?

One reason was the building of a branch line from here to Sault Ste. Marie. The more important reason was that finding of nickel-copper ore in a rock-cut four miles west of Sudbury.

Prospectors began to comb the hills and soon several rich outcrops were located. Many of these have been developed into the mines of today. The news soon spread and Sudbury immediately became a boom town. This time the town grew larger and the thought that Sudbury would become a ghost-town was gone forever. Such mines as Creighton, Levack, Garson, and Murray began operations, and the first smelting operations began in Copper Cliff in 1888. Had it not been for this expansion, there would have been no development in the floor of the basin. The history of the mines in the rim of the basin is in unison with development in the lowland.

We saw, that in the lowland, the town of Chelmsford began to grow due to the good supply of water along with it being a good location for a saw-mill. As the forest around the village was cleared, by the lumber companies, the soil was found to be very fertile. Small farms developed on the periphery of the village.

Many of the railway workers who first entered the valley were French-Canadians from the Ottawa valley. These people preferred logging and farming, to which they were accustomed, in preference to working on the railway. On hearing of this fertile land, many of them deserted the railway to settle here.

As the lumber companies cleared the large stands of trees, these individuals cleared the smaller growth, in order to plough the fields. These farmers increased in numbers and soon nearly the whole valley was being prepared for agriculture.

These men were part time farmers. In the summer, they would cultivate hay that would be sold to the railway and to the lumber communities. A few cows and a limited acreage of vegetables were also part of the farm with the surplus also going to these same markets. In the winter, these farmers left their land and went to work in the nearby lumber camps, returning in the spring in time to work the land.

It was not long until both the lumber camps and the railway moved further away. It was at this time however, that a demand for food was coming from the rapidly expanding town of Sudbury and the new mining towns. This stimulus turned these part-time farmers into full-time workers. Now, a more varied production must be attained. Herds of cattle were shipped into the valley to supply the towns with fresh milk and beef. It was around 1920 that the farmers found that this soil was exceptionally fine for the potato and that land in the centre of the valley in particular was well-suited to vegetable gardening.

At this date, only gravel roads and concessions serviced the whole valley with two poor roads leading into the city. In 1925, the city market in Sudbury was opened to allow the farmers from the valley to market their produce for the town.

By 1920, two smaller villages than Chelmsford appeared. In the heart of the valley we find Blizard, a little street village servicing the rich agricultural land surrounding it. In the east end of the valley, the village of Hammer also appeared.

At this date, the valley was producing a great deal of cheese. Factories were set up at Chelmsford, Bl^eizard, and Hammer. The produce was sent to Sudbury.

Along with the first settlers in the valley came the Roman Catholic priests. The first church was built in Chelmsford about 1891. It was from this point that the priest serviced the entire valley. At first he travelled by horseback, or by boat along the Whitson Creek to service the many scattered farms. By 1902, the farming population was large enough to begin a parish at the hamlet of Blizard^e, which consisted of a store and three houses.

These early leaders of the Roman Catholic Church consolidated this valley into a strong centre for their faith. Even today, the most magnificent buildings in Chelmsford, Blizard, and Hammer are the Roman Catholic Churches and parsonages. To within five years ago, the number of protestant people in the valley was negligible. Even today there is no protestant church in the valley.

By 1915 all the cultivable land in the valley had been occupied. From this date to the present, this area has remained a tranquil agricultural settlement, while just six miles to the south there is the ever expanding city of Sudbury surrounded by the numerous bustling mining towns. In the last five years however, there have been signs of change in the valley but the description and reason for this change will be left to a further chapter.

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CHAPTER FOUR

AGRICULTURE

In the Sudbury Basin, agriculture has always been secondary to mining and lumbering. In the beginning lumbering and the railway were the main sources of employment. As the area became further developed mining began to dominate the scene and agriculture once more was subsidiary industry. It is on the floor of the basin where agriculture has always been important. This level terrain on the Amvatin slate, covered with lacustrine soils has been the major agricultural area in the Sudbury district.

All the land in the valley was developed as early as 1910. From the Vermillion Lake in the south west to the village of Hanmer in the north east all the available land had been cultivated. Many areas at that time were covered in swamp but even today these areas are not used.

In the chapter dealing with the history of settlement it was mentioned that the part-time farmers cultivated much of the land in hay. The reason for this, was to service the lumber camps. This was effective until the lumbering companies moved to another location. Even at this time, a good deal of the hay was being shipped and used by the Canadian Pacific Railway. As this market dwindled, another one arose which called for more diversified agricultural produce. The growing town of Sudbury,

along with the many mining communities around the rim soon demanded food. This greatly stimulated agricultural development.

The farmers soon learned that these cool, acid soils of the valley were suited to gardening and that the potato and oat crops could be successfully grown. Even today, these crops are of extreme importance here.

To the south of the Sudbury - Levack highway, there were developed extensive areas of hay and oats. In this area, heavy clay and silty clay soils are dominant. The heavy nature of these soils was found unsuitable for growing vegetables on a large scale. It is in this area that the first farmers kept livestock. Much of the land, particularly in the low-lying areas, was swampy. These areas along with many finer lands were used for pasture. Instead of shipping out most of the hay and oats, the farmers began to feed it to their livestock. The milk was shipped into Sudbury.

In the area around Chelmsford and Blizard^e Valley, much the same development was taking place. But, in this area, the soil was a more friable sandy loam which was conducive to more intensive cultivation. It is in this area that the market garden was developed to its greatest extent. There was also a good deal of oats and hay grown along with the pasturing of a few head of cattle.

The produce from the garden was used at first to feed the family. The surplus was sent into Sudbury or 'peddled' by the individual farmer in the small mining towns. Milk was not sent directly to Sudbury as was the custom in the south-west of the valley. In this area, cheese factories sprang up at Chelmsford, Boninville, and Blizard^e. These continued to operate until 1935. Cheese was exported from these places directly to Sudbury.

Further to the north-west, another community developed near^{east}

Hanmer. The development here was similar to that around Chelmsford and Blizard, and the same yellow sandy loam soil was prevalent. At a very early date, a road was built from Hanmer to Sudbury which greatly aided the development of this area.

As was stated earlier, the development at this time has persisted right up to the present, but with the past few years great changes are taking place. Let us now look at present development in the valley.

The present communication and road were developed as early as 1920. Two main roads service the valley. One of these roads join Sudbury and Levack and extends through the south and south-western portion of the valley. Azilda and Larchwood are both located on this highway. The other main road joins Sudbury and Capreol through Val Canyon and Hanmer. All other roads in the valley are gravel surfaced and run in a rectangular pattern between the two main roads and the sandstone anticlines to the north. These secondary roads however, are not laid out in square mile intervals. Most of the east-west roads are at one mile intervals, but in many cases there are two miles or more between north-south roads.

For the most part, the farm houses are located on the east-west roads. There are roughly six to twelve houses per mile, with the farms running in elongated strips in the north-south direction. Very few, if any, farm homes are seen on the roads running north-south. Chelmsford, Boninville, Blizard, and Hanmer are all located on east-west roads.

In reviewing the present agricultural development of the valley, let us look at the area south of the road from Chelmsford to Azilda to Vermillion Lake. In this area, there are soils ranging from heavy clays to a silty clay and clay loam. A type of mixed farming is present here with cattle, oats and hay, along with sufficient vegetables for family use.

Dairy farming was the chief source of income here, as there is good communication with Sudbury. At first the farmers developed the area and made great profit from the nearby market. As the market grew, the farmers in this area did not expand with it. As a result, milk began to be shipped in from the Lavigne - Vernor area on the Number 11 highway toward North Bay. A better quality of milk is produced here and so many of the contracts from the Sudbury Basin were transferred to this area. At present, contracts are at a premium and only a few farmers in the valley are shipping milk.

This, however, is not the only reason for the decline of farming in this area. The valley is directly in line with the Copper Cliff smelter and as the prevailing winds are from the south-west, this area receives a great deal of the sulphur fumes from the smelter. In the summer many plants are spoiled by these fumes. Even the barb wire fences and the tin barns are corroded by these fumes. However, some compensation is provided by the International Nickel Company.

In this portion of the valley, is located the Ontario Pyrites Mine. The company is constantly buying up the underground or mineral rights in this area. The farmers here, suffering from reduced contracts, sulphur fumes, the need for purchasing cooling systems for their milk and combines to harvest the grain, are rapidly selling their mineral rights to the company as a way of escape. They are either moving off the land, leaving it idle or only cultivating a small portion of it and working five days a week in the local mines. The latter is the most popular.

As one drives through this area south of the main roads one sees much of the land left idle or in hay. In many cases the hay is left in the field and not harvested. There are, however, a few farms left. The most notable of these belongs to Raoule Viallancourt, who has roughly one hundred head of cattle - mainly herefords. Mr. Viallancourt buys a good deal of hay from many of the part-time farmers nearby, or just takes it off the abandoned land. About one half of his cattle are slaughtered in the fall and shipped into Sudbury. In years past he has bought dairy cattle from Manitoulin Island and shipped milk into Sudbury. At present, he is one of the many farmers who are changing over to beef cattle.



Recently abandoned farm south-west of the lowland.

A recent Dutch immigrant to this country - A. J. Smidt - has taken over one of the recently sold farms in this area. At present he is rebuilding the stock in Ayrshires and is shipping milk into Sudbury. Unlike many farmers in this area, he is not interested in working in the mine, and wishes to make his living from the land.



Dairy Farm
A. J. Smidt.

Along the highway from the entrance of the valley through to Chelmsford, there is a great deal of idle land, mainly on the south side of the road. There are two reasons for this. The first is that the men are working in the mines rather than on the land. In this area, the homes are, for the most part, of neat frame or stucco appearance. In many cases the barns are falling apart or have already collapsed. Some of the fields have a hay crop which, in many cases, will never be harvested. Much of the land south of the highway has been subdivided. A building program has not been started on much of this land at present. Herein lies the second reason for so much idle land around Azilda and Whitewater Lake. In the Azilda area, a rapid building program has already started. This will be discussed more fully in a later chapter.

The finest agricultural land in the Sudbury Basin is found between Chelmsford and Blázard Valley. This is in the eastern part of Balfour, Rayside, and the western part of Blázard township. In this area one finds the highest priced farm land in the valley, - \$150.- \$200. an acre. The soil is a yellow sandy loam well-suited to agriculture.

In this section, unlike that to the south, one does not find idle land. Agricultural practices here are more intensive. On driving through the third and fourth concessions, one notices attractive farms of about 75 - 100 acres. Oats and hay are the main field crops, while each farm has a large garden and a few cows. The gardens produce corn, raspberries, cabbage, turnips and beets. The emphasis is on the potato on most of these farms. This may well be called the 'potato-belt.'



Prosperous Farm - 4th Concession

An average farm in this section is owned by Rudolph Paquette in Boninville. The farm has roughly 120 acres divided as follows: - 80 acres in potatoes, 10 acres in hay, 8 acres of oats, and about $4\frac{1}{2}$ acres of truck garden. The remainder of the area is in rough pasture. Like most of the farms in this area, Paquette has a rotation of oats, hay, and pasture. However, the fields used for the truck crops are not included in the rotation. The same fields are used annually. The results of this is an intense loss of minerals from the soil. Consequently large amounts of fertilizers are used by the farmers to maintain these gardens.

For the most part, the same problems that occur in the areas to the south, plague this area. Sulphur fumes damage many of the plants in the gardens. Compensation is awarded by the International Nickel Company, but the farmers feel that the amount is far below the cost of damage. In this area there is also competition from the mines. Here too, many farmers have gone to work in the mines. The land, however, is not being left totally idle. One finds many of the older folk staying on the farm and the young people working in the mine. As a result, due to the high price of labour at harvest time, the older people are gradually cutting down production to a minimum. In many cases, the sons help on the farm on their days off from the mine and at harvest time. The old people grow enough to feed themselves and possibly a little surplus to ship into Sudbury.

Another type of farming is also taking hold in this part of the basin. The farmers are changing from a mixed farming economy to a more specialized endeavour, that of truck gardens. In this case, the farmer keeps no animals and sows no grain, unless he wishes to sell some in the fall. Because of this, no barns or sheds are necessary. On numerous farms, one notices the barns falling into disrepair or being torn down



The Farm of Emile Watier



Mr. Watier Works the Land - His Two Sons Work in the Mine.

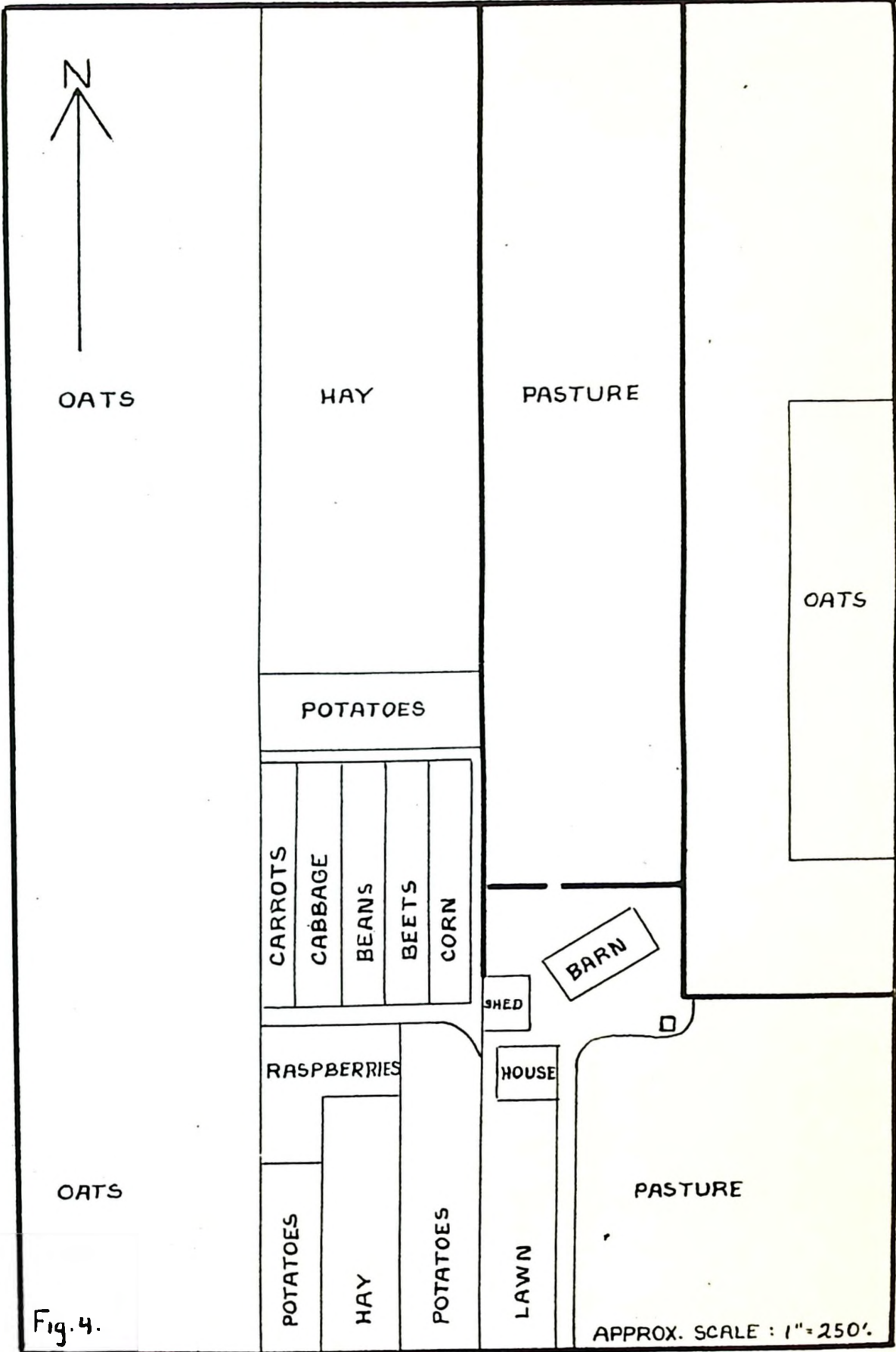


Fig. 4.

GENERAL FARM

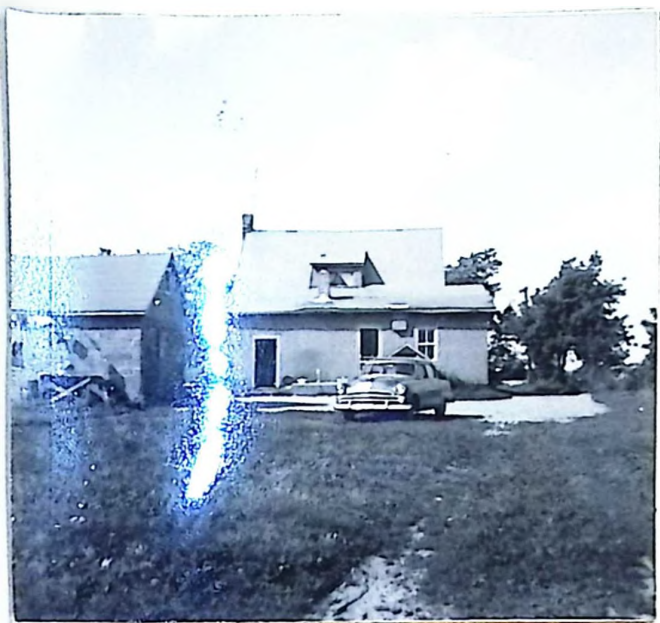
EMILE WATIER

as they are now not needed. In this way the farmer turns more of his land over to a garden - still relying heavily on the potato. This is a type of farming demanding a lot of work during the growing season, but after the harvest, the farmers work is finished. He can now get a winter job in the lumber camps or the mines.

A fine example of this type of farmer is Leo Bilcourt, who owns the first farm west of Blévard Valley. His 100 acres are largely devoted to cash crops in response to demands from increasing urban markets. Potatoes are his biggest crop, but he also has table turnips, string beans, carrots, and raspberries. He hopes to pick 10,000 quarts of marketable fruit. He has no cattle, and both clover and rye are ploughed under for his fifteen acres of potatoes. A job in the mines or smelter is no temptation to him.

There are still many full-time farmers in the valley. One has already been mentioned - Rudolph Pacquette. Another is Canse Trottier, and his 80 acre farm is divided as follows: - 25 acres of hay, 20 acres of oats, 5 acres of barley, and 8 acres of potatoes. For livestock, he has beef cattle and 'just enough milk for the house', a couple of sows and 100 hens. He considers himself a mixed farmer. He had an excellent field of clover which he said kept humus in the soil for the potato crop. In addition to the sale of seed potatoes, Mr. Trottier sells 500 to 600 bushels of seed grain.

Pasturing of cattle in this area adds to the rotation system. There are, however, numerous areas left in woodlots which are also used for rough pastures. For roughly 200' each side of the Whitson River the soil is too sandy for agriculture and so the land is left in pasture. This area is wooded.



Farm House of Leo Bilcourt



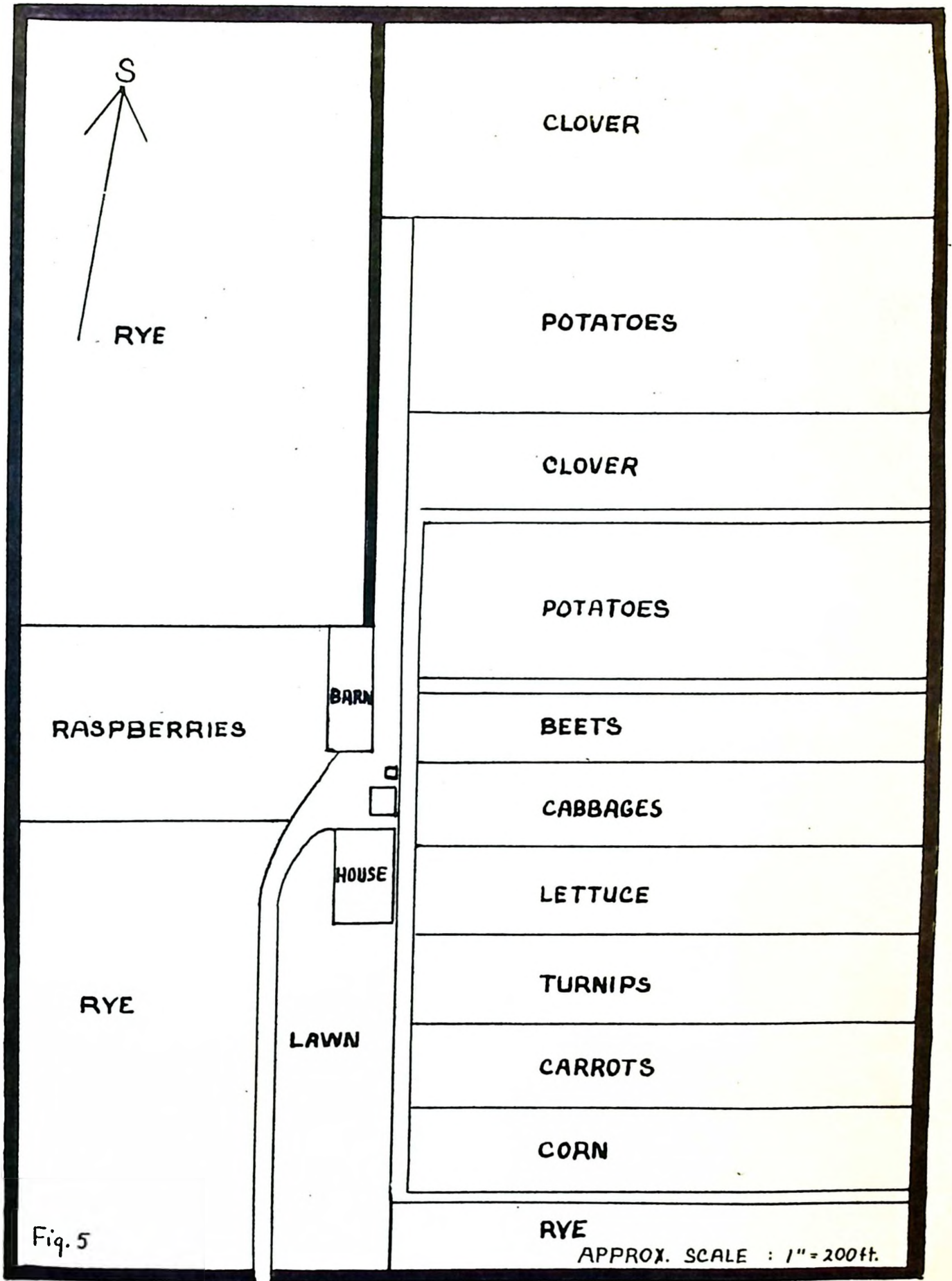
Barn of Leo Bilcourt



Truck Garden of Leo Bilcourt



Truck Garden of Leo Bilcourt



TRUCK GARDEN

LEO BILCOURT

The central portion of Blizard^e and Hanmer Townships are not suited to agriculture. Here there is a large sand plain predominating. Around Val Caron, a great deal of the land has been subdivided and the area is being built up rapidly. To the north of the village of Hanmer a large sand and gravel plain is also present. This area is inhabited by a few farmers who live in extreme poverty and will soon be forced to leave.

The best agricultural land in this portion of the valley is in the area just west of Hanmer. The same type of farming exists here as between Chelmsford and Blizard Valley. The potato is again the main cash crop. The same difficulties face the farmers in this area.



Poor Farm on the Sand Plain
North of Hanmer.



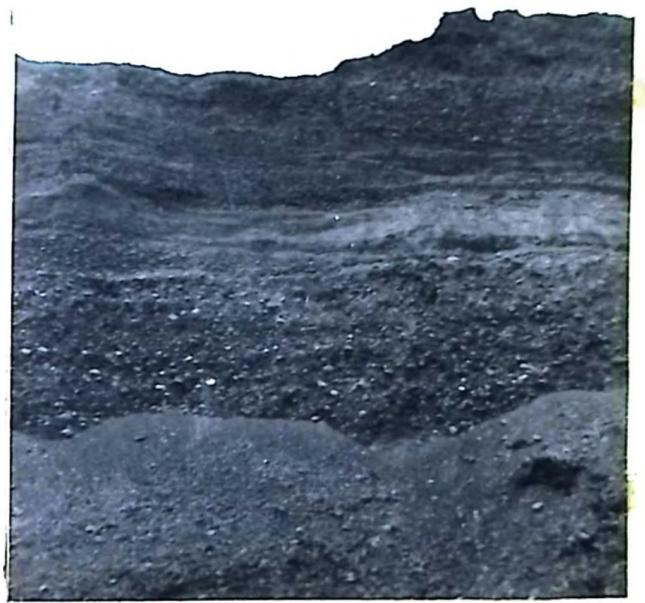
Sand Plain
North of Hanmer



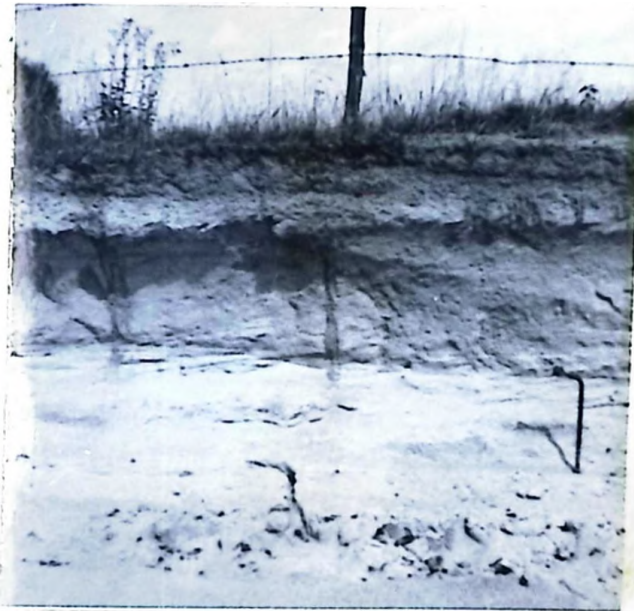
Poor Farm
on the Sand Plain



Recreation on Vermillion River
North of Hammer



Gravel Deposits Along
Vermillion River



Gradation of Gravel Near River
to Powdery Sand Near Hammer



C. N. R. Gravel Pit
Along Vermillion River



Excavation Shows Sand
Deposits Near Val Caron



Sand Plain North of Hanmer

In the area east of Hanmer there is a large swamp with little agricultural development. Beyond this swamp are located a few farms. One is a large farm that is operated by the Capreol dairy. The owner owns a few cows but collects most of his milk from five farms nearby.

One specialized branch of agriculture is noted in this area. It is a large poultry farm which ships its eggs directly to Sudbury. The buildings are attractively painted and the grounds around are decorated with wooden ornaments giving it a 'dude farm' appearance.



Poultry Farm
south-east of Hanmer

It is in Rayside township that we find the best agricultural lands, from the Sudbury - Levack highway in the south to the sandstone ridges in the north. Of the 400,000 bags of potatoes grown in the valley this past summer, 300,000 bags were grown in Rayside township. Louis Paquette, on the 4th Concession near Boninville, was the largest potato grower with about 20,000 bags.

Hanmer township on the concession just west of the village, and Blizard township, grew the remaining 100,000 bags. Only a very few bags were grown in Balfour township. In the valley, as a whole, roughly 2000 acres of potatoes were planted this summer.

Potato farming was once a very rich enterprise. In 1949, farmers were receiving \$2.25 a bag. Today, prices have dropped to \$1.50 a bag. Most of the farmers, maintained that it cost almost this much to



Rough Pasture Along Whitson River



Abandoned Farm North-west of
Chelmsford - Note Sandstone Anticline in Background.



Demonstration Plots to Aid Potato Production



Large Field of Potatoes South of Boninville



Market Garden on East Side of Blizzard Valley

plant the crop. The industry has to be mechanized and this is a large expenditure. This, combined with the low prices is either forcing the farmers to leave the business or to cultivate on a larger scale.

The potatoes and other garden produce are sold in Sudbury. The local city market is the common place for these farmers to congregate. As prices are usually lower here, an increasing number of the farmers are supplying wholesalers, hotels, restaurants, etc., and receiving up to 50¢ more a bag for their potatoes. Many of the farmers that produce on a smaller scale, peddle their produce around the city or in the local towns.

The hay crop in the valley has the largest acreage. The entire crop is fed mainly to the animals. This past summer, the price of hay was between fifteen and eighteen dollars a ton. This low price is further reduced when many of these part time farmers have to rent combines at from eight to ten dollars an hour. What little hay is left after the farmers have enough for winter feed, is sold to the Canadian Pacific Railway, or just left in the field.

The oat crop is not too extensive in the valley. Some of this crop is kept for feed, and seed purposes and the remainder is sold to Charrettes' in Chelmsford or the Edward's Grain Feed Store in Sudbury.

As late as 1949, there were 4500 head of cattle in the valley. — The majority of these were Ayrshires. In 1950-51, the Lavigne - Vernor area was developed in the dairying business and became the leading milk-producing area for Sudbury. As the valley could not produce enough to supply the city and surrounding mining towns, many contracts here were severed. From this period on, the amount of cattle in the valley began to decrease until at present, there are only about 1000 head in the valley.



Machinery on a Poor Farm



Machinery From a Prosperous Farm



Hobby Farm of Real Estate Owner
in Sudbury.
Aberdeen-Angus variety of Cattle



Chicken Coop on Same Farm.

Most of these are Herefords. Many of the farmers are rebuilding their herds, in this stock, to supply the large urban market with beef. One of the most prosperous of these we have already discussed is that of Raoule Vi^lallancourt.

As stated earlier, the majority of the farmers work part time in the mines. Many of these people consult Romeo Laroux, the district representative of the Department of Agriculture, for advice on how to get the maximum benefit from their farms while carrying on another job. He advises them to hold on to their rural homes that can be self-supporting in an emergency and offer security for old age. He recommends that they employ the practices of 'loose stabling'. He advises them not to sell their grain as is their custom, but to keep beef cattle instead. In this way, they can change the grain to manure to add organic matter to the soil. In the five to six months of spring, summer, and fall, the animals can be pastured outside. In the winter they will be kept in a barn. The idea is to have a large barn with very wide doors to allow a machine to get inside, to do the cleaning out, once a year. In this manner, the part time farmers can profitably carry on one branch of agriculture as well as continue with their work in the mine.

It is difficult to see a bright future for agriculture in the Sudbury Basin. It has never had a favourable position in relation to the mining industry, but at present, it looks as if a combination of mining interests and urban expansion will finally subdue agricultural enterprise in the valley.

This lowland lies to the north-east of the Copper Cliff smelter. As the prevailing winds are from the south-west, a good many plants are spoiled because of these sulphur fumes. The agricultural representative tours the valley and assesses the damage done by his company. In an interview he would neither disclose the damage done nor would he give any indication of the amount of compensation paid out annually.

The International Nickel Company is also anxious to buy the mineral rights for the entire valley. In the south-west portion around the Ontario Pyrites Mine, a great deal of the land has already been purchased. But, even in the rich farmland around Chelmsford and Blizard Valley, the farmers are selling their rights very rapidly. Because of this, many of the farmers have left the farm or are working it in their spare time. In all cases, when the Company buys the mineral rights, they also buy the sulphur rights. Now, if the farmer continues to work his land, he is not compensated for the damage done by the company's fumes.

The nearby mines offer agriculture great competition in manpower. The lowest wage in the mine is \$1.85 an hour. This along with the 40 hour week, is drawing many of the younger men from the land. The company will not hire a man over forty-three years old. It can be seen from this that these men are leaving the farm at about the age when they could be making their greatest contribution. On the farms, in many cases, you will see two homes. The newer one belongs to the young son now working in the mines, while the old folks live in the original farm house and continue to work part of the farm.

The climate also poses a problem to agricultural pursuits. The early frost and maximum precipitation in the fall have proved harmful to certain crops. The sudden transition from winter to spring causes the heavy blanket of snow to melt rapidly producing many small lakes and poorly drained areas. This results in late planting. These hindering factors have been discussed in the chapter on climate.

Urban expansion in Val Caron, Chelmsford, Azilda, and Hanmer is taking up a great deal of land in the valley. The latter three communities

are expanding at the expense of the rich farm land. Many of the farmers are sub-dividing their land, as a fast and easy way to make money.

The valley is well noted for its quality of potatoes. World Championships were won in 1951-52-54. But, in the past two or three years, the quality of the potatoes has been dropping. The main grievance found with them is that they are turning black on being cooked. The farmers, led by the agricultural representative, are trying to solve this problem in the Crop Improvement Association. This past summer, the following fertilizers were being tried with the result given in the number of bags produced, as listed below. The results -

80 lbs. potatoes	80 lbs. potatoes	80 lbs. potatoes	80 lbs. potatoes
80 lbs. 4-12-10	140 lbs. 4-12-10	80 lbs. 5-10-13	140 lbs. 5-10-13
13 bags 40 lbs. harvested.	11 bags harvested	11 bags 5 lbs. harvested	14 bags 50 lbs. harvested

160 lbs. potatoes
140 lbs. 4-24-20
25 bags harvested.

N.B. all bags were 75 lbs.

of these tests have not yet been determined. Different quantities of the various types of fertilizers were tested in an attempt to rid the Blizard Valley potato of this undersirable quality.

According to Mr. Romeo Laroux, this is one of the most heavily fertilized areas in the province. The soils are acid in reaction so lime must be applied to aid the clover to grow, which puts organic matter in the soil. If the lime is applied to^o heavily, the potato scab will result. The correct balance is so important to the best cash crop that farmers generally have soil tests to guide them.

These are problems that agriculture is facing in the Sudbury Basin, and solutions must be found for them, if the remaining farmers are to continue living on a prosperous basis.

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CHAPTER FIVE

SETTLEMENT IN THE VALLEY

The first settlement in the valley was on the railway at Azilda. The second settlement was four miles further along the railway at Chelmsford. This latter developed into the largest urban cluster in the valley because of its advantage of being located on the Whitson Creek. This soon became a service town supplying the agricultural land which surrounds it. Chelmsford developed into a large village and was incorporated in 1910. Azilda however, remained just a railway siding. Smaller villages of Blazard Valley and Hanmer also grew up as service centres.

It has only been within the past few years that people have started to move into the lowland. It appears as if urban dwellers are seeking more wide open areas for settlement. Also, within the past few years, the number of available lots in the city proper have decreased to a minimum and these two forces have led to a renewal of settlement in the valley.

At present, many people are saying that this is the place where Sudbury should have been built in the first place. When one examines the rough and hilly terrain on which the city is now located, the truth of this statement becomes more apparent. In the valley the environment is favourable for urban development. The surface is a flat plain. The flat, boulder-free soil facilitates the construction of sewer and water lines. On ^e_λ factor of great importance, is the close proximity of the water table, to the surface of the ground. There is no place in the valley in which water cannot be

reached at between 12 and 15 feet below the surface. The flatness of the terrain in itself allows the development of a pattern conducive to better urban living. With the lowland being in the centre of the mines on the rim of the basin, wouldn't a large urban location be well suited to the lowland, as most of the people in the district now are connected with the mines?

In Balfour township one finds the largest town in the lowland. In earlier years, Chelmsford serviced every corner of the valley but at present it services only a limited area. The town now has a population of 1,825, the majority of which are employed at the mine.

For the most part, these men are employed at Murry^c, Le^cvack, and the Ontario Pyrite Mines, and the Copper Cliff smelter which is only nine miles away.

Most of the land between Chelmsford and the highway has been subdivided. It is in this area that a better class of home is being built. The population of this town is steadily increasing as it rose by 200 people in the past two years. The major housing development in Chelmsford is the Pinellas Park sub-division where 15 new homes were built this year and another 90 are planned for next year. One of the numerous building permits taken out this year was by Mayor Leo Vaillancourt. He has built an \$80,000. apartment block in the town of which the Legion Branch is occupying the ground floor as temporary headquarters.

The commercial area of the town is at the intersection of the two main streets. One street runs east-west, and the other north-south. In this area are located two large grocery stores, shoe repair, electric shop, snack-bar, two hardware stores, a confectionery^c store, bake shop, men's store, bank, theatre, hotel, post-office, and a pool-room and Restaurant. Within /cc. the past year a number of important changes have occurred, such as a modern



The Town of Chelmsford

six-room district high school, a new elementary school, plans for the town's first Protestant Church, improved telephone exchange, and a new apartment block.



East-West Business Section in Chelmsford

Northern expansion of the town is limited by the anticlinal ridges of sandstone on which the town water tank is presently located. Water from wells in the town is good for cooking but not for drinking. Fresh water is pumped from Whitson Creek.

In the northern portion of the town, along the railway, the Basin Foundry Ltd. has located. This industry, formerly of Timmins, moved to Chelmsford this past summer. The mill is in operation now, and is producing steel balls for the crushers at the Ontario Pyrites Mine. The number of people employed at the mine is only 30 at present. The management is looking forward to a contract to make steel balls for the crushers at the International Nickel Mines, from which it is now drawing scrap steel. This forward look was the reason for its location in the centre of the basin so as to be equidistant from all the mines. If only a portion of this

contract is obtained, the manager believes his employment will reach 100. This will add further to the expanding population of Chelmsford.

The expansion of the town is south, toward the highway. In the future, the original town with its French inhabitants and its larger stone Roman Catholic Church will become 'French town', or the old section of town. Homes in the town are frame and have a poor appearance on the whole. Many are in need of repair. In the newer areas the homes being built are of a far superior class and finished in stucco or brick.

The retail trade ~~are~~ of Chelmsford is very limited. It serves only the immediate area outside the town. The good communication with Sudbury allows people easy access to the city where prices tend to be cheaper. Grocers in the town say their greatest business is in small orders of things people need in a hurry. Large orders are bought weekly in the city.



Roman Catholic Church
Chelmsford



New Sub-division to
South-east in Chelmsford

The township with the largest population is Rayside. In it, is found the second largest concentration of people - Azilda. In 1949, the population of this rural municipality was only 479. Today, it boasts 2,700 and supports nine schools with more to be opened in the future.



Azilda from the air -- Whitewater Lake in the Background.

The town of Azilda is mainly responsible for these continued increases. Five of the schools which have a total of 11 rooms are in Azilda. Eight more classrooms have been constructed and will go into operation soon. But four years ago there were only four schoolrooms in the community.

Formerly, this village was nothing more than a railway station,

two stores and a few houses serving the surrounding agricultural land. The reeve, Stan Gauthier attributes most of the townships latest development to the fact that 'miners are starting to realize the advantage of living in an area that is close to their jobs, yet much like a vacationland'. Only seven miles from Sudbury, Azilda offers International Nickel Company and Falconbridge workers a location close to their jobs. From here, it is only three miles to the Murray Mine and six miles to the Copper Cliff smelter. The majority of people in Azilda are employed in the mines.

At present, this is the fastest growing urban development in the lowland. In 1951, 34 building permits were issued at a value of \$80,000. This year, 80 permits have been issued at an estimated total of \$369,000. The assessment in 1951 was only \$182,930 but, this year it has climbed to an even \$1,000,000.

Most of the farmland from the highway to Whitewater Lake has been sub-divided and parts of the land has already been settled. Rayside township boasts the only active planning board in the basin. As most of the richest farmland in the valley is found in Rayside, the board is planning not to waste this, but that much of it will be reserved by by-law as part of the 'green belt' where farming will continue.

At present, the main business district, consisting of four general stores, the Star Hotel, two pool rooms, a men's furnishings, and a large brick R. C. Church, is spread along the main highway for a mile or more. The major housing projects are south of the main road. This area is still being developed, and this spring it was nearly isolated in the mud that formed with the spring thaw. As yet, the roads in this area are not paved and present great difficulty after a heavy rain. Six miles along the lake-shore has been left for the sportsmen and those wishing to build cottages.

One is led to believe that this townsite, located seven miles closer to Sudbury than Chelmsford, can look to a prosperous future as all indications point to great development in this township centred on Azilda.

In the township of Blazard there is one small village - Blazard Valley. It is a street village consisting of about 175 people. Three general stores, a small restaurant, a men's furnishings, two gas stations and a very large R. C. Church are the main buildings in the town. Interspersed among these, one finds the houses, constructed mainly of clap-board with many in need of repair. In the south-east corner of the village newer homes are being built. One farmer has completely sub-divided his farm, and has moved into Chelmsford. These new homes are of a fine quality with cement basements and a stucco finish.

One other fast growing village in the township is Val Caron which is nine miles north of Sudbury on the Capreol highway. Only three or four years ago, this was a grocery store at the junction of the fourth concession. Today, there is a population of about 500. Two grocery stores, a hardware store, a drug store, two confectionary stands and a large hotel constitute the main commercial area.

This location, with its good communication, makes it ideal for mine employees. The majority of the people are employed at the Monel Nickel Mine, only two miles away, and the Murray Mine only seven miles away. A paved road leads to these mines.

The northern section of the city of Sudbury has expanded as far as possible. Many people have moved from this area and are now living in Val Caron.

Most of the land around the cross-roads has been sub-divided. A planning board is a reality in this district although its influence does not appear to have been too harshly felt. In the immediate area, many new



Modern School in Val Caron



Example of New Homes Appearing on Rich
Agricultural Land on 4th Concession

homes are growing around and among the shacks of the original site. However, just outside the original townsite, new locations are expanding with a highly uniform quality of home. A new addition to the town next year will be a \$65,000. town hall and skating rink.

This site, similar to the one at Azilda, has all the qualifications for a very successful future; one that should see a fine residential town as the outcome.

In the township of Hammer there is a small town of some 400 people. This is a town serving the outside agricultural land. Up to three or four years ago, the people here were strictly connected with agriculture. Today, all the people in the town work in Garson or Falconbridge Mine, or at the newly opened Radar Station in the south-east of the basin. In the town there are a few people employed by the railway and working in Capreol, three miles to the north.

The town consists of four general stores, a hotel, a hardware store. All the houses are along the main highway, for about a half mile. The older homes, which still predominate, are mainly frame dwellings. Unlike the other urban communities only three new homes were built this year. These were also frame and covered with veneer.

One other building of significance in the town is the "Hammer Potato Storage and Grading Station". This was a co-operative venture, built in 1949 by 100 potato farmers in this area. The building can store 20,000 bags of potatoes, a division for farm feeds and machinery, a business office, a kitchen, and a community hall. At present, this building is of little use. As many of the farmers are only working part time, the number of bags of potatoes has been greatly reduced (only 5,000 bags this year), and little feed and equipment is being sold, but the community hall is still a growing

concern. This building as far as its original intent is concerned, has outlived its usefulness.

At present, in these four townships, there are 8,000 people. Of this number, only 2,200 are farmers. There is approximately 3,000 to 5,000 people living outside of the towns already mentioned. A great number of these people live on the highway between Azilda and Larchwood. There is a solid urban development between Azilda and Chelmsford.

The greatest rural settlement is found on the 4th and 5th concessions from Chelmsford to Val Caron. This nine miles of road has roughly 8 to 10 houses per mile. Even in this rich agricultural land in the valley there are many modern homes being built. In many cases, no barns are in association with the homes. This fact indicates that the owner has no connection with agriculture. His source of income is mining. Even in the heart of the agricultural land at Boninville, one farmer has already subdivided his land. He has sold the mineral rights and sulphur claims to the mines, and is ready to make his money 'easier' in the mine. However, this will be the last portion of the valley to be sub-divided as these rich lands will be highly priced.

In the township of Hammer one finds the greatest rural development along the highway west of the village. To the north and south of this, the soil is very sandy and there are only a few scattered farms.

There are certain indications, that would lead one to assume, that the population in the valley will continue to increase rapidly.

In the first place, another nickel strike has occurred just east of the Levack Mine. Operations at Pecunis Lake, seven miles north of the valley, have already started. Along with the mine, a fifteen million dollar smelter is to be built, which will begin operations in 1958. Undoubtedly,

a great many of the men employed in the mine and smelter will prefer living in the pleasant surroundings of the valley, instead of the hilly and rocky land around the mine shaft. The operations at Fecunis Lake could be one indication of future development in the valley.

If the Basin Foundry Ltd. obtain the contract which it is seeking with the International Nickel Company, it will have to greatly increase the number employed. Should these men wish to live near their job, Chelmsford offers ideal conditions.

Another large International Nickel Company project has already commenced operations one mile west of Copper Cliff. This is an iron plant worth nineteen million dollars. At present, many of the men working at the smelter in Copper Cliff, live in the valley, just six miles to the north-east. It is possible that a large number of men that will be employed at the iron plant, will want to live in the valley also.

Through the valley, there is to be a direct highway built between Sudbury and Timmins. As the population of Sudbury is already overflowing into the valley, it is possible that this highway, will stimulate it. Other industries, similar to the Basin Foundry Ltd. may also locate in this area due to the direct route joining the two mining regions.

The Ontario Pyrites Mine is located in the south-west corner of the valley. There is rapid development at this mine. At present, all the employees are living in the valley. As the number employed continues to rise, it is likely that most of them will also wish to live close to their jobs.

At present, the population in the valley is rising rapidly. Much of the poorer agricultural land has already been sub-divided. If the indications mentioned above become a reality, it will not be long until urban development will be exploiting even the best farm land in the valley.

C O N C L U S I O N

The Bláazard Valley is no longer the leading agricultural area in the Sudbury District. At present, there are only two sections where agriculture is prospering. These two areas include fertile sand loam soils between Chelmsford and Bláazard Valley, and the immediate area west of the town of Hanmer. Intensive agricultural practices are characteristic of these areas. Soils are well suited to truck gardening. Sudbury is the market for this produce. The farmers are placing less emphasis on other agricultural activities and are concentrating on further development of market gardening.

On the heavier less fertile soils one finds more extensive agricultural practices with large acreages of hay, oats, and some specialization in dairying.

There is little development of the lighter more sandy soils in the east end of the valley. Most of this land is idle or has a forest cover. It is in this region that one finds an extensive gravel plain, which is being utilized by the Canadian National Railway as a source of construction and repair materials.

The damaging fumes from the Copper Cliff smelter, six miles to the south-west, along with the uncertain climate, are problems still facing the farmers of the Bláazard Valley. Added to these problems, has been the serious blow dealt to agriculture by the low prices in the city market. In 1949, Blizard Valley farmers were receiving \$2.25 a bag for potatoes. Today,

they are receiving \$1.50. It is this reduction in prices that has dealt the most destructive blow to agriculture in this area. As a result, the farmers are seeking employment in the mines, where they can obtain more money and enjoy a shorter work-week.

Throughout the entire valley, but in particular the southwestern portion, the International Nickel Company is buying the underground or mineral rights from the farmers. Attractive prices are being paid for these rights and many farmers are taking advantage of this. Along with the mineral rights, the Company also buys the sulphur rights. Now, if a farmer wishes to continue working his land, after the sulphur rights have been sold, he is no longer compensated for damages. This has caused many farmers to cease working their farms after selling the mineral and sulphur rights to the Company. They then seek employment in the mines.

The movement of people from the city into the suburban areas has meant that considerable acreage has been sub-divided. In fact, most of the land south of the Sudbury - Levaack highway has been subdivided. This is also happening in the Val Caron area. Sub-division has taken place for the most part, on the poor agricultural soils and along main roads leading to Sudbury.

The Blâzard Valley is in a state of transition. Agriculture is not the dominant part of the economy as it was in the past. A combination of lower prices and more attractive jobs in the mines, has induced the exodus from the farms. It is likely that in the future, urban expansion will continue and will be encroaching upon the fertile land now being used for agriculture.