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**BUREAU OF ECONOMIC GEOLOGY
GEOLOGICAL SURVEY**

**PRELIMINARY REPORT
GROUND-WATER RESOURCES
OF THE
RURAL MUNICIPALITY OF MOOSE CREEK**

No. 33

SASKATCHEWAN

BY

B.R. MacKay H.N. Hainstock

Water Supply Paper No. 20



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GROUND WATER RESOURCES OF THE RURAL MUNICIPALITY
OF MOOSE CREEK, NO. 33,
SASKATCHEWAN

INTRODUCTION

Lack of rainfall during the years 1930 to 1934 over a large part of the Prairie Provinces brought about an acute shortage both in the larger supplies of surface water used for irrigation purposes and the smaller supplies of ground water required for domestic and stock-raising purposes, by settlers, villages, and Indian reserves. The drought conditions resulted in repeated crop failures, and in a large number of farms in the acute drought areas of Saskatchewan and Alberta being abandoned. In an effort to relieve the serious situation a number of special studies of the water problem were begun by both Federal and Provincial Governments and allied organizations. The Federal Department of Agriculture undertook among other phases of the drought problem an investigation into the existing supplies of surface water, their conservation by means of dams and dug-outs, and how they could be made more generally available for irrigation. The Geological Survey of the Federal Department of Mines began an extensive study of the underground water conditions of southern Saskatchewan, this water being used principally for domestic and stock-raising purposes. For many years past the water problems in this and other provinces of Canada have engaged the attention of the Geological Survey, and considerable information had already been collected. A number of short reports dealing with the ground water conditions of special areas in Manitoba, Saskatchewan and Alberta have been published by both the Federal and Provincial Geological Surveys, but no systematic study of the ground water resources has been made up to the present.

Field Work

The senior author was in charge of this investigation and was instructed to cover as much of the territory as possible in the season. To effect this it was decided to maintain an

office at Regina and to have a large party consisting of twenty-six units, each to consist of three men who would cover their respective areas and visit every farm. In order that the information gathered by these different party units would be as complete and uniform as possible a questionnaire was prepared on which could be tabulated answers to all the essential questions required for a detailed study of the ground water conditions. An effort was made in the field by each party unit to fill in the questionnaire as completely as possible. In many instances, however, it was found that wells had either been abandoned, or the resident had little or no knowledge of the character of the water-bearing horizon and associated beds. When a party unit had completed the survey of a township the set of questionnaires and a report describing the characteristic features pertaining to the underground water conditions were mailed to the field office. Messrs. D.C. Maddox, F.H. Edmunds, H.H. Beach, H.N. Hainstock, R.D. MacDonald, and D.P. Goodall acted as supervisors in inspecting the work of the field units.

During the field season an area of 80,000 square miles, comprising 2,200 townships, was systematically examined, and records of approximately 60,000 wells were obtained, together with water samples for analyses obtained from 720 representative wells. These are systematically classified so that information pertaining to any well may be readily consulted. These records are supplemented by a set of 24 sectional sheets which cover all of southern Saskatchewan north to include township 32. Each sectional sheet comprises 120 townships. On these are indicated by symbol the location, type, and source of water of each of the 60,000 wells.

Publication of Results

The publication of such a great mass of detailed information is out of the question. This forms the permanent record of the Geological Survey. It is highly desirable, however, that a digest of the essential information pertaining to the ground water conditions of each municipality be furnished in convenient form to the municipality offices, to certain Provincial and Federal departments, and to allied organizations, at which centres it will be possible for any resident of the municipality or other party interested in any particular area to consult these reports. Should anyone find that he requires more detailed data than that contained in the report such additional information as the Geological Survey possesses can be procured on application to the Director, Bureau of Economic Geology, Department of Mines, Ottawa. In making such request the applicant should indicate the exact location of the area by giving the quarter section, township, range and meridian.

The reports have been prepared principally for farm residents, municipal bodies, and well **drillers** who are either contemplating sinking a well for the first time or considering deepening their well to a lower horizon in order to obtain a more abundant supply of water. In describing the water and geological conditions a certain number of technical terms must of necessity be used, and in case the reader should not be familiar with them their meanings have been defined in the glossary.

How to Use the Report

It is advisable that anyone desiring water information pertaining to a particular section of the municipality read over first the section dealing with the municipality as a whole, as by so doing he will be in a much better position to understand the section of the report dealing with the ground water conditions of

the area in which he is particularly interested. As he reads the text he should keep open before him for constant reference the accompanying map of the municipality on which are two figures, one showing the surface and bedrock geology of the area as they affect the ground water supply, and the other the relief and the location and type of water wells. The land relief is shown by means of lines of equal elevation, termed "contours", which lie generally at vertical intervals of 50 feet. The elevation above sea-level of each fourth line is indicated on the map. The statistical summary that follows the text gives at a glance the main characteristics of the wells in each township of the municipality and of the municipality as a whole as listed under the various sub-headings. This is followed by a section dealing with the analyses and quality of the water derived from the unconsolidated deposits and from bedrock. The table of well records gives the detailed information pertaining to each well. In this are tabulated the altitude of the well, its depth, the height to which the water will rise, and the elevation of the water horizon. The wells are grouped in the table by townships and are numbered from the lower right corner of the township westward and northward, and the location of each well by its quarter section is given. The elevations used were determined by aneroid barometer and were checked frequently by elevations on the published maps or by instrument surveys.

Where the ground surface of an area is comparatively flat an effort has been made to indicate the position of the water-bearing horizon in feet below the surface. In rolling country where there is a considerable difference of elevation within short distances a uniform figure for the depth to the water horizon is not generally possible. It then becomes necessary to indicate the position in terms of the elevation of a water-bearing bed in feet above sea-level.

Should one desire to ascertain at any location at which no well has as yet been sunk, the approximate depth at which a particular water-bearing horizon can be reached it is necessary to know two things--first, the elevation of the land surface, and second, the probable elevation of the water-bearing bed, or aquifer. The elevation of the land surface can be obtained by noting the position of the well site on the map. Figure 2, with respect to the two bounding contour lines of known elevation, and estimating either how far above the lower, or how far below the upper, control elevation line the well site lies. The approximate elevation of the water-bearing horizon at the well site can be obtained by noting on the table of well records the elevation of the horizon in the wells adjacent to the proposed location and from the range of elevations given and the relative positions of the wells shown on the map to select what appears to be its most probable elevation at the new well site. Having determined this elevation the depth that it is necessary to sink in order to tap it is the difference between its elevation and the elevation of the land surface. This method is especially applicable when the water-bearing horizon is in bedrock. In unconsolidated deposits the water horizon either conforms to the rolling land surface or occurs in isolated sand beds at various horizons that do not form a continuous water-bearing bed over a large area. Care should be taken in making any calculations for depth of water-bearing horizons to be sure that the elevations selected for the determinations occur in the same geological horizon, that is they should be either all in glacial drift or in the same bedrock formation.

The table of well records also contains notes on the temperature, quality, and quantity of the water being obtained from the various wells, and from this it is possible to draw reasonable conclusions as to the character and quantity of the water likely to be encountered at the proposed well site.

Glossary of Terms Used

Alluvium. Deposits of earth, silt, sand and gravel, and other transported material laid down by rivers, floods, or other causes upon land that has been submerged beneath the waters of lakes or rivers.

Aquifer. Layers or pockets of water-bearing sand or gravel that occur in unconsolidated deposits or as beds forming part of a bedrock formation.

Buried Pre-glacial Stream Channels. A channel carved into the bedrock by a stream before the advance of the continental ice-sheet, and subsequently either partly or wholly filled in by sands, gravels, and boulder clay deposited by the ice-sheet or later agencies.

Bedrock. Bedrock, as here used, refers to deposits of gravel, sand, silt, and marl that have been laid down by the agency of water and which through a long period of time and the weight of the overlying sediments have become cemented into a solid rock.

Coal Seam. The same as a coal bed. A deposit of carbonaceous material formed from the remains of plants by partial decomposition and burial.

Contour. A line on a map joining points that have the same elevation above sea-level.

Continental Ice-sheet. The great ice-sheet that covered most of the surface of Canada many thousands of years ago.

Escarpment. A cliff or a relatively steep slope separating level or gently sloping areas.

Flood-plain. A flat section in a river valley that is covered by water when the river is in flood.

Glacial Drift. The loose, unconsolidated surface deposits of sand, gravel, and clay, or a mixture of these, that were deposited by the continental ice-sheet. Clay containing boulders forms part of the drift and is referred to as glacial till or boulder clay. The glacial drift occurs in several forms:

1. Ground Moraine. A boulder clay or till plain (includes areas where the glacial drift is very thin and the surface uneven).

2. Terminal Moraine or Moraine. A hilly tract of country formed by glacial drift that was laid down at the margin of the continental ice-sheet during its retreat. The surface is characterized by irregular hills and undrained basins.

3. Glacial Outwash. Sand and gravel plains or deltas formed by streams that issued from the continental ice-sheet.

4. Glacial Lake Deposits. Sand and clay plains formed in glacial lakes during the retreat of the ice-sheet.

Ground Water. Sub-surface water, or water that occurs below the surface of the land.

Hydrostatic Pressure. The pressure exerted by the water at any given point. It is due mainly to the weight of the column of water occurring at higher levels in the same aquifer or water-bearing bed.

Impervious or Impermeable. Beds, such as fine clays or shale, are considered to be impervious or impermeable, when they do not permit of the passage or movement of the ground water.

Pervious or Permeable. Beds are pervious when they permit of the passage or movement of ground water, as for example porous sands, gravel, and sandstone.

Potable. Suitable for drinking.

Pre-glacial Land Surface. The surface of the land before it was covered by the continental ice-sheet.

Recent Deposits. Deposits that have been laid down by the agencies of water and wind since the disappearance of the continental ice-sheet.

Unconsolidated Deposits. The mantle or covering of alluvium and glacial drift consisting of loose sand, gravel, clay, and boulders that overlie the bedrock.

Water Table. The upper limit of the part of the ground wholly saturated with water. This may be very near the surface or many feet below it.

Wells. Holes sunk into the earth so as to reach a supply of water. When no water is obtained they are referred to as dry holes. Wells in which water is encountered are of three classes.

(1) Wells in which the water is under sufficient pressure to flow above the surface of the ground. These are called Flowing Artesian Wells.

(2) Wells in which the water is under pressure but does not rise to the surface. These wells are called Non-Flowing Artesian Wells.

(3) Wells in which the water does not rise above the water table. These wells are called Non-Artesian Wells.

Water-bearing Horizon. A layer in either unconsolidated deposits or in bedrock formations that is water-bearing; same as aquifer.

Zone of Saturation. An area in which the permeable rocks are saturated with water that will move under ordinary hydrostatic pressure.

Names and Descriptions of Geological Formations,
Referred to in These Reports

Wood Mountain Formation. The local name given to a series of gravel and thin sand beds which have a maximum thickness of 50 feet, and which occurs as isolated patches on the higher elevations of Wood mountain. They are the youngest of the consolidated rocks and, where present, rest upon the beds of the Ravenscrag formation.

Cypress Hills Formation. The local name given to a series of conglomerates and sand beds occurring in the southwest corner of Saskatchewan, which rests upon the Ravenscrag or older formations. The thickness of this formation varies from 30 to 125 feet.

Ravenscrag Formation. The local name given to a thick series of light-coloured sandstones and shales containing one or more thick lignite coal seams. This formation varies from 500 to 1,000 feet in thickness, and covers a large part of southern Saskatchewan. The principal coal deposits of the province occur in this formation.

Whitemud Formation. The local name given to a series of white, grey, and buff coloured clays and sands that varies in thickness from 10 to 75 feet. The base of this formation grades in places into a coarse, limy sand having a maximum thickness of 40 feet.

Eastend Formation. The local name given to a series of fine-grained sands and silts. It has been recognized at various localities over the southern part of the province, from the Alberta boundary east to the eastern escarpment of the Missouri coteau. The thickness of the formation seldom exceeds 40 feet.

Marine Shale Formation. The general name given to the thick deposit of incoherent, dark grey to dark brownish grey, plastic shales, which weather light grey to buff in places. It forms the uppermost bedrock formation over the greater part of eastern and central Saskatchewan. In the western part of the province it consists of a series of dark shales **termed the Bearpaw formation.** This is underlain by a series of sands, shales, and coal seams, known as the Belly River formation.

WATER-BEARING HORIZONS OF THE MUNICIPALITY

The municipality of Moose Creek is an area of 324 square miles in southeastern Saskatchewan. It consists of nine townships described as townships 4, 5, 6, ranges 1, 2, and 3, west of the 2nd meridian. The centre of the municipality lies approximately 9 miles northeast of the town of Alameda. The municipality is covered with a mantle of unconsolidated glacial drift that was deposited by the continental ice-sheet and the water that resulted from its melting. The thickness of this glacial drift covering varies from 100 to 275 feet. The maximum thickness is attained in the southeastern corner of the municipality, and the minimum in the northeastern and east-central parts. It appears as if there is a broad depression in the old bedrock land surface in the southeastern part of the municipality.

Water-bearing Horizons in the Unconsolidated Deposits

The upper 30 feet of the drift is usually composed of yellow clay which contains scattered pockets of sand and gravel. In places, however, as along Moose Mountain and Auburton Creeks, extensive deposits of glacial sand and gravel occur and the yellow clay is absent. The approximate limits of these deposits of glacial sand and gravel are shown on the accompanying map. A fine-textured blue clay underlies this upper zone and in some areas entirely replaces the yellow clay. So far as known, no sand deposits occur within the blue clay. In certain areas, however, such as in the northeastern corner of township 6, range 3, and in the northern half of township 4, range 1, deposits of sand occur between the blue clay and the Ravenscrag formation, and these deposits are taken to be part of the glacial drift rather than the uppermost beds of the Ravenscrag formation.

The pockets and deposits of glacial sand and gravel that occur within the upper 30 feet of the drift throughout

the municipality form a water-bearing horizon. All the productive shallow wells derive their water supply from this horizon. Those wells that are dug into the deposits of glacial sand and gravel yield an abundant and permanent supply of hard, usable water, and they are little affected by drought conditions. The water supply from the wells that are dug into the sand pockets, however, is dependant upon the size of the sand body encountered, and upon the amount of precipitation. This type of well is readily affected by drought conditions and may become totally dry. Small seepages of water, usually slightly "alkaline," are derived from the clay.

The sand deposits that occur at the base of the blue clay form a second water-bearing horizon. In the north half of township 4, range 1, and in the northwestern corner of township 6, range 3, an abundant supply of water is being obtained from this horizon at depths of approximately 220 feet. The water is quite hard and contains a fairly high concentration of iron and other mineral salts. In most instances this mineral salt content is so high that the water acts as a laxative and hence it cannot be used for household purposes. It is satisfactory for stock use, however, and the individual wells usually yield a supply of water that is sufficient for 100 to 200 head of stock. This horizon has been encountered at other localities throughout the municipality, but with the exception of the areas mentioned above the supply of water from it was so small that it was passed through and cased off.

Water-bearing Horizons in the Bedrock

The Ravenscrag formation underlies the glacial drift throughout the township. It is composed of beds of shale, sandy shale, and soft sandstone or sand, and it contains small seams and lenses of lignite coal. A true thickness of the formation was not obtained but there are at least 200 feet of sediments.

The sandy shale and sand strata form a number of water-bearing horizons at different depths. Three horizons have been tapped by deep wells and two of these are continuous throughout the municipality. The uppermost horizon is formed by a sand bed which is usually overlain by a thin seam of coal. This horizon is encountered at depths of from 250 to 280 feet, or at an elevation of 1,600 to 1,630 feet, in the southern part of the municipality, and at approximately 1,700 feet in the northern part. The water derived from this horizon varies in character. In most instances it is hard and contains a large amount of iron and other mineral salts, but in others it is soft and has a low salt content. These mineral salts have been derived mainly from the overlying glacial drift and partly from the coal. The water is satisfactory for stock use, but in many cases it cannot be used for domestic purposes as it has a strong laxative effect. The hydrostatic pressure is sufficient to cause the water to rise to within 20 to 60 feet of the surface in wells drilled on the uplands, and to flow 3 feet above the surface in some of the wells located in the valley of Moose Mountain creek.

The second water-bearing horizon is also formed by a sand bed and its overlying coal seam. It occurs at depths of 320 to 380 feet, or at an elevation of 1,550 feet in the southern part of the municipality and at 1,625 feet in the northern part. The water is abundant, soft, and usable for both humans and stock. The hydrostatic pressure is fairly high and the water rises to within 50 feet of the surface in the wells located on the highlands, and flows 16 feet above the surface in a well located in the valley of Moose Mountain creek.

In the southern part of the municipality, a sandy shale bed forms a third water-bearing horizon at a depth of 420 to 460 feet, or at an elevation of 1,410 to 1,440 feet.

It yields a fairly abundant supply of soft, slightly salty water. The water from this horizon is not under as great a pressure as that from the other horizons and it rises to within 100 feet of the surface. It is not known if this horizon is continuous throughout the township.

GROUND WATER CONDITIONS BY TOWNSHIPS

Township 4, Range 1

The ground water supply from the upper part of the glacial drift in this township is very poor. Small, scattered pockets of sand and gravel occur within the upper 20 to 30 feet of the drift and form a water-bearing horizon. Wells tapping these pockets usually yield a supply of hard, usable water that is sufficient for house use and a few head of stock, but a few yield a supply that is sufficient for local needs. An adequate supply, however, is not to be expected from the upper part of the glacial drift and numerous dry holes will probably be dug before a pocket is located.

Throughout the northern part of the township, and in SE. $\frac{1}{4}$, section 4, and SW. $\frac{1}{4}$, section 1, an abundant supply of water is derived from a sand or gravel deposit occurring at depths of 220 to 250 feet or at an elevation of approximately 1,650 feet. The writer is of the opinion that this ground water supply is coming from the deposits at the base of the glacial drift, directly above the bedrock, but it is possible that it is from the upper beds of the Ravenscrag formation. The water is hard and contains a large amount of iron, which settles out as a reddish precipitate of iron oxide upon exposure to the air. It is potable for stock, but in most instances it cannot be used for house purposes as it has a strong laxative effect on humans. The hydrostatic pressure is sufficient to cause the water to rise to within 10 to 60 feet of the surface and in NE. $\frac{1}{4}$, section 24, to cause it to flow 2 feet above the surface. The supply is ample for 100 to 200 head of stock. Little difficulty

will be experienced in obtaining an abundant supply of water from this horizon in the northern part of the township, should it be tapped by other wells.

In the southern part of the township a number of wells are deriving an abundant supply of water from two or more water-bearing horizons in the Ravenscrag formation. The uppermost horizon is a coal seam, and its enclosing sandy beds, which is encountered at depths of from 236 to 260 feet, or at an elevation of approximately 1,600 feet. The water is abundant soft, usable for both humans and stock and rises to within 20 feet of the surface. An abundant supply of soft, usable water is derived from a second horizon, occurring at a depth of from 300 to 360 feet. This horizon is also formed by a coal seam and an underlying sand bed. The hydrostatic pressure is not as great as that in the upper horizon and the water rises to within 140 to 180 feet of the surface. In NE. $\frac{1}{4}$, section 1 a sandy shale bed forms a third water-bearing horizon at a depth of 413 feet. An abundant supply of soft, saline water is being derived from this horizon. The water supply from these horizons in the Ravenscrag formation is sufficient for 50 to 200 head of stock. These horizons should be fairly continuous throughout the township and it seems reasonable to assume that an abundant supply of soft, usable water can also be obtained from them in the northern part of the township.

Township 4, Range 2

One water-bearing horizon occurs in the glacial drift in this township. It is formed by pockets of sand and gravel that occur within the upper 20 feet of the drift, and by the deposits of glacial sands and gravel that are found along both sides of Moose Mountain creek and some of its tributaries. The approximate location of the glacial gravels is shown on the accompanying map. This horizon is the source of water for all the shallow wells in the township. Those wells that are dug into the deposits of glacial sands and gravels obtain an abundant supply

of hard, usable water and they are only slightly affected by drought conditions. Wells tapping the sand pockets, however, yield only a small supply of hard, usable water, and in drought years they do not produce sufficient water for local needs.

In the NW. $\frac{1}{4}$, section 30, a well is obtaining an abundant supply of hard, irony water from a sand deposit at a depth of 278 feet. It is not known, however, if this deposit is part of the glacial drift or belongs to the upper part of the Ravenscrag formation.

Two water-bearing horizons have been encountered in the Ravenscrag formation in this township. Two wells, located in NW. $\frac{1}{4}$, section 7, and in NE. $\frac{1}{4}$, section 18, are obtaining an abundant supply of soft, usable water from a coal seam and a sand bed at depths of 368 and 323 feet, respectively. The water rises to within 80 to 100 feet of the surface. The second horizon is formed by a sandy strata and it is encountered at a depth of 403 feet in SW. $\frac{1}{4}$, section 6. The water is soft and salty, non-drinkable for humans, abundant, and rises to within 100 feet of the surface. Further drilling throughout the township should locate an abundant supply of water from these horizons or from others that may be encountered.

Township 4, Range 3

The ground water supply from the glacial drift in this township is entirely derived from the pockets of gravel and sand that occur within the upper 20 to 30 feet of the drift. The water supply from the shallow wells that tap these pockets is dependant upon the amount of rainfall, and with the exception of a few wells that are dug in large pockets all went dry during the drought period. A number of dry holes are usually dug in clay before a sand pocket is located.

An abundant and permanent supply of water is obtained from two horizons in the Ravenscrag formation. The uppermost is encountered throughout the township at a depth of 275 to 300

feet, or at an elevation of 1,585 to 1,630 feet. It is formed by a sand layer usually occurring directly beneath a small coal seam. The water varies in character, is either hard with a considerable amount of iron, or soft and non-iron bearing, and is usable for both humans and stock. The hydrostatic pressure is sufficient to cause the water to rise to within 35 to 90 feet of the surface. The second water-bearing horizon is a sandy strata and it has been encountered in the southeastern part of the township at depths of 400 to 460 feet. It has been tapped by three wells and each is producing an abundant supply of soft, usable water that rises to within 90 feet of the surface. This horizon should be encountered throughout the township.

Township 5, Range 1

Two water-bearing horizons occur in the glacial drift of this township. The sand and gravel pockets within the upper 30 feet of the drift and the glacial sand and gravel along Auburton creek constitute the upper horizon. The shallow wells that are dug into deposits of glacial sand and gravel yield an abundant supply of hard, usable water and they are only slightly affected by drought conditions. Those that are dug into the sand pockets produce only a small supply of hard water, and as a rule many dry holes are dug before a pocket is located. Many farmers are dependent upon seepage water from the clay for domestic purposes. An abundant supply of water cannot be expected from this horizon, except where it is formed by the glacial sand and gravel. Dugouts can be used for the storing of water during the summer months, and if they are excavated large enough a supply may be retained through most of the winter months.

Three wells, located in NE. $\frac{1}{4}$, section 14, SE. $\frac{1}{4}$, section 4, and NW. $\frac{1}{4}$, section 8, are deriving a supply of water from a sand bed that lies at the base of the glacial

drift. This deposit, however, may belong to the uppermost Ravenscrag beds. An abundant supply of hard, iron-bearing water is obtained from this horizon at depths of 192, 240, and 201 feet, respectively.

Ground water from the Ravenscrag formation is being obtained from two horizons. The upper horizon is a sandy strata immediately underlying a small lignite coal seam, and it is encountered in the northeastern part of the township at depths of 280 to 300 feet. The water is soft and abundant, but in most instances it is used for stock only as it has a laxative effect on humans. The hydrostatic pressure is sufficient to cause the water to rise to within 16 to 50 feet of the surface. Some trouble is experienced with the fine sand plugging the casings. The second horizon is a sandy bed and it has been encountered in the western part of the township at depths of 340 to 395 feet. The water is soft and abundant, and rises to within 60 feet of the surface. The water-bearing horizons of the Ravenscrag formation will yield an abundant supply of water throughout the township, should they be tapped by other deep wells.

Township 5, Range 2

The supply of ground water that is derived from the glacial drift is obtained from a water-bearing horizon that is formed by the glacial gravels along Moose Mountain creek and its tributaries, and by the pockets of sand within the upper 30 feet of the drift. Little difficulty is experienced in obtaining an adequate supply of water from shallow wells that are dug into the gravel deposits along the creeks. On the uplands, however, numerous dry holes are usually dug before a sand pocket is found. In years of normal rainfall these wells yield sufficient water for local needs, but in drought periods their supply is often inadequate. Seepage water from the blue

clay is usually too alkaline for use.

Two water-bearing horizons are known to occur in the Ravenscrag formation. The upper horizon is encountered at depths of 235 to 290 feet and is composed of a sand or gravel bed. The water from this horizon is hard, contains a considerable amount of iron salts, and rises to within 30 to 80 feet of the surface. This horizon is apparently at or near the top of the Ravenscrag formation and there has been a concentration of mineral salts here by the downward percolating water from the glacial drift. The second water-bearing horizon is formed by a sandy bed that underlies a coal seam, and it is encountered in sections 13 and 14, at depths of 340 to 380 feet. The water obtained from this horizon is quite soft, and is ample for 100 to 200 head of stock. The hydrostatic pressure is sufficient to cause the water to rise to within 80 feet of the surface. Should other wells be drilled into these horizons throughout the township, they can be expected to obtain an abundant supply of water.

Township 5, Range 3

Only a very small supply of water is derived from the glacial drift in this township. No glacial gravel occurs and the only known water-bearing horizon is that which is formed by the small scattered sand pockets within the upper 20 feet of the drift. In years of normal rainfall these shallow wells produce a supply of water that is usually sufficient for local needs, but in drought periods it is necessary for those farmers who have only seepage wells to haul water for their stock from neighbouring deep wells. A sufficient supply of hard water for house use can be obtained from the clays. A few farmers use dugouts for storing water for stock, and the impervious nature of the sub-soil throughout the township particularly suits the construction of dugouts.

Two water-bearing horizons have been encountered in the Ravenscrag formation. Throughout the township an abundant supply of water is, and can be, obtained from an horizon that occurs at a depth of 250 to 300 feet, or at an elevation of 1,650 to 1,690 feet. This horizon is formed by a sandy bed that in places is overlain by a thin lignite coal seam. The water varies in character, being soft and clear in some wells, but in the majority it is hard and contains a large amount of iron and other mineral salts. Due to its high mineral content it cannot be used for domestic purposes as it acts as a laxative, but it is suitable for stock use. It is not satisfactory for irrigation purposes. The hydrostatic pressure is sufficient to cause the water to rise to within 35 feet of the surface. In SW. $\frac{1}{4}$, section 3, a second water-bearing horizon occurs at a depth of 380 feet, or at an elevation of 1,545 feet. It is also a sandy bed and the water from it has the same characteristics as that from the horizon discussed above. The areal extent of this horizon is unknown, but an abundant supply of water from the upper horizon can be obtained throughout the township.

Township 6, Range 1

One water-bearing horizon is known to occur in the glacial drift in this township. It is formed by the extensive deposits of glacial sand and gravel that occur along Moose Mountain and Auburton creeks. The approximate location of these deposits is shown on the accompanying map. The wells that are dug in the deposits of glacial sands and gravels yield an abundant supply of hard, usable water, and they are only slightly affected by drought conditions. In the areas where the glacial gravels are absent, the wells derive a small, intermittent supply of seepage water from the clays.

Only two wells have been drilled into the bedrock, and they are located in SW. $\frac{1}{4}$, section 4, and SE. $\frac{1}{4}$, section 25. Both derived an abundant supply of water from a coal seam and

its underlying sandy beds at a depth of 300 and 316 feet, or at an elevation of 1,635 feet, but the well in SW. $\frac{1}{4}$, section 4, is plugged with sand at the present time. The water is soft and rises to within 20 to 70 feet of the surface. Should other wells be drilled throughout the township an adequate supply of water should be obtained from this horizon or others that may occur in the Ravenscrag formation.

Township 6, Range 2

The upper part of the glacial drift varies throughout the township. Glacial gravels and Recent sand deposits occur in the valley of Moose Mountain creek. To the west of the creek, for a distance of $3\frac{1}{2}$ miles, the drift is composed of clay, but in the western and southwestern parts of the township the sand and gravel deposits are fairly numerous. These sand and gravel deposits constitute the only known water-bearing horizon in the glacial drift. In the valley of Moose Mountain creek, and to the east of it, shallow wells obtain a fairly abundant supply of hard, usable water from the glacial and Recent sands and gravels. On the higher land to the west of the creek, however, no water can be obtained from the glacial drift. Numerous dry holes have been dug in this area, some of them to a depth of 80 feet. Along the western part of the township a moderate supply of hard, usable water is obtained from the pockets and small patches of gravels that occur in the upper 30 feet of the drift. The water supply in the majority of the shallow wells in the township decreases during the winter months and in the drought periods.

Ground water from the Ravenscrag formation is derived from two water-bearing horizons. The upper horizon is formed by a sandy strata at depths of from 240 to 280 feet. Two wells located in sections 17 and 18 are deriving their supply from depths of 150 to 180 feet. The water is quite hard and in a

number of wells it contains a large amount of iron. It is not used for household purposes as its high mineral salt content makes it a laxative for humans, but it is satisfactory for stock. The hydrostatic pressure is fairly high and the water rises to within 30 to 60 feet of the surface in wells that are drilled on the high lands, and flows 3 feet above the surface in a well located in NE. $\frac{1}{4}$, section 12, in the valley of Moose Mountain creek. The supply is sufficient for 100 to 200 head of stock. The second horizon is encountered throughout the township at depths of 300 to 375 feet, and it is formed by a coal seam and its underlying sandy strata. The water from this horizon is soft and it is usable for stock and in most instances for humans. The hydrostatic pressure is sufficient to cause the water to rise to within 50 feet of the surface on the uplands and to flow 16 feet above the surface in a well located in the creek valley in SW. $\frac{1}{4}$, section 36. These horizons, or others that may be encountered by further drilling, will yield an abundant supply of water throughout the township.

Township 6, Range 3

The glacial drift of this township contains two water-bearing horizons. The uppermost occurs at a depth of 6 to 30 feet and is the water source for all the shallow wells. It is formed by sand pockets and patches of glacial sands and gravels that occur within the upper 30 feet of the drift. The best supply is obtained in sections 16 and 17, and the south half of section 20, where there is a fairly extensive deposit of sand. The wells tapping this deposit yield an unlimited supply of hard, usable water. Elsewhere in the township the pockets of sand yield a sufficient supply of water in years of normal rainfall but in drought periods the supply may not be sufficient for local needs. Only a small supply of alkaline seepage water is derived from the clays.

A second water-bearing horizon is encountered in the glacial drift by wells drilled in SW. $\frac{1}{4}$, and NW. $\frac{1}{4}$, section 30, and SE. $\frac{1}{4}$, section 32. In these localities a sand deposit lying at the base of the blue clay, at depths of 148, 210, and 175 feet, respectively, yields a moderate supply of water. It is hard and "alkaline" and rises to within 40 feet of the surface. This horizon has been encountered elsewhere in the township, but it was passed through and its small supply of poor water sealed off by the casing. An abundant supply of water is not to be expected from this horizon, and it is advisable to drill deeper into the Ravenscrag formation.

Throughout the township an abundant supply of water is, and can be, derived from the Ravenscrag formation. Only one water-bearing horizon has been encountered and it is a coal seam and its underlying sandy beds. The depth to this horizon varies from 200 to 300 feet, but the common depth is from 250 to 280 feet. The water is hard to medium soft and rises to within 15 to 60 feet of the surface. The water from the majority of the wells has a laxative effect on humans and cannot be used for household purposes, but it is satisfactory for stock use. The supply from each individual well is usually sufficient for 100 to 200 head of stock.

STATISTICAL SUMMARY OF WELL INFORMATION IN RURAL
MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN

West of 2nd. Mer.	Township Range	4	4	4	5	5	5	6	6	6	Total No. in Municipality
		1	2	3	1	2	3	1	2	3	
<u>Total No. of Wells in Township</u>		50	36	52	60	62	45	32	65	75	477
No. of wells in bedrock		22	4	11	24	7	15	2	24	21	130
No. of wells in glacial drift		28	32	41	36	55	30	30	40	54	346
No. of wells in alluvium		0	0	0	0	0	0	0	1	0	1
<u>Permanency of Water Supply</u>											
No. with permanent supply		35	27	34	43	30	25	21	38	53	306
No. with intermittent supply		6	4	14	7	8	11	3	11	7	71
No. dry holes		9	5	4	10	24	9	8	16	15	100
<u>Types of Wells</u>											
No. of flowing artesian wells		0	0	0	1	0	0	0	2	0	3
No. of non-flowing artesian wells		22	4	9	19	7	14	2	22	22	121
No. of non-artesian wells		19	27	39	30	31	22	22	25	38	253
<u>Quality of Water</u>											
No. with hard water		30	27	42	33	32	31	21	40	44	300
No. with soft water		11	4	6	17	6	5	3	9	16	77
No. with salty water		4	2	1	1	0	1	0	0	1	10
No. with alkaline water		2	3	5	4	1	6	0	2	2	25
<u>Depth of Wells</u>											
No. from 0 to 50 feet deep		27	31	41	36	55	29	30	39	47	335
No. from 51 to 100 feet deep		0	1	0	0	0	1	0	2	2	6
No. from 101 to 150 feet deep		0	0	0	0	1	0	0	2	0	3
No. from 151 to 200 feet deep		0	0	0	3	0	1	0	3	3	10
No. from 201 to 500 feet deep		23	4	11	21	6	14	2	19	23	123
No. from 501 to 1,000 feet deep		0	0	0	0	0	0	0	0	0	0
No. over 1,000 feet deep		0	0	0	0	0	0	0	0	0	0
<u>How the Water is used</u>											
No. usable for domestic purposes		25	30	40	38	29	18	23	42	48	293
No. not usable for domestic purposes		16	1	8	12	9	18	1	7	12	84
No. usable for stock		41	31	46	48	38	35	24	49	60	372
No. not usable for stock		0	0	2	2	0	1	0	0	0	5
<u>Sufficiency of Water Supply</u>											
No. sufficient for domestic needs		41	31	47	50	38	36	24	48	60	375
No. insufficient for domestic needs		0	0	1	0	0	0	0	1	0	2
No. sufficient for stock needs		26	23	24	38	22	19	19	30	46	247
No. insufficient for stock needs		15	8	24	12	16	17	5	19	14	130

ANALYSES AND QUALITY OF WATER

General Statement

Samples of water from representative wells in surface deposits and bedrock were taken for analyses. Except as otherwise stated in the table of analyses the samples were analysed in the laboratory of the Borings Division of the Geological Survey by the usual standard methods. The quantities of the following constituents were determined; total dissolved mineral solids, calcium oxide, magnesium oxide, sodium oxide by difference, sulphate, chloride, and alkalinity. The alkalinity referred to here is the calcium carbonate equivalent of all acid used in neutralizing the carbonates of sodium, calcium and magnesium and unless the figure is very high it does not imply that the water is too alkaline for irrigation purposes. The analyses are given in parts per million--that is, in parts by weight of the constituents in 1,000,000 parts by volume of water; for example, 1 ounce of material dissolved in 10 gallons of water is equal to 625 parts per million. The samples were not examined for bacteria, and thus a water that may be termed suitable for use on the basis of its mineral salt content might be condemned on account of its bacteria content. Waters that are high in bacteria content have usually been polluted by surface waters.

Total Dissolved Mineral Solids

The term "total dissolved mineral solids" as here used refers to the residue remaining when a sample of water is evaporated to dryness. It is generally considered that waters that have less than 1,000 parts per million of dissolved solids are suitable for ordinary uses, but in the Prairie Provinces this figure is often exceeded. Nearly all waters that contain more than 1,000 parts per million of total solids have a taste due to the dissolved mineral matter. Residents accustomed to

the waters may use those that have much more than 1,000 parts per million of dissolved solids without any marked inconvenience, although most persons not used to highly mineralized water would find such waters highly objectionable.

Mineral Substances Present

Calcium and Magnesium

The calcium (Ca) and magnesium (Mg) content of water is dissolved from practically all rocks, but in larger amounts from limestone, dolomite, and gypsum. The calcium and magnesium salts impart hardness to water. The magnesium salts are laxative, especially magnesium sulphate (Epsom Salts, $MgSO_4$), and they are more detrimental to health than the lime or calcium salts. The calcium salts have no laxative or other deleterious effects. The scale found on the inside of steam boilers and teakettles is formed from these mineral salts.

Sodium

The salts of sodium are next in importance to those of calcium and magnesium. Of these, sodium sulphate, (Glauber's salt, Na_2SO_4) is usually in excess of sodium chloride, (common salt, $NaCl$). These sodium salts are dissolved from rocks and soils. When there is a large amount of sodium sulphate present the water is laxative and unfit for domestic use. Sodium carbonate (Na_2CO_3) "black alkali", sodium sulphate "white alkali", and sodium chloride are injurious to vegetation, and waters that contain a large amount of them cannot be used for irrigation.

Sulphates

Sulphates (SO_4) are one of the common constituents of natural water. The sulphate salts most commonly found are sodium sulphate (Glauber's Salt, Na_2SO_4), magnesium sulphate (Epsom

Salts, $MgSO_4$) and calcium sulphate ($CaSO_4$). Waters that contain these sulphate salts are called "sulphate waters". When the water contains large quantities of the sulphate of sodium ("White Alkali") it is injurious to vegetation and cannot be used for irrigation. According to Thresh and Beale, London, the continued use of water that contains 1,200 parts or more per million of magnesium sulphate and 500 parts or more per million of sodium sulphate causes diarrhoea and scour among stock, and one half this quantity makes the water unfit for domestic use.

Chlorides

Chlorides are common constituents of all natural water and are dissolved in small quantities from rocks. They usually occur as sodium chloride (common salt, $NaCl$) and if the quantity of salt is much over 400 parts per million the water has a brackish taste and is too salty for drinking.

Iron

Iron (Fe) is dissolved from many rocks and the surface deposits derived from them, and also from well casings, water pipes, and other fixtures. More than 0.1 part per million of iron in solution will settle out as a red precipitate upon exposure to the air. A water that contains a considerable amount of iron will stain porcelain, enamelled ware, and clothing that is washed in it, and when used for drinking purposes has a tendency to cause constipation, but the iron can be almost completely removed by aeration and filtration of the water.

Hardness

Calcium and magnesium salts impart hardness to water. Hardness of water is commonly recognized by its soap-destroying powers as shown by the difficulty of obtaining lather with soap. The total hardness of a water is the hardness of the water in its original state. Total hardness is divided into "permanent

hardness" and "temporary hardness". Permanent hardness is the hardness of the water remaining after the sample had been boiled and it represents the amount of mineral salts that cannot be removed by boiling. Temporary hardness is the difference between the total hardness and the permanent hardness and represents the amount of mineral salts that can be removed by boiling. Temporary hardness is due to the bicarbonates of calcium and magnesium, and permanent hardness to the sulphates, and chlorides of calcium and magnesium. The permanent hardness can be partly eliminated by adding simple chemical softeners such as ammonia or sodium carbonate, or many prepared softeners. Water that contains a large amount of sodium carbonate and small amounts of calcium and magnesium salts is soft, but if the calcium and magnesium salts are present in large amounts the water is hard. The following table from "The Examination of Water and Water Supplies" by Thresh and Beale, London, 1925, can be used for determining the relative hardness of a water.

<u>Total Hardness</u>			<u>Character</u>
Less than 50	parts	per million	Very soft
50 - 100	"	"	Moderately soft
100 - 150	"	"	Slightly hard
150 - 200	"	"	Moderately hard
200 - 300	"	"	Hard
Over 300	"	"	Excessively hard

Many of the Saskatchewan water samples analysed by the Geological Survey have a total hardness greatly in excess of 300 parts per million; when the total hardness exceeded 3,000 parts per million no exact hardness determination was made. Also no determination for temporary hardness was made on waters having a total hardness less than 50 parts per million.

The term "alkaline" has been applied rather loosely to some ground waters. Its original meaning was a chemical one and it implied that the substance in question would neutralize acids. The carbonates of calcium, magnesium, and sodium are the only compounds found in ground water that would make it alkaline chemically. A later application of the term "alkaline" was to soils that contain sufficient "black alkali" or "white alkali" to make them unfit for vegetation. In the Prairie Provinces a water is usually considered to be alkaline when it contains so much dissolved solids that it is not very suitable for human consumption; except that water that tastes strongly of common salt is described as "salty". Many alkaline waters may be used for stock. Most of the so-called alkaline waters are more correctly termed "sulphate waters".

Analyses of Water Samples from the Municipality of Moose Creek, No. 33, Saskatchewan.

No.	LOCATION			Depth of Well, Ft.	Total Diss'd Solids	HARDNESS		CONSTITUENTS AS ANALYSED					CONSTITUENTS AS CALCULATED IN ASSUMED COMBINATIONS					Source of Water				
	Qtr.	Sec.	Loc.			Total	Perm.	Temp.	Cl.	Alka-linity	CaO	MgO	SO ₄	Na ₂ O	Solids	CaCO ₃	CaSO ₄		MgCO ₃	MgSO ₄	Na ₂ CO ₃	Na ₂ SO ₄
1.	NE.	10	4	1	2	298	1,840	50	not det.	348	675	20	22	279	847	36	46		619	413	575	æ 2
2.	NE.	11	4	2	2	368	1,375												(1)	(3)	(2)	æ 2
3.	SE.	1	4	3	2	30										(1)		(2)		(3)		æ 1
4.	NE.	8	4	3	2	23	2,555									(4)		(2)		(3)	(5)	æ 1
5.	NE.	24	5	1	2	284	1,898															æ 2
6.	SE.	30	5	1	2	385	2,351												(2)	(1)	(3)	æ 2
7.	SW.	31	5	1	2														(2)	(1)	(3)	æ 2
8.	SW.	25	5	3	2	280	2,180	65	25	40	750	40	14	515	1,084	72	29		682	910	542	æ 2
9.	SE.	25	6	1	2	316	1,500	35	not det.	272	750	30	11	139	743	54	23		709	205	449	æ 2
10.	NE.	13	6	3	2	273	2,314												(5)	(1)	(3)	æ 2
11.	NE.	15	6	3	2	360	3,120	240	100	140.	650	20	43	1542	1374	36	90		537	2,281	125	æ 2
12.	NE.	32	6	3	2	260	1,808												(5)	(2)	(1)	æ 2

Water samples indicated thus, æ 1, are from glacial drift or other unconsolidated deposits.

Water samples indicated thus, æ 2, are from bedrock, Ravenscrag formation.

Analyses are reported in parts per million; where numbers (1), (2), (3), (4), and (5) are used instead of parts per million, they represent the relative amounts in which the five main constituents are present in the water.

Hardness is the soap hardness expressed as calcium carbonate (CaCO₃).

Analyses Nos. (2), (3), (4), (5), (6), (7), (10), and (12) by Provincial Analyst, Regina.

For interpretation of this table read the section on Analyses and Quality of Water.

Water from the Unconsolidated Deposits

The waters from the glacial drift show marked similarity in the types of mineral salts contained in solution, but differ greatly in the amounts of these salts. Certain parts of the soil and glacial drift contain greater amounts of salts than others, and this may account for the great variation in the types of waters obtained from the drift. It is not uncommon to find that bitter, highly mineralized water is obtained from the same depth as, and not far distant from wells yielding water that has a fairly low mineral content. Thus the striking of water unfit for use at one place does not indicate a widespread condition in any locality.

Two samples of water are from depths of 23 and 30 feet in the glacial drift, and their constituents are listed in the accompanying table. The total solid content of one of the waters analysed is 2,555 parts per million. In the two samples analysed, calcium carbonate and calcium sulphate are the most abundant mineral salts present. These salts impart hardness to the water, but do not render it injurious. Magnesium sulphate (Epsom Salts) is second in abundance. When this salt occurs in abundance the water has a laxative effect and cannot be used for domestic purposes. Sodium sulphate (Glauber's Salts) is third in order of abundance in both samples. This salt has a slight laxative effect, but is not harmful unless it occurs in excessive amounts. Sodium chloride (common salt) also occurs in small quantities.

The waters are hard and contain a fairly large amount of salts in solution but may be considered as usable for drinking as well as for stock.

No samples were taken of the water that is derived from the sand deposits at the base of the blue clay. This water probably has a relatively high mineral salt content, and may contain a considerable amount of iron in solution. It is satisfactory for stock, but is not as desirable for domestic purposes as that derived from the upper part of the drift.

Water from the Bedrock

Ten samples of water from the Ravenscrag formation were analysed and their mineral constituents are listed in the accompanying table. Five of these samples are of water that is being derived from a depth of 260 to 298 feet; four from a depth of 316 to 385 feet; and one from an unknown depth.

The waters that are derived from a depth of 260 to 298 feet have a total dissolved solid content ranging from 1,689 to 2,314 parts per million. The greater part of this content is composed of sodium salts. In three of the samples, sodium sulphate or Glauber's Salts, "white alkali", is the most abundant mineral salt present, ranging up to 910 parts per million. Sodium carbonate, "black alkali", is second in abundance, and sodium chloride, common salt, is third. Calcium carbonate, calcium sulphate, magnesium carbonate, and magnesium sulphate occur in very small quantities. The high content of sodium salts imparts a "soda" taste to the water, and it usually has a salty taste due to the relatively large amount of common salt present. The water is suitable for stock and unless it is so salty as to be unpalatable, it can be used for human consumption. It cannot be used for irrigation due to its high content of sodium carbonate.

The waters that are derived from a depth of 316 to 385 feet have a total dissolved solid content ranging from 1,375 to 3,069 parts per million. They differ little in mineral character of the dissolved salts from the waters obtained from shallower depths, as the greater part of the total dissolved solid content in both cases is composed of sodium carbonate, sodium sulphate, and sodium chloride, but the amounts of salts in one sample is somewhat greater. Either sodium carbonate or sodium sulphate is the predominant mineral salt present, but in all cases the three sodium salts compose the bulk of the mineral salts in solution. The waters can be used for stock, but some of them may prove to be too salty for human consumption.

Owing to the small amounts of calcium and magnesium salts in solution in the water most of the waters are soft.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
1	NE.	1	4	1	2	Drilled	415	1,828	- 80	1,748	415	1,413	Ravenscrag sandy shale	Soft, clear, salty	44	D, S	Waters 50 head stock.
2	SW.	1	"	"	"	"	213	1,833	-183	1,650	183	1,650	Gravel	Salty, yellow	S		Sufficient supply.
3	NW.	2	"	"	"	"	358	1,827	-180	1,647	358	1,469	Ravenscrag	Soft, clear	45	D, S	Waters 50 head stock.
4	NE.	3	"	"	"	"	300	1,840	- 80	1,760	300	1,540	" coal	" brown	44	D, S	" 100 " "
5	SE.	4	"	"	"	"	214	1,842	-112	1,730	214	1,628	Gravel	Hard, salty, brownish	S		" 50 " "
6	SE.	4	"	"	"	Dug	13	1,840	- 8	1,832	8	1,832	Glacial gravel	Hard, clear	D		House supply only.
7	SW.	6	"	"	"	Drilled	313	1,895	-175	1,720	313	1,582	Ravenscrag sandstone	Soft, "	47	S	Waters 100 head stock.
8	NW.	6	"	"	"	Bored	40	1,890	- 10	1,880	10	1,880	Glacial sand	Hard, "	49	D, S	Poor supply.
9	NE.	9	"	"	"	Drilled	260	1,845	- 80	1,765	260	1,585	Ravenscrag coal	Soft, clear	44	D, S	Waters 100 head stock.
10	NE.	10	"	"	"	"	298	1,837	- 40	1,797	298	1,539	" "	", brown	D, S		Abundant supply; #.
11	NE.	10	"	"	"	"	236	1,837	- 20	1,817	236	1,601	" "	", clear	44	D, S	" "
12	SE.	12	"	"	"	"	242	1,835	+ 20	1,815	242	1,593	" sand	", wpos	D, S		Waters 60 head stock.
13	SW.	13	"	"	"	"	252	1,850	- 2	1,848	252	1,598	" "	", clear	44	D, S	Moderate supply; needs cleaning.
14	NE.	16	"	"	"	"	250	1,850	- 35	1,815	250	1,600	"	Hard, clear	D, S, I		Waters 40 head stock.
15	NE.	17	"	"	"	Dug	30	1,880	- 27	1,853	27	1,853	Glacial gravel	" "	D, S		House supply only.
16	NW.	17	"	"	"	Drilled	260	1,880	- 25	1,855	260	1,620	Ravenscrag	" "	47	S, I	Abundant supply.
17	SW.	18	"	"	"	"	365	1,895	-140	1,755	365	1,530	" sand	Soft, "	49	D, S	Abundant supply.
18	NW.	18	"	"	"	"	?	1,900						Hard, iron	45	S, I	" "
19	NW.	20	"	"	"	"	230	1,880	- 60	1,820	230	1,650	Glacial gravel	" , salty, yellowish	46	S, I	Waters 100 head stock.
20	NW.	21	"	"	"	Dug	30	1,867	- 13	1,849	29	1,838	" sand	Hard, clear, alkaline	S		Sufficient for 2 horses only.
21	SW.	22	"	"	"	Drilled	220	1,850	- 20	1,830	220	1,630	" " at base blue clay	Hard, iron	S		Fair supply.
22	NE.	24	"	"	"	"	230	1,828	- 2	1,826	230	1,595	Gravel at base blue clay	" , clear	43	S	Abundant supply.
23	NE.	24	"	"	"	Dug	24	1,830	- 6	1,824	22	1,808	Glacial gravel	" "	D, S, I		Waters 40 head stock.
24	SE.	26	"	"	"	Drilled	210	1,840	- 10	1,830	210	1,630	Gravel at base blue clay	" "	43	S	Unlimited supply.
25	SE.	26	"	"	"	Dug	22	1,840	- 3	1,837	10	1,830	Glacial sand	" "	41	D, S	House supply only; use dugout for stock.
26	SW.	27	"	"	"	"	15	1,857	- 10	1,847	10	1,847	" clay	" "	47	D	" " "

NOTE.—All depths, altitudes, heights and elevations given above are in feet.

(D) Domestic; (S) Stock; (I) Irrigation; (M) Municipality; (N) Not used.
(#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
27	SE.	28	4	1	2	Dug	10	1,800	- 13	1,847	13	1,847	Sandy clay	Hard, clear		D, S	House supply only.
28	SE.	28	"	"	"	Drilled	220	1,860	- 30	1,830	220	1,640	Gravel at base blue clay	" , brown	46	S	Waters 50 head stock.
29	SW.	28	"	"	"	"	218	1,870	- 30	1,840	218	1,652	Sand at base blue clay	" , iron		S	" 100 " " .
30	NE.	31	"	"	"	Dug	20	1,895	- 7	1,888			Glacial clay	" , clear	47	D	House supply only.
31	NW.	32	"	"	"	Drilled	290	1,895			290	1,605	Gravel at base blue clay	" , alkaline, yellow	49	S	Sufficient supply.
32	SW.	34	"	"	"	Dug	13	1,857	- 9	1,848	9	1,848	Glacial clay	Hard, clear		N	Poor supply.
33	SW.	34	"	"	"	Drilled	225	1,860	- 40	1,820	225	1,635	Sand at base of blue clay	" , iron		S	Waters 75 head stock.
34	SW.	35	"	"	"	Dug	17	1,848	- 7	1,841	9	1,839	Glacial sand	" , cloudy		D, S	" 10 " " .
35	SW.	36	"	"	"	"	10	1,845	- 5	1,840	5	1,840	" gravel	" , clear		D, S	" 20 " " .
1	SW.	2	"	2	"	"	18	1,920	- 3	1,917	16	1,904	" "	" , "	43	D, S	Cannot be pumped dry.
2	NW.	3	"	"	"	"	4	1,845	- 1	1,844	1	1,844	" sand	" , "	48	D, S, I	Waters 20 head stock.
3	NE.	4	"	"	"	"	14	1,840	- 9	1,931	9	1,931	" gravel	" , "	47	D, S	Sufficient in years of normal rainfall.
4	SW.	6	"	"	"	Drilled	403	1,900	-100	1,800	403	1,497	Ravenscrag	Soft, " , salty		D, S	Waters 50 head stock.
5	SW.	6	"	"	"	Dug	30	1,900	- 23	1,877	26	1,874	Glacial sand	Hard, "		D	House supply only.
6	SW.	7	"	"	"	"	19	1,890	- 13	1,877	13	1,877	" gravel	" "		D, S	Waters 15 head stock.
7	SE.	9	"	"	"	"	14	1,855	- 7	1,848	7	1,848	" "	Hard, clear	46	D, S	" 15 " " .
8	SE.	10	"	"	"	"	17	1,920	- 12	1,908	14	1,906	" sand	" "	43	D, S, I	" 100 " " .
9	NE.	11	"	"	"	Drilled	368	1,935	-100	1,835	368	1,567	Ravenscrag coal	Soft, brown		D, S	" 100 " " . #
10	SW.	12	"	"	"	Dug	14	1,925					Yellow clay			N	Dry hole.
11	NW.	14	"	"	"	"	12	1,915	- 7	1,908	7	1,908	Glacial sand	" , clear	48	D, S	Waters 100 head stock.
12	SW.	14	"	"	"	"	14	1,915	- 8	1,907	8	1,907	" "	Hard, "	49	D, S	" 14 " " .
13	SE.	18	"	"	"	"	22	1,875	- 12	1,863	16	1,859	" "	" "	43	D, S, I	" 50 " " .
14	NW.	18	"	"	"	"	25	1,910	- 12	1,898	18	1,892	" "	" "	43	D, S, I	" 100 " " .
15	NW.	18	"	"	"	Drilled	323	1,910	- 80	1,830	323	1,587	Ravenscrag sand	alkaline Soft, clear		D, S, I	Unlimited supply.
16	NW.	19	"	"	"	Dug	14	1,910	- 6	1,904	11	1,899	Glacial sand	Hard, "		D, S	Sufficient " .
17	NE.	22	"	"	"	"	10	1,895	- 4	1,891	4	1,891	" "	" "	49	D, S	Waters 16 head stock.
18	SE.	22	"	"	"	"	12	1,905	- 9	1,896	8	1,897	" "	" "	49	D, S, I	Unlimited supply.

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(D) Domestic; (S) Stock; (I) Irrigation; (M) Municipality; (N) Not used.
(#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
19	NE.	23	4	2	2	Dug	13	1,920	- 10	1,910	2	1,918	Glacial sand	Hard, clear	46	D, S	Sufficient for 12 head stock only.
20	NW.	24	"	"	"	"	13	1,920	- 8	1,912	11	1,909	" "	" "	49	D, S	Waters 4 head stock.
21	SW.	24	"	"	"	"	12	1,908	- 9	1,899	1	1,907	" "	" "	43	D	House supply only.
22	SW.	26	"	"	"	"	10	1,910	- 6	1,904	6	1,904	" "	" "	48	D, S	Waters 12 head stock.
23	SE.	27	"	"	"	"	13	1,895	- 2	1,893	2	1,893	" "	Soft, "	48	D, S	" 30 " " .
24	NE.	29	"	"	"	"	9	1,910	- 2	1,908	5	1,905	" "	Hard, "	43	D, S	" 40 " " .
25	SW.	30	"	"	"	"	30	1,905	- 20	1,885	26	1,879	" "	" "		D	House supply only.
26	NW.	31	"	"	"	"	16	1,905	- 8	1,897	14	1,891	" "	alkaline Hard, clear		D, S	" " " .
27	NW.	31	"	"	"	Drilled	278	1,905	- 40	1,865	278	1,627	Ravenscrag sand	" , iron		S	Waters 200 head stock.
28	NE.	31	"	"	"	Dug	10	1,900	- 3	1,897	8	1,892	Glacial sand	" , clear		D, S	" 100 " " .
29	SW.	34	"	"	"	"	10	1,895	- 5	1,890	5	1,890	" "	" , "	48	D, S	" 100 " " .
30	NE.	34	"	"	"	"	20	1,375	- 12	1,363	12	1,863	" gravel	" , "		D, S	Insufficient supply.
1	SE.	1	4	3	2	"	30	1,902	0	1,902	25	1,877	" sand	" , "	45	D, S, M	Sufficient in years of normal rainfall; #.
2	SE.	1	"	"	"	"	28	1,902	0	1,902	22	1,880	" "	" , "		D, S, I	Dry in drought season.
3	SE.	1	"	"	"	Drilled	400	1,902	- 90	1,812	400	1,502	Ravenscrag sand	Soft, clear		D, S, M	Abundant supply.
4	SE.	1	"	"	"	"	220	1,902					Blue clay?	Hard, alkaline		N	Too alkaline for use.
5	NW.	1	"	"	"	Dug	18	1,905	- 4	1,901	7	1,898	Glacial sand	Hard, clear	43	D, S, I	Waters 25 head stock.
6	NW.	1	"	"	"	"	16	1,905	- 8	1,897	7	1,898	" "	" "	44	D, S	" 14 " " .
7	SW.	2	"	"	"	"	18	1,905	- 6	1,891	6	1,891	" gravel	" "	45	D, S, I	" 15 " " .
8	SE.	3	"	"	"	"	35	1,905	- 23	1,882	23	1,882	" "	" "	44	D, S	" 12 " " .
9	SE.	4	"	"	"	"	22	1,900	- 18	1,882	18	1,882	Blue clay	" "		D	House supply only.
10	SE.	4	"	"	"	Drilled	460	1,900	- 80	1,820	440	1,460	Ravenscrag sand	Soft, clear		D, S	Waters 80 head stock.
11	SW.	4	"	"	"	"	312	1,905	- 60	1,845	312	1,593	" "	Hard, iron sediment	43	D, S	Unlimited supply.
12	SW.	4	"	"	"	Dug	10	1,905	- 3	1,902			Blue clay	Hard, clear	47	D	House supply only.
13	NE.	6	"	"	"	Drilled	300	1,900	-150	1,750	300	1,600	Ravenscrag sand	" "	43	D, S	Waters 25 head stock.
14	SW.	6	"	"	"	Dug	14	1,905	- 6	1,899	6	1,899	Glacial clay	" "	48	D, S	Poor supply.
15	NW.	6	"	"	"	"	19	1,905	- 3	1,902			Blue clay	" cloudy		D, S, I	Seepage from dugout.

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 (#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
16	NW.	7	4	3	2	Dug	18	1,905	- 2	1,903			?	Hard, clear	46	D, S, I	Waters 3 head stock.
17	NW.	8	"	"	"	"	23	1,905	- 20	1,885	10	1,895	Glacial sand	" "		N	Not used; #.
18	NE.	10	"	"	"	"	22	1,905	- 11	1,894			" "	" "	46	D, S	Waters 20 head stock.
19	NE.	10	"	"	"	"	11	1,905	- 7	1,898	7	1,898	" gravel	Hard, clear		D, S, I	" 100 " " .
20	SE.	11	"	"	"	Drilled	420	1,860	-120	1,740	420	1,440	Ravenscrag	Soft, salty		S	Medium supply.
21	SW.	12	"	"	"	"	300	1,905	- 90	1,815	300	1,605	" sand	" ,clear		D, S, I	Waters 100 head stock.
22	NE.	12	"	"	"	Dug	18	1,905	- 6	1,899	6	1,899	Glacial "	Hard, "	43	D, S	Abundant supply.
23	NE.	14	"	"	"	"	25	1,905	0	1,905			" gravel	" "		S	Waters 60 head stock.
24	SW.	14	"	"	"	"	28	1,905	- 24	1,881	24	1,881	" sand	" "	48	S	Insufficient supply.
25	NW.	14	"	"	"	"	12	1,905	- 10	1,895	10	1,895	?	Hard, clear	45	D	Sufficient in 1935.
26	NE.	15	"	"	"	"	18	1,905	- 8	1,897	8	1,897	" "	" "		D, S	Sufficient supply.
27	NE.	15	"	"	"	"	14	1,900					Clay	" "		D, S	Poor supply.
28	NE.	16	"	"	"	"	22	1,905	- 9	1,896	10	1,895	Glacial sand	" "		D	House supply only.
29	NW.	16	"	"	"	"	30	1,900	- 15	1,885	30	1,870	" "	" "		D, S, I	Sufficient supply.
30	SE.	17	"	"	"	"	18	1,900	- 6	1,894			" "	" "	44	D, S, I	House supply only.
31	SW.	18	"	"	"	"	12	1,905			12	1,893	" "	" ,cloudy	48	D, S, I	" " " .
32	SW.	21	"	"	"	"	20	1,905	- 5	1,900	5	1,900	" gravel	" ,yellow		S, I	Waters 10 head stock.
33	NW.	23	"	"	"	"	22	1,905	- 10	1,895	10	1,895	" clay	" ,clear, alkaline	44	D, S	House supply only.
34	NW.	23	"	"	"	"	15	1,905	- 9	1,896	9	1,896	Sandy clay	Hard, clear	44	D, S	Waters 12 head stock.
35	NW.	23	"	"	"	Drilled	320	1,905	- 35	1,870	320	1,585	Ravenscrag sand	Soft, "		D, S	Unlimited supply.
36	NE.	27	"	"	"	Dug	24	1,910	- 10	1,900	10	1,900	Glacial clay, gravel	Hard, clear		D, S, I	3 similar wells; waters 50 head stock.
37	NW.	28	"	"	"	"	40	1,900					" clay	" "		N	Dry hole.
38	SW.	31	"	"	"	Drilled	300	1,910			300	1,610	Ravenscrag sand	" "		S	Plugged with sand.
39	NW.	34	"	"	"	Dug	16	1,910	- 9	1,901	9	1,901	Glacial	" "		D, S	Fair supply
40	SW.	35	"	"	"	Drilled	275	1,915	- 45	1,870	275	1,640	?	" ,alkaline		S	Waters 50 head stock.
41	SW.	35	"	"	"	Dug	20	1,915	- 10	1,905	10	1,905	" clay	" ,clear		D, S	House supply only.

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(#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF

MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
42	SE.	35	4	3	2	Dug	21	1,905	- 8	1,897	21	1,884	Glacial sand	Hard,clear	45	D, /I	Poor supply.
43	SE.	35	"	"	"	Drilled	275	1,910	- 38	1,872	275	1,635	Glacial sand	Soft,reddish		N	Plugged with sand.
1	NW.	2	5	1	2	Dug	6	1,860	- 3	1,857	3	1,857	" gravel	Hard,clear		D, S, M	Abundant supply.
2	NE.	3	"	"	"	"	9	1,860	- 6	1,854	6	1,854	" "	" "	50	D, S	Waters 100 head stock.
3	SE.	4	"	"	"	Drilled	240	1,865	- 80	1,785	240	1,625	Ravenscrag sand	" "		S	Abundant supply.
4	NE.	4	"	"	"	"	192	1,880	- 30	1,850	192	1,688	" ?	salty Hard, red sediment		S	Abundant supply.
5	SW.	7	"	"	"	"	385	1,930	- 90	1,840	385	1,545	" "	Soft,clear		D, S	Abundant supply.
6	NW.	8	"	"	"	"	201	1,910	-160	1,750	201	1,709	" "	Hard, "		D, S	Sufficient " .
7	NE.	9	"	"	"	"	270	1,880	- 35	1,845	270	1,610	" gravel	" , iron sediment		N	Water was condemned.
8	SW.	10	"	"	"	Dug	10	1,870	- 6	1,864	6	1,864	Glacial sand	Soft,clear		S	Waters 20 head stock.
9	NE.	10	"	"	"	Spring							" gravel	Hard, "		D, S	" 10 " " .
10	SE.	14	"	"	"	Dug	7	1,875	- 4	1,871	4	1,871	" sand	" "		D, S	" 13 " " .-
11	SW.	14	"	"	"	"	12	1,865	- 11	1,854	11	1,854	" gravel	" "		D, S	Cannot be pumped dry.
12	NE.	15	"	"	"	"	12	1,880	- 7	1,873	7	1,873	" "	" "		D, S	Waters 15 head stock.
13	SE.	16	"	"	"	"	14	1,865	- 11	1,854	11	1,854	" "	" "		S	" 150 " " .
14	SE.	18	"	"	"	"	14	1,910					" clay	" "			Dry hole.
15	NW.	18	"	"	"	"	14	1,920	- 10	1,910	10	1,910	" "	" "		S	Waters 10 head stock.
16	NE.	19	"	"	"	Drilled	395	1,942	- 40	1,902	395	1,547	Ravenscrag	Soft, "		D, S	Abundant supply.
17	SE.	20	"	"	"	Dug	25	1,895	- 5	1,890	20	1,875	Glacial sand	Hard,clear		D, S	Waters 8 head stock.
18	NW.	21	"	"	"	Drilled	200	1,865					Ravenscrag coal			N	Dry hole; 5 other dry holes from 400 to 800 feet deep.
19	NW.	22	"	"	"	Dug	12	1,875	- 9	1,866	9	1,866	Glacial gravel	" "	53	D, S	Unlimited supply; waters 50 head stock in summer
20	NW.	22	"	"	"	"	5	1,855	- 1	1,854	1	1,854	" "	" "	54	D, S, I	Freezes in winters.
21	NW.	22	"	"	"	"	14	1,875	- 11	1,864	11	1,864	" "	" "		M	Used for skating rink.
22	NW.	23	"	"	"	"	12	1,895	- 11	1,884	11	1,884	" sand	" "		D	House supply only.
23	NE.	23	"	"	"	Drilled	286	1,895	- 50	1,845	280	1,615	Ravenscrag coal	Soft,reddish	42	S	Abundant supply.
24	SE.	24	"	"	"	"	312	1,875	- 30	1,845	312	1,563	" sand	" ,clear			
25	NE.	24	"	"	"	Dug	18	1,890	- 12	1,878	12	1,878	Glacial sand	Hard,clear	50	D	House use only.

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(#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
26	NE.	24	5	1	2	Drilled	284	1,890	- 50	1,840	280	1,610	Ravenscrag coal	Soft, clear	41	D, S	Abundant supply; #.
27	SW.	24	"	"	"	Dug	15	1,925	- 1	1,924			Glacial sandy clay	" ,cloudy		D, S	Sufficient in wet years.
28	SW.	25	"	"	"	"	30	1,880	- 15	1,865	15	1,865	Glacial clay	Hard, "		D, S	Waters 6 head stock.
29	SW.	26	"	"	"	Drilled	284	1,870	- 40	1,830	284	1,586	Ravenscrag sand	Soft, clear		S	" 70 " " .
30	SW.	26	"	"	"	Dug	9	1,863	- 3	1,860	5	1,858	Glacial sand	Hard, "		D, S	" 7 " " .
31	SW.	27	"	"	"	"	9	1,875	- 7	1,868	7	1,863	" gravel	" "	54	D, S, I	Abundant supply.
32	SW.	28	"	"	"	"	12	1,900	- 8	1,892	8	1,892	" "	" "		D	House use only.
33	NE.	28	"	"	"	"	11	1,905	- 7	1,898	7	1,898	" sand	" "	48	D, S	Waters 25 head stock.
34	SE.	30	"	"	"	Drilled	?	1,945	- 30	1,915			Ravenscrag	Soft, "	44	D, S	" 25 " " .#
35	SW.	30	"	"	"	"	340	1,932	- 60	1,872	340	1,592	" gravel	" "	43	D, S	" 100 " " .
36	NW.	30	"	"	"	Dug	20	1,932					Glacial clay	" "		N	Dry hole.
37	SW.	31	"	"	"	Drilled	385	1,927	- 40	1,887	385	1,542	Ravenscrag sand	" "	44	D, S	Waters 50 head stock. #.
38	NE.	32	"	"	"	Dug	16	1,918	- 14	1,904	14	1,904	Glacial gravel	Hard, "		S	Insufficient supply.
39	SE.	33	"	"	"	"	14	1,900	- 11	1,889	11	1,889	" sand	Hard, clear		D, S	Waters 6 head stock only.
40	SE.	33	"	"	"	Drilled	300	1,900			300	1,600	Ravenscrag	Soft, "		N	Plugged with sand.
41	NE.	33	"	"	"	Dug	20	1,905	- 17	1,888	17	1,888	Glacial sand	Hard, "	53	D, S	Waters 8 head stock.
42	SW.	34	"	"	"	"	11	1,900	- 8	1,892	8	1,892	" "	" "		D, S, I	" 30 " " .
43	SE.	35	"	"	"	"	18	1,875	- 15	1,860	15	1,860	" clay	" "	50	S	Depends on rainfall.
44	SW.	35	"	"	"	"	9	1,883	- 5	1,878	5	1,878	" gravel	" "		D, S	Waters 50 head stock.
45	SW.	36	"	"	"	"	20	1,895	- 4	1,891			Glacial clay	" "		D, I	House use only.
46	SW.	36	"	"	"	Drilled	300	1,895	- 15	1,880	300	1,595	Ravenscrag shale	Soft, "		D, S, I	Waters 50 head stock.
47	NW.	36	"	"	"	"	278	1,911	- 16	1,895	278	1,633	" sandy shale	" "		D, S, I	Abundant supply; water flows in December and August of each year.
48	NE.	36	"	"	"	Dug	17	1,909	- 10	1,899	10	1,899	Glacial sand	Hard, "		D, S	Sufficient supply.
49	NE.	36	"	"	"	Drilled	285	1,909	- 30	1,879	285	1,624	Ravenscrag sand	" "		S	Abundant " .
1	NE.	2	5	2	2	"	235	1,932	235	1,697	235	1,697	?	" ,yellow		N	Casing is broken.
2	SW.	2	"	"	"	Dug	15	1,928	- 13	1,915	15	1,913	Glacial gravel	" ,clear	48	D, S,	Waters 50 head stock.
3	SW.	2	"	"	"	"	30	1,930	- 26	1,904	26	1,904	" sand	" "	46	D, S	" 100 " " .

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 (#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
4	SE.	6	5	2	2	Dug	25	1,910					Glacial clay		N	Dry hole.	
5	NW.	6	"	"	"	"	10	1,898	- 5	1,893	5	1,393	" sand	Hard, clear	46	D, S	Waters 25 head stock.
6	NW.	8	"	"	"	"	14	1,900	- 4	1,896	4	1,396	" "	" "	50	D, S	Cannot be pumped dry.
7	NW.	10	"	"	"	"	4	1,880	- 1	1,879	1	1,879	" "	" "	50	D, S	Abundant supply.
8	SE.	12	"	"	"	Drilled	264	1,927	- 80	1,847	264	1,663	" gravel	" "	44	S	Waters 100 head stock.
9	SE.	13	"	"	"	"	380	1,930	- 80	1,850	380	1,550	Ravenscrag	Soft, clear	43	D, S	" 100 " " .
10	NE.	13	"	"	"	"	355	1,932	-150	1,782	355	1,577	"	" "	44	D, S	" 12 " " .
11	SE.	16	"	"	"	Dug	25	1,850					Glacial blue clay		N	Dry hole.	
12	SE.	17	"	"	"	"	10	1,875	- 6	1,869	6	1,869	" sand	Hard, "	51	D, S	Waters 150 head stock.
13	SW.	18	"	"	"	"	14	1,900	- 10	1,890	10	1,890	" gravel	" "	46	D, S	Dry in drought years.
14	NW.	18	"	"	"	"	16	1,923	- 12	1,911	14	1,909	" "	" "	46	D, S	Watered 3 head stock in 1935.
15	NW.	20	"	"	"	"	16	1,925	- 9	1,916	9	1,916	" sand	" "	48	D, S	Waters 100 " " .
16	NW.	21	"	"	"	"	16	1,920	- 10	1,910	10	1,910	" "	" "	48	D, S	Was sufficient in wet years.
17	NE.	21	"	"	"	Drilled	290	1,900	- 30	1,870	290	1,610	Ravenscrag sand	" "	S	Abundant supply.	
18	NE.	21	"	"	"	Dug	12	1,900	- 6	1,894	6	1,894	Glacial clay	" "	46	D, I	House supply only.
19	NE.	24	"	"	"	Drilled	342	1,928	- 80	1,848	342	1,586	Ravenscrag	Soft, dark		D, S	Abundant supply.
20	NE.	26	"	"	"	Dug	10	1,835	- 5	1,830	5	1,830	Glacial sand	Hard, clear	54	D, S	Freezes in winters.
21	SW.	27	"	"	"	Drilled	150	1,908			150	1,758		" "	43	S	Sufficient supply.
22	NW.	27	"	"	"	Dug	20	1,910	- 15	1,895	17	1,893	" "	" "	44	D, S	Waters 8 head stock.
23	NW.	27	"	"	"	"	35	1,920	- 20	1,900	24	1,396	" "	" "	45	D, S	Sufficient supply.
24	NE.	28	"	"	"	"	14	1,929	- 3	1,926	3	1,926	" "	Soft, "	48	S	" for 6 head stock only.
25	SW.	28	"	"	"	"	28	1,910	- 13	1,897	15	1,892	" "	Hard, "	43	D, S	Insufficient supply.
26	NW.	30	"	"	"	"	12	1,925	- 8	1,917	8	1,917	" "	" "	47	D, S	Sufficient in wet weather
27	SE.	29	"	"	"	"	14	1,890	- 8	1,882	8	1,882	Sandy clay	" "	46	D, S	Waters 50 head stock.
28	NW.	31	"	"	"	"	14	1,922	- 6	1,916	10	1,912	Glacial sand	" "	46	D, S	" 15 " " .
29	NE.	31	"	"	"	"	14	1,928	- 12	1,916	12	1,916	" "	" "	46	S	Poor supply.
30	SW.	32	"	"	"	"	14	1,918	- 10	1,908	10	1,908	" "	sulphur Hard, clear	46	D, S, I	Waters 20 head stock.

NOTE.—All depths, altitudes, heights and elevations given above are in feet.

(D) Domestic; (S) Stock; (I) Irrigation; (M) Municipality; (N) Not used.
(#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
31	SE.	32	5	2	2	Dug	20	1,920	- 8	1,912	16	1,904	Glacial sand	Hard, clear	43	D, S, I	Abundant supply.
32	SW.	33	"	"	"	"	9	1,919	- 7	1,912	7	1,912	" "	" "	44	D, S	House use and 4 head stock.
33	NW.	33	"	"	"	"	16	1,930	- 12	1,918	12	1,918	" "	" "	46	S	Waters 15 head stock.
34	NW.	34	"	"	"	"	17	1,945	- 13	1,932	12	1,933	" "	Hard, clear	41	D, S	" 13 " " .
35	SE.	35	"	"	"	"	20	1,910	- 17	1,893	17	1,893	" "	" "	46	D, S	" 4 " " .
36	NW.	36	"	"	"	"	15	1,915	- 7	1,908	7	1,908	" "	" "	46	D, S	" 30 " " .
1	SE.	1	"	3	2	Drilled	295	1,955	- 75	1,880	290	1,665	Sand	" , cloudy, alkaline		S	Abundant supply.
2	SW.	3	"	"	"	"	380	1,910	- 25	1,885	370	1,540	Fine sand	Hard, clear, iron		S	Waters 40 head stock.
3	NW.	4	"	"	"	Dug	14	1,920	- 8	1,912			Glacial clay	Hard, clear		D, S	Insufficient supply.
4	NE.	5	"	"	"	"	14	1,940	- 3	1,937	12	1,928	" gravel	" "		S	Waters 20 head stock in summers.
5	NW.	7	"	"	"	Drilled	250	1,941	-28	1,913	200	1,741	Ravenscrag sand	" , iron	42	S	Plugs with sand.
6	NE.	9	"	"	"	"	285	1,930	- 30	1,900	275	1,655	" "	" , dark		S	Sufficient supply.
7	SW.	12	"	"	"	Dug	12	1,908	- 3	1,905	11	1,897	Glacial sand	" , clear	44	D, S	Waters 20 head stock.
8	NE.	11	"	"	"	"	18	1,915	- 9	1,906	9	1,906	" clay	" , cloudy	48	S	Insufficient supply.
9	NW.	12	"	"	"	"	20	1,910	- 3	1,907			" sand, gravel	" , clear	47	S, I	" " .
10	SW.	13	"	"	"	Drilled	240	1,915	- 35	1,880	230	1,685	Ravenscrag sand	" , iron, sediment		S	Waters 40 head stock.
11	SW.	15	"	"	"	"	285	1,930			275	1,655	" "	Hard, iron sediment		S	Insufficient; plugged with sand.
12	NE.	16	"	"	"	"	285	1,930	- 40	1,890	275	1,655	" "	Hard, iron, alkaline	42	S	Sufficient for stock.
13	SW.	16	"	"	"	"	273	1,930	- 35	1,895	253	1,677	" "	Hard, clear	43	S	Abundant supply.
14	SW.	18	"	"	"	"	250	1,940	- 25	1,915	250	1,690	" "	" , iron	42	S	Waters 40 head stock.
15	NW.	19	"	"	"	"	300	1,940	- 20	1,920	290	1,650	" "	" , cloudy	42	S	Abundant supply.
16	SE.	19	"	"	"	Dug	11	1,935	- 5	1,930	9	1,926	Glacial sand	" , clear	49	D, I	House supply only.
17	NW.	20	"	"	"	Drilled	270	1,945			270	1,675	Ravenscrag sand	" , iron	42	S	Waters 50 head stock.
18	NW.	21	"	"	"	Dug	8	1,934	- 5	1,929	5	1,929	Glacial sand	" , clear	50	D, S, I	" 15 " " .
19	SE.	22	"	"	"	Drilled	285	1,930	- 50	1,880	270	1,660	Ravenscrag sand	" , iron	43	S	Abundant supply.
20	NW.	22	"	"	"	"	192	1,925	- 45	1,880	182	1,743	Sand at base of blue clay	" , clear alkaline	42	S	" " .

NOTE.—All depths, altitudes, heights and elevations given above are in feet.

(D) Domestic; (S) Stock; (I) Irrigation; (M) Municipality; (N) Not used.
(#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
21	SW.	24	5	3	2	Dug	18	1,955	- 10	1,945	16	1,939	Glacial sand	Hard, clear	46	S	Insufficient supply.
22	NE.	24	"	"	"	"	10	1,955	- 7	1,948	7	1,948	" "	" "	48	D, S	Sufficient for 10 head stock only.
23	SW.	25	"	"	"	Drilled	280	1,920	- 35	1,885	260	1,660	Ravenscrag sand	Soft, salty	43	D, S	Abundant supply; #.
24	SE.	26	"	"	"	Dug	8	1,925	- 4	1,921	4	1,921	Glacial gravel	Hard, clear	44	D, S	Waters 10 head stock.
25	SE.	30	"	"	"	"	10	1,940					" clay	" alkaline		N	Small seepage.
26	NE.	30	"	"	"	Drilled	254	1,935	- 30	1,905	245	1,690	Ravenscrag sand	Soft, clear	41	D, S	Waters 50 head stock.
1	NE.	2	6	1	2	Dug	7	1,900	- 3	1,897	3	1,897	Glacial sand	Hard, "		S	Abundant supply.
2	SW.	4	"	"	"	"	18	1,930					" clay			N	Dry hole.
3	SW.	4	"	"	"	Drilled	200	1,930	- 70	1,860	300	1,630	Ravenscrag sand	Soft, "		N	Plugged with quicksand.
4	SW.	5	"	"	"	Dug	12	1,940	- 9	1,931	9	1,931	Glacial sand	Hard, "		D, S, I	Small supply.
5	NW.	5	"	"	"	"	14	1,923					" yellow clay			N	Dry hole.
6	NE.	6	"	"	"	"	11	1,935	0	1,935	9	1,926	" sand	" "		D, S	Waters 50 head stock.
7	SW.	6	"	"	"	"	8	1,855	- 4	1,851	4	1,851	" gravel	" "		D, S	Used to flow; abundant supply.
8	SW.	8	"	"	"	"	14	1,931	- 9	1,922	9	1,922	" sand	" "	51	D, S	Sufficient supply.
9	NW.	9	"	"	"	"	12	1,900	- 6	1,894	6	1,894	" gravel	" "		D, S, I	Waters 20 head stock.
10	NE.	10	"	"	"	"	20	1,910	- 10	1,900	10	1,900	" clay	" "		D, S	Watered 30 head stock in 1935.
11	SE.	14	"	"	"	"	14	1,935	- 12	1,923	12	1,923	" sand	" "	47	D, S	Waters 20 " " .
12	NW.	14	"	"	"	"	15	1,930	- 3	1,927	15	1,915	" "	" "		D, S, I	" 200 " " .
13	SE.	16	"	"	"	"	10	1,900	- 6	1,894	6	1,894	" gravel	" "		D, S	" 50 " " .
14	NW.	16	"	"	"	"	8	1,900	- 6	1,894	6	1,894	" sand	" "		D, S, I	" 75 " " .
15	SW.	20	"	"	"	"	10	1,943	- 6	1,937	6	1,937	" "	" "	51	D, S, I	" 50 " " .
16	SW.	22	"	"	"	"	15	1,935					" gravel	" "		D, S	Abundant supply.
17	SW.	22	"	"	"	"	9	1,935	- 5	1,930	5	1,930	" "	" "		D, S	Waters 100 head stock.
18	NE.	22	"	"	"	"	14	1,950	- 7	1,943	7	1,943	" sand	" "	45	D, S	Abundant supply.
19	NE.	22	"	"	"	"	14	1,950	- 3	1,947			" clay	" "	54	D	House supply only.
20	SE.	25	"	"	"	Drilled	316	1,956	- 20	1,936	316	1,640	Ravenscrag	Soft, iodine, taste	41	D, S, I	Abundant supply; #.

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(#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
21	NW.	25	6	1	2	Dug	10	1,955	- 7	1,948	7	1,948	Glacial gravel	Hard, clear		D, S, I	Waters 100 head stock.
22	NE.	28	"	"	"	"	22	1,940	- 20	1,920	20	1,920	" clay	" "		D	House supply only.
23	NW.	32	"	"	"	"	10	1,970	- 6	1,964	6	1,964	" gravel	Soft, clear		D, S, I	Waters 20 head stock.
24	SE.	33	"	"	"	"	11	1,935	- 5	1,930	8	1,927	" "	Hard, "		D, S, I	Abundant supply.
25	SW.	34	"	"	"	"	40	1,940	- 38	1,902	38	1,902	" clay	" "		N	Caved in.
26	NE.	36	"	"	"	"	14	1,990	- 12	1,978	12	1,978	" gravel	Hard, clear		D, S	Sufficient supply.
1	SW.	2	6	2	2	Drilled	338	1,950	- 50	1,900	338	1,612	Ravenscrag sand	Soft, gas, reddish		D, S	Waters 100 head stock.
2	SW.	5	"	"	"	Dug	12	1,945	- 6	1,939	5	1,940	Glacial sand	Hard, clear		D, S	" 30 " " .
3	NE.	7	"	"	"	Drilled	320	1,950	- 20	1,930	320	1,630	Ravenscrag sand	Soft, "	44	D, S	" 250 " " .
4	NW.	8	"	"	"	Dug	12	1,935	- 3	1,932	12	1,923	Glacial sand	Hard, "	46	D, S	Sufficient supply.
5	SW.	10	"	"	"	Drilled	325	1,958	- 50	1,908	325	1,633	Ravenscrag sand	Soft, "		S	Abundant supply.
6	SW.	10	"	"	"	Dug	25	1,968	- 13	1,953	25	1,943	Glacial yellow clay	Hard, " , alkaline		D	House supply only.
7	NW.	10	"	"	"	Drilled	250	1,960	- 40	1,920	250	1,710	Sand	Hard, clear, alkaline		D, S	Abundant supply.
8	NE.	12	"	"	"	"	200	1,901	+ 15	1,916	200	1,701	Ravenscrag sand	Hard, clear	43	D, S	Waters 100 head stock.
9	SE.	14	"	"	"	Dug	50	1,945					Glacial clay			N	Dry hole.
10	NE.	14	"	"	"	Drilled	250	1,950	- 20	1,930	250	1,700	Ravenscrag sand	" "		D, S, I	Waters 200 head stock.
11	NE.	15	"	"	"	"	240	1,962	- 40	1,922	240	1,722	" "	Soft, "		D, S	" 100 " " .
12	NW.	16	"	"	"	Dug	17	1,960	- 13	1,947	13	1,947	Glacial sandy clay	Hard, "		D	Sufficient for 2 families.
13	NW.	16	"	"	"	Drilled	280	1,960	- 40	1,920	280	1,680	Ravenscrag sand	" , red sediment	42	S	Waters 25 head stock.
14	SE.	17	"	"	"	"	285	1,950	- 25	1,925	285	1,665	" shale	Hard, clear		D, S	" 100 " " .
15	NW.	17	"	"	"	"	150	1,948	- 14	1,934	150	1,798	Sand at base of blue clay?	" , iron sediment		D, S	" 250 " " .
16	NW.	18	"	"	"	"	180	1,945	- 25	1,920	180	1,765	Sand at base of blue clay	Hard, iron sediment	44	S	" 100 " " .
17	SW.	22	"	"	"	"	400	1,955	- 55	1,900	300	1,655	Ravenscrag	Hard, cloudy	42	S	" 125 " " .
18	NE.	22	"	"	"	"	265	1,955	- 55	1,900	265	1,690	" sand	Soft, clear		D, S	" 100 " " .
19	SW.	23	"	"	"	Dug	30	1,950	- 25	1,925	30	1,920	River sand	Hard, clear		D	Sufficient supply.
20	SE.	24	"	"	"	"	14	1,917	- 7	1,910	11	1,906	Glacial sand	" "	46	D, S	Waters 25 head stock.
21	NE.	24	"	"	"	"	14	1,905	- 10	1,895	11	1,894	" "	" "		D, S	Decreases in winter months.

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WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
22	SE	28	6	2	2	Drilled	375	1,980	- 40	1,940	375	1,605	Ravenscrag coal	Soft, clear	44	D, S	Waters 300 head stock.
23	SE	29	"	"	"	"	200	1,970	- 60	1,910	200	1,770	Sand	Hard, "	45	S	Plugged with sand; not-potable for humans.
24	SE	29	"	"	"	Dug	9	1,970	- 6	1,964	6	1,964	Glacial clay	" "	48	D	House supply only.
25	SE	30	"	"	"	Drilled	215	1,956	- 60	1,896	215	1,741	Ravenscrag sand	" cloudy	42	S	Waters 100 head stock.
26	SW	30	"	"	"	Dug	20	1,956	- 18	1,938	18	1,936	Glacial sand	" ,clear		D	House supply only.
27	NW	30	"	"	"	Drilled		1,958	- 40	1,918			?	" ,cloudy		S	Abundant supply; laxative on humans.
28	SE	31	"	"	"	Dug	30	1,960					" clay	" ,clear		D	House supply only.
29	NE	31	"	"	"	Drilled	270	1,961	- 30	1,931	270	1,691	Ravenscrag sand	" ,cloudy		D, S	Waters 100 head stock.
30	SE	32	"	"	"	Dug	21	1,950	- 16	1,934	16	1,934	Glacial sand	" ,clear	46	D, S	" 6 " " .
31	NE	32	"	"	"	Drilled	245	1,955	- 30	1,925	245	1,710	Ravenscrag sand	" ,iron precipitate	43	S	Laxative on humans; waters 50 head stock.
32	SE	33	"	"	"	"	275	1,980	- 9	1,971	275	1,705	" " "	Hard, clear		D, S	Unlimited supply.
33	SW	33	"	"	"	"	310	1,365	- 26	1,939	310	1,655	" " "	" "	42	D, S	Waters 100 head stock.
34	SW	34	"	"	"	"	363	1,982	- 50	1,932	363	1,619	" sand	Soft, "	44	D, S	" 200 " " .
35	NW	35	"	"	"	Dug	6	1,900	- 2	1,898	2	1,898	Glacial gravel	Hard, "		D, S	" 20 " " .
36	SW	36	"	"	"	Drilled	320	1,925	+ 16	1,941	300	1,625	Ravenscrag sand	Soft, "	43	D, S, I	" 250 " " .
37	NE	36	"	"	"	Dug	10	1,965	+ 6	1,959	6	1,959	Glacial sand	" "		D, S	" 50 " " .
1	NW	1	6	3	2	Drilled	265	1,940	- 19	1,921	265	1,675	Ravenscrag sand	" , " ,	43	D, S, I	Abundant supply.
2	NW	2	"	"	"	Dug	12	1,942	- 4	1,938	4	1,938	Glacial sand	gas Hard, clear	49	D, S	Waters 40 head stock.
3	SE	4	"	"	"	"	7	1,940	- 4	1,936	5	1,935	" "	" "	51	D, S	" 50 " " .
4	NE	4	"	"	"	"	5	1,948	- 3	1,945	3	1,945	" lake	" "	54	D	House supply only.
5	SW	4	"	"	"	Drilled	207	1,939	- 15	1,924	207	1,732	Ravenscrag coal	" "	44	S	Plugged with sand in 1935.
6	SW	5	"	"	"	"	250	1,949	- 40	1,909	250	1,699	" " "	alkaline" Hard, salty, cloudy.		S	Waters 150 head stock.
7	SW	6	"	"	"	"	245	1,938	- 25	1,913	238	1,700	Ravenscrag sand	Hard, clear	53	D, S, I	" 100 " " .
8	NW	6	"	"	"	"	240	1,942	- 30	1,912	240	1,702	" coal	" "	43	D, S	" 100 " " .
9	NE	6	"	"	"	"	240	1,945	- 30	1,915	240	1,705	" "	" "	43	D, S	" 100 " " .
10	NW	8	"	"	"	Dug	28	1,953	- 20	1,933	8	1,945	sand Glacial sand	" "	45	D, S	" 20 " " .
11	NE	8	"	"	"	Drilled	275	1,958	- 30	1,928	275	1,683	Ravenscrag sand	Soft, "	44	S	Abundant supply.

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(D) Domestic; (S) Stock; (I) Irrigation; (M) Municipality; (N) Not used.
(#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN.

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
12	NE.	8	6	3	2	Dug	16	1,949	- 9	1,940	9	1,940	Glacial sand	Hard, clear	48	D, S	Dry in winters.
13	SW.	10	"	"	"	"	5	1,950	0	1,950			" "	" "		D, S, I	Spring runs all year.
14	NE.	10	"	"	"	Drilled	273	1,945	- 16	1,929	273	1,672	Ravenscrag coal	" "	44	S	Abundant supply.
15	N7.	11	"	"	"	Dug	8	1,946	- 6	1,940	6	1,940	Glacial sand	" "	51	D, S	Waters 60 head stock.
16	NW.	12	"	"	"	Drilled	200	1,948	- 30	1,918	200	1,748	Ravenscrag coal	" "	43	S	Abundant supply.
17	NW.	12	"	"	"	Dug	20	1,948	- 12	1,936	6	1,942	Glacial sand	" "	41	D, S	Waters 6 head stock.
18	SE.	12	"	"	"	Drilled	215	1,955	- 40	1,915	215	1,740	Ravenscrag sand	Soft, clear	43	D, S	" 100 " " .
19	NE.	13	"	"	"	"	273	1,953	- 20	1,933	273	1,680	"	" "	42	D, S	Abundant supply; #.
20	NE.	13	"	"	"	Dug	15	1,952	- 11	1,941	11	1,941	Glacial sand	Hard, "	46	D, S	Waters 40 head stock.
21	NW.	14	"	"	"	Drilled	260	1,952			260	1,692	Ravenscrag	Soft, "		S	Abundant supply.
22	NE.	15	"	"	"	"	360	1,954	- 23	1,931	300	1,654	" sand	" "		D, S	" " . #.
23	NE.	16	"	"	"	Dug	10	1,950	- 4	1,946	4	1,946	Glacial sand	Hard, clear	46	D, S	Waters 40 head stock.
24	SE.	16	"	"	"	"	14	1,949	- 11	1,938	9	1,940	" "	" "		D, S	" 60 " " .
25	SW.	16	"	"	"	"	12	1,947	- 7	1,940	7	1,940	" "	" "	46	D, S	" 30 " " .
26	NW.	16	"	"	"	"	8	1,948	- 2	1,946	2	1,946	" "	" "	51	D, S, I	" 60 " " .
27	NW.	16	"	"	"	Drilled	280	1,958	- 40	1,918	280	1,678	Ravenscrag sand	Soft, brown	43	D, S	" 200 " " .
28	NE.	17	"	"	"	Dug	12	1,946	- 6	1,940	7	1,939	Glacial sand	Hard, clear	50	D, S, I	" 20 " " .
29	SE.	17	"	"	"	"	11	1,949	- 2	1,947	2	1,947	" "	" "	48	D, S, I	" 25 " " .
30	SW.	17	"	"	"	"	10	1,946	- 4	1,942	4	1,942	" "	" "	51	D, S, I	" 25 " " .
31	SE.	18	"	"	"	Drilled	290	1,958	- 80	1,878	278	1,680	Ravenscrag sand	" "	44	S	Abundant supply.
32	SE.	19	"	"	"	Dug	14	1,947	- 10	1,937	10	1,937	Glacial gravel	" "	49	D, S, I	Waters 100 head stock.
33	SW.	20	"	"	"	"	10	1,952	- 8	1,944	8	1,944	" sand	Soft, clear	52	D, S	" 15 " " .
34	SW.	20	"	"	"	"	16	1,950	- 9	1,941	11	1,939	" "	Hard, clear	51	D, S	Sufficient supply.
35	SE.	20	"	"	"	"	6	1,947	- 1	1,946	1	1,946	" "	" "	50	D, S	Abundant supply.
36	NE.	20	"	"	"	"	10	1,945	- 4	1,941	5	1,940	" "	Soft, "	48	D, S	Small supply.
37	NW.	21	"	"	"	"	20	1,956					" clay	"		N	Dry hole.
38	SW.	25	"	"	"	"	15	1,954	- 10	1,944	12	1,942	" sand	Hard, "	46	D, S, I	Waters 25 head stock.

NOTE.—All depths, altitudes, heights and elevations given above are in feet.

(D) Domestic; (S) Stock; (I) Irrigation; (M) Municipality; (N) Not used.
(#) Sample taken for analysis.

WELL RECORDS—RURAL MUNICIPALITY OF MOOSE CREEK, NO. 33, SASKATCHEWAN

WELL No.	LOCATION					TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE		PRINCIPAL WATER-BEARING BED			CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
	¼	Sec.	Tp.	Rge.	Mer.				Above (+) Below (-) Surface	Elev.	Depth	Elev.	Geological Horizon				
39	NE.	26	6	3	2	Drilled	300	1,951			300	1,551	Ravenscrag	Soft, clear	44	D, S	Abundant supply.
40	NE.	27	"	"	"	"	300	1,948	- 80	1,868	300	1,548	" coal	" "	43	D, S	Abundant supply.
41	SE.	27	"	"	"	"	242	1,952	- 38	1,914	242	1,710	" sand	Hard, "	45	S	Waters 300 head stock; laxative for humans.
42	SE.	27	"	"	"	Dug	19	1,952	- 11	1,941	16	1,936	Glacial sand	" "	45	D	Insufficient for house use.
43	SE.	28	"	"	"	"	14	1,946	- 6	1,940	2	1,944	" "	" "	45	D, S	Waters 15 head stock.
44	NE.	30	"	"	"	"	10	1,951	- 5	1,946	5	1,946	" "	Soft, "	51	D, S	" 20 " " .
45	NE.	30	"	"	"	Drilled	210	1,948	- 40	1,908	210	1,738	Ravenscrag sand?	Hard, "	45	S	Well plugged with sand; laxative for humans.
46	NW.	30	"	"	"	"	148	1,953	- 30	1,923	143	1,810	Sand at base of blue clay	" , iron sediment	44	S	Waters 20 head stock; " " " " .
47	SW.	31	"	"	"	Dug	15	1,948	- 12	1,936	12	1,936	Glacial sand	Hard, clear	48	D, S	House supply only.
48	SE.	32	"	"	"	Drilled	175	1,948	- 20	1,928	175	1,773	Sand at base of blue clay	" , iron, alkaline	45	S	Waters 25 head stock.
49	NE.	32	"	"	"	"	260	1,948	- 80	1,868	248	1,700	Ravenscrag sand	Soft, brown	44	D, S	" 75 " " . #
50	SW.	36	"	"	"	"	263	1,946	- 40	1,906	246	1,700	" "	" , clear	44	S	Abundant supply; laxative for humans.
51	SW.	36	"	"	"	Dug	16	1,945	- 8	1,937	12	1,933	Glacial sand	Hard, "	51	D, S	Waters 6 head stock.

NOTE.—All depths, altitudes, heights and elevations given above are in feet.

(D) Domestic; (S) Stock; (I) Irrigation; (M) Municipality; (N) Not used.
 (#) Sample taken for analysis.