CANADA
DEPARTMENT OF MINES

HON. T. A. CRERAR, MINISTER; CHARLES CAMSELL, DEPUTY MINISTER

BUREAU OF ECONOMIC GEOLOGY

GEOLOGICAL SURVEY

PRELIMINARY REPORT

GROUND-WATER RESOURCES OF THE RURAL MUNICIPALITY OF LOMOND No. 37 SASKATCHEWAN

BY

B. R. MacKay & H. N. Hainstock

Water Supply Paper No. 55

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GROUND WATER RESOURCES OF THE RURAL MUNICIPALITY OF LOMOND, NO. 37, 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 and the smaller supplies of ground water required for domestic purposes and for stock. In an effort to relieve the serious situation the Geological Survey began an extensive study of the problem from the standpoint of domestic uses and stock raising. During the field season of 1935 an area of 80,000 square miles, comprising all that part of Saskatchewan south of the north boundary of township 32, was systematically examined, records of approximately 60,000 wells were obtained, and 720 samples of water were collected for analyses. The facts obtained have been classified and the information pertaining to any well is readily accessible. The examination of so large an area and the interpretation of the data collected were possible because the bedrock geology and the Pleistocene deposits had been studied previously by McLearn, Warren, Rose, Stansfield, Wickenden, Russell, and others of the Geological Survey. The Department of Natural Resources of Saskatchewan and local well drillers assisted considerably in supplying several hundred well records. The base maps used were supplied by the Topographical Surveys Branch of the Department of the Interior.

Publication of Results

The essential information pertaining to the ground water conditions is being published in reports, one being issued for each municipality. Copies of these reports are being sent to the secretary treasurers of the municipalities and to certain Provincial and Federal Departments, where they can be consulted by residents of the municipalities or by other persons, or they may be obtained by writing direct to the Director, Bureau of Economic Geology, Department of Mines, Ottawa. Should anyone require more detailed information than that contained in the reports such additional information as the Geological Survey possesses can be obtained on application to the director. In making such request the applicant should indicate the exact location of the area by giving the quarter section, township, range, and meridian concerning which further information is desired.

The reports are written principally for farm residents, municipal bodies, and well drillers who are either planning to sink new wells or to deepen existing wells. Technical terms used in the reports are defined in the glossary.

How to Use the Report

Anyone desiring information about ground water in any particular locality should read first the part dealing with the municipality as a whole in order to understand more fully the part of the report that deals with the place in which he is interested. At the same time he should study the two figures accompanying the report. Figure 1 shows the surface and bedrock geology as related to the ground water supply, and Figure 2 shows the relief and the location and type of water wells. Relief is shown by lines of equal elevation called "contours". The elevation above sea-level

is given on some or all of the contour lines on the figure.

If one intends to sink a well and wishes to find the approximate depth to a water-bearing horizon, he must learn: (1) the elevation of the site, and (2) the probable elevation of the water-bearing bed. The elevation of the well site is obtained by marking its position on the map, Figure 2, and estimating its elevation with respect to the two contour lines between which it lies and whose elevations are give on the figure. Where contour lines are not shown on the figure, the elevations of adjacent wells as indicated in the Table of Well Records accompanying each report can be used. The approximate elevation of the water-bearing horizon at the well-site can be obtained from the Table of Well Records by noting the elevation of the water-bearing horizon in surrounding wells and by estimating from these known elevations its elevation at the well-site.[1] If the water-bearing horizon is in bedrock the depth to water can be estimated fairly accurately in this way. If the water-bearing horizon is in unconsolidated deposits such as gravel, sand, clay, or glacial debris, however, the estimated elevation is less reliable, because the water-bearing horizon may be inclined, or may be in lenses or in sand beds which may lie at various horizons and may be of small lateral extent. In calculating the depth to water, care should be taken that the water-bearing horizons selected from the Table of Well Records be all in the same geological horizon either in the glacial drift or in the bedrock. From the data in the Table

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[1] If the well-site is near the edge of the municipality, the map and report dealing with the adjoining municipality should be consulted in order to obtain the needed information about nearby wells.

of Well Records it is also possible to form some idea of the quality and quantity of the water likely to be found in the proposed well.

GLOSSARY OF TERMS USED

Alkaline. The term "alkaline" has been applied rather loosely to some ground waters. In the Prairie Provinces a water is usually described as "alkaline" when it contains a large amount of salts, chiefly sodium sulphate and magnesium sulphate in solution. 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".

Alluvium. Deposits of earth, clay, silt, sand, gravel, and other material on the flood-plains of modern streams and in lake beds.

Aquifer or Water-bearing Horizon. A water-bearing bed, lens, or pocket in unconsolidated deposits or in bedrock.

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 partly or wholly consolidated deposits of gravel, sand, silt, clay, and marl that are older than the glacial drift.

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 part in a river valley ordinarily above water but 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 that causes water in a well to rise above the point at which it is struck.

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

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

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.

NAMES AND DESCRIPTIONS OF GEOLOGICAL FORMATIONS, REFERRED TO IN THESE REPORTS

Wood Mountain Formation. The name given to a series of gravel and sand beds which have a maximum thickness of 50 feet, and which occur as isolated patches on the higher parts of Wood mountain. This is the youngest bedrock formation and, where present, overlies the Ravenscrag formation.

Cypress Hills Formation. The name given to a series of conglomerates and sand beds which occur in the southwest corner of Saskatchewan, and rest upon the Ravenscrag or older formations. The formation is 30 to 125 feet thick.

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

Whitemud Formation. The name given to a series of white, grey, and buff coloured clays and sands. The formation is 10 to 75 feet thick. At its base this formation grades in places into coarse, limy sand beds having a maximum thickness of 40 feet.

Eastend Formation. The 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 escarpment of Missouri coteau. The thickness of the formation seldom exceeds 40 feet.

Bearpaw Formation. The Bearpaw consists mostly of incoherent dark grey to dark brownish grey, partly bentonitic shales, weathering light grey, or, in places where much iron

is present, buff. Beds of sand occur in places in the lower part of the formation. It forms the uppermost bedrock formation over much of western and southwestern Saskatchewan and has a maximum thickness of 700 feet or somewhat more.

Belly River Formation. The Belly River consists mostly of non-marine sand, shale, and coal, and underlies the Bearpaw in the western part of the area. It passes eastward and northeastward into marine shale. The principal area of transition is in the western half of the area where the Belly River is mostly thinner than it is to the west and includes marine zones. In the southwestern corner of the area it has a thickness of several hundred feet.

Marine Shale Series. This series of beds consists of dark grey to dark brownish grey, plastic shales, and underlies the central and northeastern parts of Saskatchewan. It includes beds equivalent to the Bearpaw, Belly River, and older formations that underlie the western part of the area.

WATER-BEARING HORIZONS OF THE MUNICIPALITY

The rural municipality of Lomond, No. 37, is an area of 324 square miles in southeastern Saskatchewan. It consists of nine townships described as tps. 4, 5, and 6, ranges 13, 14, and 15, W. 2nd mer. The centre of the municipality lies 17 miles due south of the city of Weyburn and 27 miles north of the International Boundary.

The northern and northeastern part of the municipality is drained by Roughbark creek and Souris river, both of which have cut deep valleys in the plain. The central part is drained by Jewel creek and its tributaries, and the southwestern corner by Long creek. The ground surface, except where cut by the valleys of these drainage courses, is gently undulating, and slopes from a maximum elevation of 2,200 feet in the southwestern corner, to a minimum elevation of 1,800 feet in Souris River valley, in the northeastern corner.

Most of the municipality is covered by boulder clay or glacial till. A small area in the extreme southwestern corner is mantled by a portion of the moraine that occurs on the Missouri coteau. Small areas of glacial lake clays, the southern embayments of the old Regina Lake basin, occur along the northern border of the municipality. Deposits of glacial outwash sands and gravels cover a small area in the southern part of township 4, range 15, and another in the west-central part of township 5, range 13. Recent deposits of stream gravels and silts occur along the flood-plain of Souris river. This drift mantle is of varying thickness. The minimum thickness occurs in the northeastern corner of the municipality. Bedrock outcrops in the valleys of Souris river and Roughbark creek, and occurs at a depth of 24 to 50 feet immediately southwest of these drainage channels. The drift increases in thickness towards the west and southwest. It is approximately 100

feet thick in township 6, range 15, 150 feet thick in township 5, range 15, and attains a maximum thickness of 175 feet in the northern part of township 5, range 14. In the southern part of the municipality it has a fairly uniform thickness of 70 to 100 feet. In general the upper 10 to 20 feet of this mantle of glacial drift is composed of yellow clay, the remainder being blue clay containing lenses and layers of sand. In certain areas sand occurs between the yellow and blue clays, and in others fairly thick deposits of sand or gravel underlie the blue clay and immediately overlie the bedrock.

Water-bearing Horizons in the Unconsolidated Deposits

A few wells obtain fairly abundant supplies of water from the Recent deposits along the flood-plain of Souris river, at depths of 10 to 15 feet. This water is suitable for all farm needs.

Throughout the municipality small supplies of water are obtained from pockets of sand and gravel that occur at depths of 10 to 40 feet in the glacial drift. In general the supply from individual wells tapping this horizon is insufficient for local needs. In certain sections the sand deposits are absent and no water can be obtained. In others, farmers can obtain a sufficient supply for their needs by using two or three shallow wells. The best supply from this horizon is obtained from the two areas of glacial outwash sands and gravels. In these areas shallow wells obtain an abundant supply of usable water at depths of 10 to 20 feet, and they are less affected by drought than are those wells that have tapped small, isolated pockets. As a rule, the water that is derived from the pockets of sand and gravel contains a relatively large amount of mineral salts in solution. An abundant supply of water is not to be expected from this horizon, especially in the southwestern part of the municipality.

In certain areas in the municipality a number of wells have tapped a fairly continuous layer of sand which occurs at a depth

of approximately 30 to 45 feet, and which is overlain by 5 to 15 feet of blue clay. A number of wells in the southern part of township 4, range 15, and in the southern parts of township 6, ranges 13, 14, and 15, are of this type. The supply from these wells is usually sufficient for 20 to 75 head of stock, and is effected only slightly by drought conditions. Due to the proximity of the blue clay, however, the water contains a large amount of mineral salts in solution, and is unfit for drinking. The areal extent of the deposits that form the aquifers is unknown, but it is possible that similar deposits may be encountered in other areas of the municipality than those mentioned.

A second water-bearing horizon is encountered in the glacial drift in two areas that are outlined on the accompanying map. In the southeastern part of the municipality an area is outlined by the "B" boundary line in which wells obtain a fairly abundant supply of hard, highly mineralized water from sand and gravel deposits overlain by blue clay and occurring at a depth of 75 to 90 feet. The water is under hydrostatic pressure and rises to a point 15 to 40 feet below the surface. In the north-central part of the municipality an area has been outlined by the "C" boundary line, in which a number of wells obtain abundant supplies of hard, highly mineralized water, from similar deposits at depths of 100 to 150 feet below the surface. The water is used for stock but its high mineral salt content, particularly iron, prohibits its use for drinking. The hydrostatic pressure in this area is sufficient to cause the water to rise to a point 30 to 60 feet below the surface. It is thought that the deposits forming the aquifers in these areas occur at the base of the glacial drift and immediately overlie the bedrock. If such is the case, similar deposits may occur at other localities in the municipality.

Water-bearing Horizons in the Bedrock

The Ravenscrag formation underlies the glacial drift throughout the greater part of the municipality. In township 6, range 13, the Whitemud formation, composed of a series of white clays and soft white sandstone beds that underlies the Ravenscrag formation, outcrops in the valleys of Roughbark creek and Souris river.

Five water-bearing horizons have been encountered in the Ravenscrag formation, and the area in which water is being derived from these horizons is outlined by the "A" boundary on the accompanying map. The horizons are not continuous throughout the area. A few wells have tapped a water-bearing horizon at an approximate depth of 85 feet, or at an elevation of 1906 feet above sea-level, in township 4, range 14. This horizon is formed by a coal seam and its underlying sandy beds and appears to be confined to the township mentioned above, although an occasional well in the northeastern part of the municipality obtains water from a coal seam at shallower depths. The water is medium hard and the supply is fairly abundant.

South of the "A" line a number of wells have encountered water at elevations of 1,775 to 1,880 feet, or at depths of 110 feet to 190 feet, depending largely upon the elevation of the surface. Sandstone or sand usually forms this horizon and the water may vary from soft to quite hard. The supply is usually abundant and the water is suitable for stock, although it is not often used for drinking. A well located in SE. $\frac{1}{4}$, sec. 17, tp. 5, range 15, encountered this aquifer at a depth of 190 feet, and the water is under sufficient hydrostatic pressure to rise to a maximum height of 10 feet above the ground level.

A third water-bearing horizon is encountered at elevations of 1,700 to 1,760 feet, or at depths of 240 to 290 feet, depending upon the variation in elevation of the land surface. This horizon

is formed by a sand or sandstone bed and has been tapped in township 4, range 14, township 4, range 15, township 5, range 15, and township 5, range 14. The supply is abundant and the water is soft, salty, and tastes of soda. It is rarely used for domestic purposes. The hydrostatic pressure is sufficient to raise the water to a point 35 below the surface in most wells, and to flow 1 foot above the surface in a well located in SW. ¼, sec. 21, tp. 5, range 15.

The fourth water-bearing horizon in the Ravenscrag formation is formed by a sandy bed and is struck in a few wells in the southern part of the municipality at elevations of 1,580 to 1,621 feet, or at depths ranging from 350 to 400 feet, depending upon the elevation of the land surface. The water from this horizon is soft, usually salty, and tastes of soda. One well located in NW. ¼, sec. 21, tp. 4, range 15, is of the flowing-artesian type, the water flowing 6 feet above the surface.

The deepest horizon encountered occurs at depths of 430 to 460 feet, or at elevations of 1,490 to 1,520 feet. This horizon is formed by a fine sand bed, and the water is soft and salty. The hydrostatic pressure is sufficient to cause the water to flow 30 feet above the surface in a well located in NW. ¼, sec. 18, tp. 4, range 15. Gas was also encountered in this well.

Little trouble should be experienced in obtaining abundant supplies of water from the bedrock in the southwestern half of this municipality. The water will be suitable for stock, but probably undesirable for drinking. In the northeastern half of the municipality, the possibilities of obtaining abundant supplies of water from the bedrock are lessened as the water-bearing bedrock formations decrease in thickness in this direction. Dugouts and dams can be used to advantage for storing a supply of run-off water for stock use in this area, if adequate supplies cannot be obtained from the glacial drift.

GROUND WATER CONDITIONS BY TOWNSHIPS

Township 4, Range 13

This township is mantled by glacial drift having a thickness of approximately 80 to 110 feet. Only small supplies of drinkable water are obtained from this drift covering.

Two water-bearing horizons are known to occur in the deposits of glacial drift. The uppermost horizon is formed by pockets of sand and gravel that occur within the upper 45 feet of the drift. These deposits are not continuous, but occur as isolated lenses and it frequently happens that a dry hole is dug within 15 feet of a producing well. The water derived from these pockets is suitable for both domestic and stock use, but is of limited quantity. In drought years the wells that tap this horizon are usually dry, and even in years of normal rainfall the supply from the individual wells is only sufficient for household purposes and not more than 20 head of stock. The sand and gravel deposits appear to be more numerous in the northern part of the township.

A second water-bearing horizon is formed by pockets of sand and gravel that occur at a depth of from 75 to 90 feet. These deposits are overlain by blue clay and it is possible that they occur at the base of the glacial drift. If such is the case, this horizon may be fairly continuous throughout the township. It has not been encountered in sections 12 and 14, the 80-foot holes in these sections being nearly dry. It has been tapped, however, by a number of wells in sections 19, 20, 21, and 28. This horizon provides a fairly abundant supply of water which is too "alkaline" for domestic use. The water is under hydrostatic pressure and rises to a point 15 to 30 feet below the surface.

The Ravenscrag formation underlies the glacial drift throughout the township. It has been pierced by four wells in the southeastern corner of the township, and by a well located in

section 30. Three water-bearing horizons have been tapped, but as no deep wells are drilled in the remainder of the township the areal extent of these aquifers is unknown. The uppermost horizon in the bedrock is formed by a thin coal seam and is encountered in SE. ¼, section 2, at a depth of 164 feet, or at an elevation of 1,784 feet. The water is soft, brown in colour, and rises to a point 118 feet below the surface. This horizon appears to be only of local extent, as it was not reported in any of the other deep wells. The second horizon is formed by a bed of blue sand and it is tapped by two wells located in NW. ¼, section 2, and SW. ¼, section 30, at depths of 350 and 381 feet, or at elevations of 1,595 and 1,581 feet, respectively. The fact that these two wells are over 3½ miles apart, suggests that this aquifer is fairly continuous. The water from it is soft, tastes of soda, and is salty. It is satisfactory for stock use, but is usually unpalatable for drinking. The supply is abundant, and the hydrostatic pressure is sufficient to cause the water to rise to a level ranging from 30 to 60 feet below the surface. The third horizon is encountered by two wells located in SE. ¼, section 3, and NW. ¼, section 12, at depths of 430 and 460 feet, or at elevations of 1,526 and 1,487 feet respectively. This aquifer is formed by deposits of sand which may possibly be part of the Eastend formation which underlies the Ravenscrag and Whitemud sediments. The water from it is soft, tastes of soda, and may or may not be slightly salty. It is satisfactory for both humans and stock and is abundant in quantity. The hydrostatic pressure is sufficient to cause the water to rise to a level 75 to 100 feet below the surface. Sufficient information is not at hand to say if this horizon is continuous throughout the township.

Unless a supply of water can be obtained from the horizons of the bedrock formations, the only method of securing a sufficient supply in certain areas is by the excavation of large

dugouts. These should be at least 12 feet deep and should be dug in a location where the maximum amount of run-off water can be collected. Only a small supply of water is to be expected from the upper part of the drift, and that obtained from a depth of 75 to 100 feet, although fairly abundant in quantity, is usually too "alkaline" for drinking.

Township 4, Range 14

This township is relatively flat, with gently undulating surfaces. Two small ravines traverse the township in an east to west direction, but their valleys are narrow and quite shallow. This area is mantled by a deposit of glacial till or boulder clay that has an average thickness of 90 feet. This drift mantle is usually composed of 1 to 5 feet of top soil, 10 to 20 feet of yellow clay containing pockets and layers of sand and gravel, and 50 to 60 feet of blue clay which in places is underlain by deposits of sand and gravel that vary from a few inches to 20 feet in thickness.

Two aquifers are present in the glacial drift, and in years of normal rainfall an adequate supply of water is obtained from them. The uppermost horizon is formed by the deposits of sand and gravel that occur within 30 feet of the surface. An abundant supply of water is not to be expected from this horizon as the sand deposits are scattered, being in the form of small pockets, and are dependant upon rainfall for their water supply. Numerous dry holes may be dug before a pocket is located. Wells tapping these pockets, however, always yield hard water that is suitable and sufficient for domestic purposes, but only a few of them will water more than 10 to 20 head of stock. In a few areas the sand deposits appear to be in the form of narrow, buried stream channels. Such is the case in SW. $\frac{1}{4}$, section 33, and the shallow well at this location is worthy of mention. The deposit it taps is apparently connected with the stream channel to the northwest, as after a heavy rain in

that vicinity the water in the well rose rapidly, and a spring appeared in a slough bottom. Similar wells may be encountered, but the majority can only be depended upon to yield small amounts of water.

The deposits of sand and gravel that occur at the base of the blue clay form a second water-bearing horizon. The areal extent of this horizon is not known, but it has been tapped by a few wells. In SE. $\frac{1}{4}$, section 3, NE. $\frac{1}{4}$, section 4, NE. $\frac{1}{4}$, section 9, and SW. $\frac{1}{4}$, section 25, wells have encountered this horizon at depths of 69, 60, 72, and 85 feet, respectively. This horizon yields a fairly abundant supply of water, but it is usually too "alkaline" for domestic use. These wells are not greatly affected by drought conditions. It is likely that this horizon will be encountered at similar depths in other localities. Dugouts are used by some farmers, and this method of retaining a supply of run-off water for stock use has proved successful. The results will be more satisfactory if the dugouts are excavated to a depth of at least 12 feet, and situated in a location where a maximum amount of run-off water can be collected.

The Ravenscrag bedrock formation underlies the glacial drift throughout the township. Water is being obtained from three horizons in this formation. The uppermost horizon is encountered in SW. $\frac{1}{4}$, section 7, and NW. $\frac{1}{4}$, section 14, at depths of 87 and 86 feet, respectively. It has not been encountered at any other locality, however, so it appears to be only of local areal extent. It is formed by a thin seam of lignite coal and an underlying layer of sand. The water is under pressure and rises to a level 18 feet below the surface. It is usable for both stock and humans.

A second horizon is encountered at a depth of from 130 to 180 feet. It is formed by a sandy deposit that immediately underlies a lignite coal seam. As wells have tapped this horizon in sections 4, 13, 25, 28, 32, and 34, it appears to be fairly

continuous throughout the township at an elevation of from 1,775 to 1,800 feet. The water is soft and tastes of soda. It is satisfactory for stock use and, unless it is rendered unpalatable by the sodium salts, it can be used for domestic purposes. The water is abundant and rises to a point 20 to 50 feet below the surface, where it maintains a constant level.

A third water-bearing horizon is formed by a sandy bed of the Ravenscrag formation at depths of 250 to 300 feet, or at an elevation of approximately 1,700 to 1,735 feet. This horizon is fairly continuous over the northeastern part of the township, as it has been encountered in sections 15, 24, 32, and 34. The water is soft, tastes of soda, and is often salty. It is under hydrostatic pressure and rises to a level 35 feet below the surface. The water is satisfactory for stock, but is rarely used for domestic purposes. Little trouble should be experienced in obtaining an abundant supply of similar water from the Ravenscrag formation throughout this township.

Township 4, Range 15

This township is almost entirely mantled by glacial till or boulder clay. A small area in the southwestern corner is covered by terminal moraine deposits whereas an area comprising sections 9, 16, and 17, and parts of sections 4, 8, 10, 15, 20, and 21, is mantled by glacial outwash sands and gravels. To the southwest of Long creek the land surface is rolling, but to the northeast it is quite flat. Only a small amount of water is being derived from the deposits of glacial till, but fairly abundant supplies can be obtained from the glacial outwash gravels. Only one water-bearing horizon is known to occur in the glacial drift and it is formed by the glacial outwash gravels and by scattered pockets of sand and gravel that occur in the glacial till. These pockets are encountered either within the yellow clay at depths ranging up to 30 feet, or within the upper part of the blue clay

at depths of 35 to 40 feet. In the southern row of sections the latter case is particularly true. It is not known if similar pockets of sand and gravel that occur at an approximate depth of 75 feet in the glacial drift in the townships to the east will be found in the drift of this township. The deep wells that have been drilled did not encounter any, and no deposits of gravel were reported to occur at the contact of the glacial drift and the bedrock. Testing with a small auger prior to digging a well is advised. The impervious nature of the subsoil is suitable for the excavation of dugouts, and this method of conserving a supply of run-off water for stock is recommended where adequate supplies are not obtainable from the drift. Long creek could also be dammed and large supplies of water stored.

A number of wells are deriving an abundant supply of water from different horizons in the Ravenscrag formation. This formation appears to underlie the glacial drift throughout the township. In NE. $\frac{1}{4}$, section 36, a water-bearing horizon in the Ravenscrag formation is tapped at a depth of 134 feet, or at an elevation of 1,861 feet. The water is under pressure and rises to a level 20 feet below the surface. It is hard and "alkaline" and is not suitable for drinking. This is the only well that encountered water at this depth, so the areal extent of the horizon is unknown. A second water-bearing horizon is encountered in sections 24, 34, and 36, at depths of 255, 292, and 240 feet, respectively. It is formed by a fine sand bed and appears to be confined to the northeastern part of the township although it may be encountered elsewhere if other deep wells are drilled. This horizon contains an abundant supply of soft, slightly salty water. Great difficulty is experienced with the fine sand clogging the well casings and shutting off the supply. In sections 18 and 21 a third water-bearing horizon is encountered at a depth of 420 and 385 feet, or at an elevation of 1,600 and 1,621 feet respectively. This water is also soft, salty, and tastes

strongly of soda. It is satisfactory for stock use, but is unpalatable for domestic purposes. The hydrostatic pressure is sufficient to cause the water to flow 30 feet and 6 feet above the surface.

Little difficulty should be experienced in obtaining a satisfactory supply of water from the Ravenscrag formation throughout this township.

Township 5, Range 13

With the exception of an area that is covered by glacial outwash sands and gravels, this township is mantled by glacial till. Bedrock, which is either the lower beds of the Ravenscrag formation or the upper part of the underlying Whitemud and Eastend formations, outcrops in the valley of Roughbark creek, in section 24.

With the exception of the water that is obtained from dugouts and dams along Roughbark and Jewel creeks, the water supply in this township at present is derived wholly from the glacial drift. The sand and gravel deposits that occur as small scattered pockets in the upper part of the drift form a water-bearing horizon. Wells tapping this horizon rarely exceed 40 feet in depth, the deepest well in the glacial deposits being 50 feet. With the exception of six wells located in sections 16, 20, 21, and 30, which are obtaining an abundant supply of hard, usable water from a fairly continuous and extensive deposit of sand and gravel, the remaining wells in the township yield a supply that is only sufficient for household purposes and a few head of stock. These latter wells are dependant upon rainfall seepage and during the drought period were almost dry. The six wells mentioned were but little affected by the drought conditions. The best locations for shallow wells are along the creeks and ravines. Many of these drainage courses could be dammed and the run-off waters stored for stock use. Dugouts can also be

excavated and a supply of water can be stored by this method.

Only one well, located in SE. $\frac{1}{4}$, section 6, has apparently penetrated the bedrock, and has encountered a supply of hard, brownish water. It is probable that water can be obtained in bedrock at depths of 150 to 250 feet.

Township 5, Range 14

Glacial till or boulder clay mantles this township to an approximate depth of 100 feet in the southern part, and 200 feet in the northern part. Two water-bearing horizons occur in this mantle of glacial drift.

The uppermost horizon is formed by scattered deposits of sand and gravel that occur as small pockets or lenses within the upper 40 feet of the drift. Only very small supplies of water are obtained from this horizon, and in only a few instances is a supply sufficient for local needs being derived from wells that are less than 100 feet in depth. During the drought period they were nearly all completely dry and water had to be hauled for stock use. Along the creek valleys and ravines a slightly greater supply can be obtained from the gravel deposits. Farmers are advised to test with a small auger before digging a well, as by this method a water-bearing gravel deposit may be more easily located.

The second water-bearing horizon in the glacial drift occurs at a depth of 100 to 150 feet, depending on the elevation of the surface, and is formed by deposits of sand and gravel that underlie blue clay and which may immediately overlie the bedrock. This horizon has been encountered only in an area comprising sections 20, 30, 32, 33, and 34, and may be confined to this particular locality. The six wells that have tapped this aquifer yield an abundant supply of hard water that usually contains a considerable amount of iron and may be "alkaline" in character. The water is under hydrostatic pressure and rises to a level 20 to

60 feet below the surface. It is suitable for stock use, but may be too highly mineralized to be used for drinking.

The Ravenscrag formation underlies the glacial drift in the southern part of the township. The northern part is underlain either by the lower beds of this formation, or by the Whitemud and Eastend formations. Ground water is derived from two water-bearing horizons in these bedrock deposits. The uppermost horizon is formed by a coal seam and an underlying sand bed, and it is tapped at a depth of 120 feet by a well located in SW. ¼, section 4. The water is fairly abundant and rises to a level 40 feet below the surface. It is soft, salty, and tastes of soda, and thus is unpalatable for humans but satisfactory for stock use. The extent of this horizon is not known, but it is possible that the 170-foot well in NE. ¼, section 4, is deriving its main supply from the same aquifer. In NE. ¼, section 16, a dry hole was drilled to a depth of 550 feet. Coal was encountered at a depth of 110 feet, so the horizon is apparently non-water-bearing in that locality.

The second horizon is formed by a sand bed and occurs at an approximate depth of 200 to 280 feet. It is encountered by four wells located in SW. ¼, section 6, NW. ¼, section 18, NE. ¼, section 30, and NW. ¼, section 31. The latter well, which is 280 feet deep, may possibly be deriving its supply from a lower aquifer. The water from the wells in sections 6 and 18 is soft, slightly salty, and has a soda taste. It rises to a level 17 to 35 feet below the surface. The water from the two wells in the northern part of the township is quite hard and has a fairly high iron content. The hydrostatic pressure in these wells is not high and the water rises to a level 170 feet below the surface. The water-bearing horizon is either thinning out towards the north, or the water is being obtained from the Whitemud or Eastend formations, rather than the Ravenscrag. There should be little difficulty experienced in deriving a fairly abundant supply of water from the

bedrock in this township. The salty nature of the water, or its high iron content, however, may limit its use to stock.

Township 5, Range 15

Deposits of glacial till or boulder clay mantle this township to a depth of at least 150 feet. The surface is gently undulating and the elevation is approximately 2,000 feet throughout the township. The area is drained by Jewel creek and its tributaries.

Only a very small supply of ground water is obtained from the glacial drift mantling this township. Sand and gravel deposits are very scarce and those wells that have encountered water-bearing gravels or sands are usually located close to creeks or ravines, and near sloughs. They are directly dependant upon rainfall for their water supply, and as a result go nearly dry during drought periods. The supply from the existing shallow wells is only sufficient for household purposes and a few head of stock. Unless deep wells are drilled into the underlying bedrock, the only method of obtaining a satisfactory supply of water for stock use is by the excavation of dugouts. They should be located so as to obtain the maximum amount of run-off water, and should be at least 12 feet deep. Before shallow wells are dug it is advisable to test with a small auger, as by this means water-bearing pockets of sand and gravel may be located.

A number of wells have been drilled into the underlying bedrock formations and an abundant supply of water is being obtained. At least three water-bearing horizons have been encountered. The uppermost of these is formed by a sandy bed that in places is overlain by a thin lignite coal seam. It has been encountered by two wells located in sections 2 and 36, at depths of 120 and 110 feet, respectively. The water is hard, slightly "alkaline", and of a brown colour. It is under pressure and rises to a level 65 feet below the surface, but the supply is not abundant.

This horizon does not appear to be continuous throughout the township, as other wells have been drilled much deeper without encountering water at this level.

A second horizon has been tapped by three wells in the northeastern corner of the township, and by one well in section 17. This horizon is formed by a fine sand bed and occurs at depths of 170 to 200 feet. In the northeastern part the water is hard and contains a considerable amount of iron, but that from the well in section 17 is soft, salty, and tastes of soda. In this latter well the water rises to the surface and often overflows. In the others, however, the water rises only to a level 80 feet below the surface. It is possible that the wells in the northeastern corner of the township are drawing their water from the Whitemud or Eastend formations, whereas the well in section 17 gets its supply from the Ravenscrag formation. Water should be obtained at this depth in other localities.

The third horizon is encountered at depths of 225, 280, and 240 feet, by three wells located in sections 1, 21, and 24. It is formed by a bed of blue sand in the Ravenscrag formation. The water is abundant in quantity, and is soft, often salty, and tastes of soda. The hydrostatic pressure is sufficient to cause the water to flow in the well in section 21, and to rise to a level 20 feet below the surface in the other wells. This horizon will doubtless occur in other sections of the township, and should supply water suitable and sufficient for stock.

Township 6, Range 13

The surface of this township is undulating and, except where it is cut by the valleys of Souris river and Roughbark creek, is quite flat. With the exception of two small areas in the northeastern and northwestern corners, which are mantled by glacial lake clays, the township is covered by glacial till or boulder clay. In the northeastern part, along Souris river and Roughbark creek,

this drift mantle has been modified by run-off waters, the finer material having been washed away and the coarser material exposed on the surface. The thickness of the drift mantle is not definitely known, but it is thought to approximate 100 feet in the southern part, and only a few feet in the northern part, as bedrock outcrops along the valley of Souris river. This bedrock is either the lower part of the Ravenscrag formation, or the Whitemud or Eastend formations that immediately underlie the Ravenscrag.

Two water-bearing horizons are thought to occur in the deposits of glacial drift. The most general horizon is formed by pockets of sand and gravel that are sparsely scattered through the upper 30 to 40 feet of the drift. This horizon is not continuous and only a very few wells have located water-bearing sand or gravel pockets. This type of well yields only a small supply of water, sufficient for household requirements and a few head of stock. They are entirely dependant upon precipitation for their replenishment, and during the drought period become dry or nearly so. These pockets may be located by systematic testing with a small auger. The water, however, will be satisfactory for household and stock purposes.

The second horizon is encountered by two wells located in sections 6 and 7. This horizon is formed by deposits of sand and gravel that occur in the blue clay at depths of approximately 30 feet. With the exception of the two sections mentioned above, this aquifer has not been encountered elsewhere in the township, so its areal distribution is not known. It yields a supply of hard "alkaline" water that is suitable and sufficient for 60 to 75 head of stock. This type of well is not so easily affected by drought conditions as those in which the sand and gravel deposits overlie the blue clay.

A well located in section 36 is thought to be deriving its supply from the bedrock, which is possibly the Whitemud formation. This well is 50 feet in depth, but its yield is small.

The water is hard and salty. In section 22, a well 60 feet deep tapped the bedrock, but failed to encounter water. In sections 1, an abundant supply of hard "alkaline" water, containing iron, is being derived from sand and gravel at a depth of 93 feet. This water is under pressure and rises to a level 10 feet below the surface. It is possible that this horizon may be in the upper part of the bedrock, or at the contact of the bedrock and the drift. As the Ravenscrag, and underlying Whitemud and Eastend formations, if present, are quite thin in this township, an abundant supply of water is not to be expected from them. It is thought, however, that a more permanent and abundant supply can be obtained from the bedrock than from the drift.

Township 6, Range 14

With the exception of small areas in the northeastern and northwestern corners that are mantled by glacial lake clays and flood-plain deposits, the township is covered by glacial till or boulder clay. The lake clays and flood-plain deposits are very thin, glacial till being encountered a few feet below the surface. The thickness of the drift mantle is not known as there are few deep wells but it is thought to be approximately 100 feet or more. Except where the valley of Roughbark creek occurs, the surface of the township is gently undulating and relatively flat.

Two water-bearing horizons occur in the glacial drift. The uppermost is formed by deposits of sand and gravel that occur within the yellow clay at depths up to 30 feet, and within the upper part of the blue clay at an approximate depth of 40 feet. These deposits occur as scattered pockets and the horizon is not continuous. It is not uncommon to find dry holes in the vicinity of producing wells. Those wells that tap the water-bearing sands and gravels within the yellow clay are rarely over 20 feet in depth, and are dependant upon rainfall for their supply. During the years of 1930 to 1934 these wells yielded only sufficient water for

domestic purposes and a few head of stock. In years of normal rainfall, however, the supply is sufficient for local needs. The water is hard and usually "non-alkaline", and is satisfactory for all uses. The wells that have tapped the water-bearing sands within the upper part of the blue clay yield a more abundant supply and are less affected by drought conditions. The water is quite "alkaline" and is used for stock only. Before digging a well it would be advisable to locate one of these water-bearing pockets with a small test auger.

Two wells in section 3 have encountered a second water-bearing horizon at or near the base of the glacial drift, at depths of 65 and 120 feet. The water is abundant, hard and "alkaline", and is not used for drinking. The hydrostatic pressure is sufficient to cause the water to rise to a point 15 to 35 feet below the surface. This horizon is apparently not continuous, as a dry hole was sunk to a depth of 70 feet in section 19. It may be encountered at other localities, however, but if it is not present, the well should be continued into the underlying bedrock.

No wells have tapped the bedrock in this township, but wells to bedrock should yield a permanent and fairly abundant supply.

Township 6, Range 15

This township is mantled by glacial till or boulder clay. A small amount of Recent alluvium occurs in the valley of Roughbark creek. The surface is undulating and slopes gently towards the northeast.

All of the wells in this township derive their water from the uppermost 35 feet of the drift. The aquifer is formed by pockets and layers of sand and gravel that occur within the yellow clay, or at the contact of the yellow and blue clays. In two wells in section 12 the sand occurs within the upper part of the blue clay. The majority of these wells yield a supply of hard, usable water that is sufficient for household purposes and for 10 to 15 head of

stock. A few, however, yield a supply that is sufficient for 40 to 90 head of stock. When the aquifer is overlain by blue clay the water is usually too "alkaline" for drinking. This horizon is not continuous; many of the holes dug prove to be dry.

It is not known if other aquifers exist in the glacial deposits and underlying bedrock formations, as no well has been sunk to a depth greater than 50 feet. It is more than likely that a more permanent and abundant supply of water could be obtained at depths ranging from 100 to 200 feet. Should water be obtained from these depths it will be under hydrostatic pressure and the wells would be non-flowing artesian in character. It is possible that flowing artesian wells might occur in the south-western part of the township.

STATISTICAL SUMMARY OF WELL INFORMATION IN RURAL MUNICIPALITY OF LOMOND, NO. 37, SASKATCHEWAN.

Township	4	4	4	5	5	5	6	6	6	Total No. in Municipality
West of 2nd mer. Range	13	14	15	13	14	15	13	14	15	
Total No. of Wells in Township	73	70	49	47	82	47	41	87	68	564
No. of wells in bedrock	5	16	7	1	8	8	3	0	0	48
No. of wells in glacial drift	68	54	42	46	74	39	36	87	68	514
No. of wells in alluvium	0	0	0	0	0	0	2	0	0	2
Permanency of Water Supply										
No. with permanent supply	49	43	37	32	51	25	34	50	44	365
No. with intermittent supply	7	13	3	8	10	4	4	15	4	68
No. dry holes	17	14	9	7	21	18	3	22	20	131
Types of Wells										
No. of flowing artesian wells	0	0	2	0	0	2	0	0	0	4
No. of non-flowing artesian wells	8	18	4	0	12	7	1	4	0	54
No. of non-artesian wells	48	38	34	40	49	20	37	61	48	375
Quality of Water										
No. with hard water	51	43	35	36	53	24	33	58	42	375
No. with soft water	5	13	5	4	8	5	5	7	6	58
No. with salty water	3	3	5	0	2	2	1	0	0	16
No. with "alkaline" water	20	11	11	10	25	11	17	21	25	151
Depths of Wells										
No. from 0 to 50 feet deep	55	45	41	46	59	32	39	81	67	465
No. from 51 to 100 feet deep	12	12	2	0	9	6	2	5	1	49
No. from 101 to 150 feet deep	1	3	0	0	5	2	0	1	0	12
No. from 151 to 200 feet deep	1	5	1	1	3	4	0	0	0	15
No. from 201 to 500 feet deep	4	5	4	0	5	3	0	0	0	21
No. from 501 to 1,000 feet deep	0	0	0	0	1	0	0	0	0	1
No. over 1,000 feet deep	0	0	1	0	0	0	0	0	0	1
How the Water is Used										
No. usable for domestic purposes	34	32	26	35	40	23	23	40	33	286
No. not usable for domestic purposes	22	24	14	5	21	6	15	25	15	147
No. usable for stock	47	50	40	40	53	29	30	63	40	392
No. not usable for stock	9	6	0	0	8	0	8	2	8	41
Sufficiency of Water Supply										
No. sufficient for domestic needs	56	53	40	40	60	29	37	65	47	427
No. insufficient for domestic needs	0	3	0	0	1	0	1	0	1	6
No. sufficient for stock needs	37	34	25	19	30	12	27	40	29	253
No. insufficient for stock needs	19	22	15	21	31	17	11	25	19	180

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. The results of the analyses are given in parts per million--that is, parts by weight of the constituents in 1,000,000 parts 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 rocks and soils, but mostly 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 tea-kettles 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.

Sulphates

Sulphates (SO_4) are one of the common constituents of natural water. The sulphate salts most commonly found are sodium sulphate, magnesium sulphate, and calcium sulphate ($CaSO_4$). When the water contains large quantities of the sulphate of sodium it is injurious to vegetation.

Chlorides

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

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 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 has 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 mainly to the bicarbonates of calcium and magnesium and iron, and permanent harness 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. Water that has a total hardness of 300 parts per million or more is usually classed as excessively hard. Many of the Saskatchewan water samples 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. As the determinations of the soap hardness in some cases were made after the samples had been stored for some time, the temporary hardness of some of the waters as they come from the wells probably is higher than that given in the table of analyses.

Analyses of Water Samples from the Municipality of Lomond, No. 37, Saskatchewan

LOCATION						Depth of Well, Ft.	Total dis'vd solids	HARDNESS			CONSTITUENTS AS ANALYSED						CONSTITUENTS AS CALCULATED IN ASSUMED COMBINATIONS								Source of Water
No.	Qtr.	Sec.	Tp.	Rge.	Mer.			Total	Perm.	Temp.	Cl.	Alkalinity	CaO	MgO	SO_4	Na_2O	Solids	$CaCO_3$	$CaSO_4$	$MgCO_3$	$MgSO_4$	Na_2CO_3	Na_2SO_4	NaCl	
1	NW.	18	4	15	2	434	2,840	35	Not det.		1,340	625	30	11		1,510	2,865	54		23		577		2,211	*2

Water samples indicated thus, *2, are from bedrock Ravenscrag formation.
Analyses are reported in parts per million,
Hardness is the soap hardness expressed as calcium carbonate ($CaCO_3$).
For interpretation of this table read the section on Analyses and Quality of Water.

Water from the Unconsolidated Deposits

No samples of water from the unconsolidated deposits in the municipality of Lomond were taken for analyses. The water from the Recent stream gravels is hard, and suitable for all farm purposes. The waters that are derived from the glacial drift vary greatly in quality. That which is derived from the outwash sands and gravels is of the best quality, being lower in total dissolved solids. As the aquifer formed by these deposits is not covered by an impervious layer of clay, care should be taken that the wells are not contaminated by surface run-off waters. The water that is obtained from the sand and gravel pockets contains more mineral salts in solution and is very hard. The sulphates of sodium and magnesium are probably the predominant salts in solution since most of the waters from these wells are termed "alkaline" by the farmers. Unless the total dissolved solid content is very high the water is usable for stock. In the majority of cases it is unsuitable for drinking as it acts as a laxative. The water that is derived from the base of the drift is of the same quality, and contains a large amount of salts in solution. Iron is reported to be abundant in some of these waters. Much of the iron can be removed by aeration and filtration. Water from the base of the drift will doubtless prove to be undesirable for drinking, but will be usable for stock.

Water from the Bedrock

One sample of water, obtained from a depth of 434 feet in the Ravenscrag formation, was analysed and the results are listed in the accompanying table. This sample is representative of the type of water that may be expected from this depth. It has a total dissolved solid content of 2,840 parts per million, 2,211 parts of which are composed of NaCl or common salt. Sodium carbonate or "black alkali" is second in abundance, with 577 parts per million. The water is very soft although it is highly mineralized. It is usable for stock, but its high salt content makes it unsuitable for

drinking. It is not usable for irrigation. Water that is obtained from shallower depths in the bedrock will probably have as large a total dissolved solid content, but may be harder.

WELL RECORDS—Rural Municipality of LOMOND NO. 37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
1	NW.	2	4	13	2	Drilled	350	1,945	- 75	1,870	350	1,595	Ravenscrag sand	Soft, soda	48	D, S, I	Waters 35 head stock; also 2 shallow wells.
2	SE.	2	"	"	"	Drilled	164	1,945	-118	1,827	161	1,784	Ravenscrag coal	Soft, sada, brown	44	D, S	Waters only 6 head stock; also 3 shallow wells.
3	SE.	3	"	"	"	Drilled	430	1,956	- 30	1,926	430	1,526	Ravenscrag sand	Soft, salty, soda	49	D, S	Waters 50 head stock; shallow wells too "alkaline" for use.
4	NE.	4	"	"	"	Bored	45	1,954	- 25	1,929	43	1,911	Glacial sand	Hard, clear	45	D, S	Waters 10 head stock; some dry holes.
5	NE.	6	"	"	"	Drilled	103	1,975	- 70	1,905	103	1,872	Glacial sand	Hard, "alkaline" brownish		S	Very small supply.
6	NE.	6	"	"	"	Bored	70	1,975					Glacial drift				Two dry holes.
7	NE.	6	"	"	"	Dug	20	1,975	- 8	1,967	18	1,957	Glacial gravel	Hard, brown, bitter		N	Too "alkaline" for use.
8	NW.	12	"	"	"	Drilled	460	1,940	-100	1,840	453	1,487	Ravenscrag gravel	Soft, salty, clear	49	S	Abundant supply.
9	NW.	12	"	"	"	Bored	80	1,940	- 60	1,820			Glacial clay	Hard, black, "alkaline"		N	Seldom used.
10	NE.	12	"	"	"	Dug	20	1,930	- 8	1,922	15	1,915	Glacial sand	Soft, clear	42	D, S	Sufficient for 3 head stock; uses 4 similar wells.
11	SE.	14	"	"	"	Bored	65	1,946	- 58	1,888	60	1,886	Glacial sand	Hard, clear	45	D, S	3 pails a day.
12	NE.	19	"	"	"	Bored	70	1,955	- 15	1,940	67	1,888	Glacial sand	Hard, clear, "alkaline"	45	D, S	Abundant supply.
13	NE.	20	"	"	"	Bored	72	1,950	- 32	1,918	70	1,880	Glacial sand	Hard, clear, "alkaline"		S	Waters 55 head stock.
14	SW.	21	"	"	"	Dug	16	1,940	- 4	1,936	3	1,937	Glacial gravel	Hard, clear	42	D, S, I	Waters 20 head stock.
15	SW.	21	"	"	"	Bored	75	1,940					Glacial clay and gravel				Dry hole; 4 dry holes 20 to 50 feet in depth.
16	NW.	21	"	"	"	Bored	80	1,948	- 30	1,918	79	1,869	Glacial gravel	Hard, clear, "alkaline"		S	Abundant supply; several dry holes.
17	SW.	24	"	"	"	Dug	25	1,930	- 20	1,910	24	1,906	Glacial clay	Hard, clear	43	D, S	House use and 3 head stock only; 1 similar well.
18	SW.	25	"	"	"	Dug	18	1,905	- 13	1,892	12	1,893	Glacial sand	Hard, clear	42	D, S	4 barrels a day.
19	NE.	28	"	"	"	Bored	75	1,940	- 25	1,915	73	1,867	Glacial sand	Hard, clear, "alkaline"	43	S	Very poor supply.
20	SW.	30	"	"	"	Drilled	386	1,965	- 60	1,905	384	1,581	Ravenscrag sand	Soft, salty, soda	48	S	Abundant supply; shallow well for house.
21	NE.	30	"	"	"	Dug	20	1,948	- 15	1,933	18	1,930	Glacial sand	Hard, clear	43	D, S, I	Waters 10 head stock; 3 dry holes.
22	NW.	32	"	"	"	Dug	37	1,941	- 31	1,910	32	1,909	Glacial sand	Hard, clear		D, I	Sufficient for house use; 1 similar well.
23	SE.	32	"	"	"	Bored	45	1,955	- 16	1,939	44	1,911	Glacial sand	Hard, clear	45	S	Waters 15 head stock; 18 foot well for house.
24	NE.	33	"	"	"	Dug	20	1,940	- 15	1,925	18	1,922	Glacial sand	Hard, clear	42	D, S, I	Waters 10 head stock.
25	SW.	34	"	"	"	Dug	14	1,920					Glacial sand	Hard, clear	44	D, S	Seepage from slough; use spring in winter.
26	NW.	36	"	"	"	Dug	9	1,894	- 4	1,890	8	1,886	Glacial sand	Hard, clear, "alkaline"	44	D, S, I	Waters 20 head stock; 1 similar well.

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 LOMOND NO.37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
27	NE.	36	4	13	2	Dug	8	1,890	- 3	1,887	8	1,882	Glacial sand	Soft, clear	42	D, S, I	Waters 15 head stock.
28	SE.	36	"	"	"	Dug	20	1,892					Glacial clay	Hard, "alkaline"		S	Small supply.
1	SE.	3	4	14	2	Bored	69	1,969	- 18	1,951	66	1,903	Glacial sand	Hard, salty, "alkaline"	46	D, S	Waters 12 head stock.
2	NE.	4	"	"	"	Drilled	175	1,985	- 5	1,980	174	1,811	Ravenscrag coal	Soft, brown	47	S, I	Waters 35 head stock; 60 foot glacial well for house.
3	SW.	4	"	"	"	Dug	30	1,985	- 13	1,972	30	1,955	Glacial gravel	Hard, clear, "alkaline"	44	S	Insufficient supply.
4	NW.	4	"	"	"	Dug	20	1,985	- 4	1,981	17	1,968	Glacial sand	Hard, clear, "alkaline"	43	S	Insufficient supply.
5	SW.	5	"	"	"	Dug	32	1,994	- 12	1,982	24	1,970	Glacial sand	Hard, clear	46	D	Poor supply.
6	SW.	7	"	"	"	Drilled	87	1,992	- 14	1,978	86	1,906	Ravenscrag coal and gravel	Soft, brown	45	S	Abundant supply; also 94 foot bedrock well, poor water.
7	NE.	8	"	"	"	Dug	31	1,980	- 26	1,954	30	1,950	Glacial gravel	Hard, clear		D, S	Waters only 5 head stock 10 dry holes.
8	NE.	9	"	"	"	Bored	72	1,978	- 40	1,938	61	1,917	Glacial clay	Hard, clear, "alkaline"	45	S	Laxative; waters 40 head stock; 26 foot well for house.
9	SW.	10	"	"	"	Dug	26	1,970	- 6	1,964	11	1,959	Glacial sand	Soft, clear	49	D, S	Seepage from dugout; 65 foot and 75 foot dry holes in clay.
10	SW.	13	"	"	"	Dug	12	1,970	- 8	1,962	8	1,962	Glacial sand	Hard, clear		D, S	Waters 18 head stock; 1 other shallow well.
11	SE.	13	"	"	"	Drilled	200	1,970	- 20	1,950	196	1,774	Ravenscrag sand	Soft, soda	45	S, I	Waters 50 head stock; 16 foot well for house.
12	NW.	14	"	"	"	Drilled	86	1,970	- 18	1,952	64	1,906	Ravenscrag sand	Soft, soda		S	Waters 20 head stock; 1 other shallow well.
13	SE.	15	"	"	"	Drilled	301	1,970	- 18	1,952	287	1,683	Ravenscrag sand	Soft, soda	45	S, I	Waters 100 head stock; 1 shallow glacial well.
14	SE.	17	"	"	"	Dug	17	1,983	- 6	1,977	17	1,966	Glacial sand	Hard, clear	43	D, S	1 barrel a day.
15	NE.	17	"	"	"	Dug	10	1,894	- 3	1,891	3	1,891	Glacial sand	Hard, clear		D	Caved in, not used.
16	NW.	20	"	"	"	Dug	26	1,970	- 21	1,949	5	1,965	Glacial gravel	Hard, clear		D, S	Filled in; several dry holes.
17	NW.	22	"	"	"	Bored	40	1,965	- 10	1,955	30	1,935	Glacial sand	Hard, clear, "alkaline"	43	D, S	Waters 20 head stock.
18	SW.	24	"	"	"	Drilled	276	1,964	- 60	1,904	273	1,691	Ravenscrag sand	Soft, clear		S	30 foot well for house use; abundant supply.
19	NW.	25	"	"	"	Dug	28	1,955	- 12	1,943	26	1,929	Glacial sand	Hard, clear	45	D, S	Waters 20 head stock.
20	SW.	25	"	"	"	Drilled	85	1,962			80	1,882	Glacial sand	Hard, salty		D, S	Waters 35 head stock; 1 "alkaline" well.
21	NE.	25	"	"	"	Drilled	170	1,959	- 50	1,909	165	1,794	Ravenscrag sand	Soft, soda	44	S	Good supply, but plugs with sand.
22	SE.	27	"	"	"	Dug	30	1,970	- 15	1,955	23	1,949	Glacial sand	Hard, clear		D, S, I	Waters 12 head stock.
23	SE.	28	"	"	"	Drilled	165	1,970	- 20	1,950	161	1,809	Ravenscrag sand	Soft, soda brown	45	D, S	Waters 70 head stock; some dry holes.
24	SE.	32	"	"	"	Drilled	130	1,965	- 15	1,950	130	1,835	Ravenscrag sand	Hard, soda		S	Plugged with sand; 14 foot dry hole.
25	NW.	32	"	"	"	Drilled	250	1,990	- 15	1,975	247	1,743	Ravenscrag sandstone	Soft, soda		S	Waters 75 head stock; 25 foot well for house.

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 LOMOND NO.37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
26	NE.	32	4	14	2	Drilled	252	1,983	- 30	1,953	249	1,734	Ravenscrag sand	Soft, soda	43	S	Waters 40 head stock; 2 shallow wells for house.
27	SW.	33	"	"	"	Dug	16	1,963	- 12	1,951	10	1,953	Glacial sand	Hard, clear	43	S	Waters 50 head stock; shallow well for house.
28	NE.	34	"	"	"	Drilled	260	1,964	- 35	1,929	256	1,708	Ravenscrag sand	Soft, salty, brown	47	S	Waters 50 head stock; shallow well for house.
29	SW.	34	"	"	"	Drilled	180	1,975	- 30	1,945	179	1,796	Ravenscrag coal, sand	Hard, brown	44	S	Waters 15 head stock; shallow well for house, 2 drilled wells abandoned.
1	SE.	1	4	15	2	Dug	35	2,003	- 6	1,997	35	1,968	Glacial gravel	Hard, clear, "alkaline"	44	S	Waters 25 head stock, 1 well for house.
2	NW.	2	"	"	"	Dug	32	2,021	- 27	1,994	30	1,991	Glacial gravel	Hard, clear, "alkaline"	46	D, S	Waters 25 head stock; similar well at school.
3	SE.	3	"	"	"	Dug	18	1,997	- 15	1,982	14	1,983	Glacial sand	Hard, clear	46	D, S	Waters only 8 head stock; 30 foot well not used.
4		4	"	"	"	Dug	10	2,012	- 6	2,006	10	2,002	Glacial gravel	Hard, clear, "alkaline"		D	House supply only.
5	SE.	5	"	"	"	Dug	35	2,061	- 21	2,040	33	2,028	Glacial gravel	Hard, clear, "alkaline"	44	S	Sufficient supply; use 3 springs for stock also.
6	NW.	5	"	"	"	Dug	32	2,098	- 26	2,072	25	2,073	Glacial clay	Hard, clear, "alkaline"	43	D, S	Waters 15 head stock.
7	NE.	5	"	"	"	Bored	40	2,034	- 28	2,006			Glacial drift	Hard, clear, "alkaline"	44	S	Waters 12 head stock; very "alkaline"; also uses a spring.
8	SE.	6	"	"	"	Dug	10	2,189	- 7	2,182	7	2,182	Glacial sand	Hard, clear	43	D, S	Waters 20 head stock; another 10 foot well nearly dry.
9	NE.	6	"	"	"	Dug	35	2,098	- 20	2,078	20	2,078	Glacial sand	Hard, clear, "alkaline"	42	D, S	Abundant supply; 50 foot dry hole.
10	NE.	9	"	"	"	Dug	13	2,015	- 7	2,008	12	2,003	Glacial sand	Hard, clear	46	D, S	Waters 20 head stock.
11	SW.	10	"	"	"	Dug	10	2,019	- 3	2,016	10	2,009	Glacial sand	Hard, clear	46	S	Waters 48 head stock; 25 foot well for house.
12	NE.	16	"	"	"	Dug	12	2,007	- 6	2,001	9	1,998	Glacial gravel	Hard, clear	44	S	Abundant supply; also one sandpoint well.
13	SE.	17	"	"	"	Dug	16	2,020	- 12	2,008	14	2,006	Glacial sand	Hard, clear, "alkaline"	45	D, S	Waters 8 head stock.
14	NW.	17	"	"	"	Dug	20	2,048	- 15	2,033	20	2,028	Glacial sand	Hard, clear		D, S	Abundant supply; also use 2 sandpoints.
15	SW.	18	"	"	"	Bored	25	2,098	- 20	2,078	17	2,081	Sandy clay	Hard, bitter "alkaline"		S	Very small supply; several dry holes.
16	NE.	18	"	"	"	Bored	62	2,062			62	2,000	Ravenscrag	Soft, salty, clear		D, S	Poor supply.
17	NW.	18	"	"	"	Drilled	434	2,048	+ 30	2,078	430	1,618	Ravenscrag	Soft, salty, clear		D, S	Gas flow; abundant supply. #
18	NW.	19	"	"	"	Dug	12	2,004	- 11	1,993	11	1,993	Glacial sand	Hard, clear,	50	S	Waters 60 head stock; 16 foot well for house.
19	NE.	19	"	"	"	Sand-point	12	2,002			11	1,991	Glacial sand	Hard, clear		S	Waters 25 head stock.
20	SW.	20	"	"	"	Sand-point	14	2,007	- 8	1,999	8	1,999	Glacial gravel	Hard, clear	46	D	2 similar wells water 60 head stock.
21	NW.	21	"	"	"	Drilled	1150	2,006	+ 6	2,012	385	1,621	Ravenscrag	Soft, soda, salty		S	Abundant supply; drilled deeper for oil.
22	NE.	24	"	"	"	Dug	25	1,996	- 12	1,984	25	1,971	Glacial sand	Hard, clear		D	House use only; several dry holes.
23	NE.	24	"	"	"	Drilled	400	1,990			250	1,740	Ravenscrag sand	Soft, soda		N	Plugged with sand.

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(#) Sample taken for analysis.

WELL RECORDS—Rural Municipality of LOMOND NO.37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
24	NE.	25	4	15	2	Dug	18	1,987	- 14	1,973	18	1,969	Glacial gravel	Hard, clear	44	D, S	Waters only 4 head stock; 12 foot dry hole.
25	SW.	34	"	"	"	Drilled	292	2,000	- 12	1,988	292	1,708	Ravenscrag sand	Soft, soda, salty	46	D, S	Abundant supply.
26	NW.	36	"	"	"	Bored	30	2,027	- 14	2,013	28	1,999	Glacial sand	Hard, clear	43	D	House supply only.
27	NW.	36	"	"	"	Drilled	240	2,025			240	1,785	Ravenscrag sand			N	Plugs with sand.
28	NW.	36	"	"	"	Bored	85	2,027					Glacial clay				Dry hole.
29	NE.	36	"	"	"	Drilled	154	1,995	- 20	1,975	134	1,861	Ravenscrag sand?	Hard, "alkaline"	48	S	Waters 50 head stock; 16 foot dry hole.
1	NW.	1	5	13	2	Dug	14	1,881	- 7	1,874	7	1,874	Glacial sand	Hard, clear	47	D, S	Waters 10 head stock only.
2	NE.	3	"	"	"	Dug	12	1,902	- 11	1,891	11	1,891	Glacial sand	Hard, clear	48	D	House supply only.
3	NE.	3	"	"	"	Dug	15	1,902	- 8	1,894	8	1,894	Glacial sand	Hard, clear		S	Waters 15 head stock.
4	NW.	4	"	"	"	Dug	16	1,926	- 14	1,912	14	1,912	Glacial sand	Hard, clear, "alkaline"	46	D	House supply only; 30 foot well yields 1 barrel a day.
5	SW.	6	"	"	"	Dug	15	1,950			14	1,936	Glacial sand	Hard, clear		D, S	House and 9 head stock.
6	NW.	6	"	"	"	Dug	50	1,955	- 25	1,930	50	1,905	Glacial sand	Hard, clear	46	D, S	Sufficient for only 12 head stock; drilled well on SE. 6 in bedrock, no information.
7	SW.	7	"	"	"	Dug	20	1,940	- 14	1,926	20	1,920	Glacial gravel	Hard, clear, "alkaline"		D, S	Abundant supply; 25 foot well for house.
8	SE.	12	"	"	"	Dug	26	1,867	- 24	1,843	24	1,843	Glacial sand	Hard, clear	46	D, S	Waters only 4 head stock.
9	SW.	12	"	"	"	Dug	16	1,887	- 9	1,878	9	1,878	Glacial sand	Hard, clear	44	D, S	Waters 30 head stock; several dry holes.
10	NW.	12	"	"	"	Dug	24	1,871	- 11	1,860	21	1,851	Glacial sand	Hard, clear	46	D, S	Waters 18 head stock.
11	NW.	14	"	"	"	Dug	14	1,848	- 12	1,836	12	1,836	Glacial sand	Soft, clear		D	House supply only.
12	NE.	14	"	"	"	Dug	12	1,829	- 8	1,821	8	1,821	Glacial sand	Hard, clear		D	House use only; 45 foot dry hole.
13	NW.	16	"	"	"	Bored	42	1,902	- 12	1,890	42	1,860	Glacial sand	Hard, clear	45	D, S	Waters 40 head stock.
14	NE.	18	"	"	"	Dug	19	1,930	- 15	1,915	16	1,914	Glacial gravel	Hard, clear, "alkaline"	46	S	Waters 6 head stock; 30 foot well for house.
15	SE.	20	"	"	"	Dug	20	1,902	- 16	1,886	14	1,888	Glacial gravel	Hard, clear	46	D, S	Waters 70 head stock.
16	SW.	20	"	"	"	Dug	15	1,910	- 5	1,905	10	1,900	Glacial sand	Hard, clear	47	D, S	Waters 20 head stock; several dry holes.
17	NE.	20	"	"	"	Dug	8	1,890	- 4	1,886	4	1,886	Glacial gravel	Hard, clear	48	D, S	Abundant supply; also uses 3 sand-points.
18	SW.	21	"	"	"	Dug	16	1,896	- 8	1,888	12	1,884	Glacial gravel	Hard, clear	46	D, S, M	Many similar wells in town of Goodwater.
19	SW.	22	"	"	"	Dug	11	1,885	- 10	1,875	10	1,875	Glacial sand	Hard, clear		D	House use only.
20	NE.	25	"	"	"	Dug	22	1,909	- 18	1,891	18	1,891	Glacial sand	Hard, clear	46	D, S	Waters 10 head stock.
21	SW.	27	"	"	"	Dug	35	1,875	- 17	1,858	20	1,855	Glacial gravel	Hard, clear		D, S	5 to 6 barrels of water; 30 foot well for cattle.

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.

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WELL RECORDS—Rural Municipality of LOMOND NO. 37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE: Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED: Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
22	SW.	28	5	13	2	Dug	26	1,900	- 23	1,877	25	1,875	Glacial sand	Hard, clear	43	S	1 barrel a day; 1 similar well.
23	SE.	30	"	"	"	Dug	15	1,918	- 11	1,907	11	1,907	Glacial gravel	Soft, clear	44	D, S	Waters 200 head stock; 2 similar wells.
24	SW.	34	"	"	"	Dug	22	1,876	- 14	1,862	14	1,862	Glacial gravel	Hard, clear, "alkaline"	46	S	Sufficient for only 2 head stock; 15 foot well for house.
1	SE.	2	5	14	2	Dug	20	1,968					Glacial clay				Dry hole.
2	SW.	4	"	"	"	Drilled	120	1,982	- 40	1,942	120	1,862	Ravenscrag sand	Soft, soda, salty	48	S	Abundant supply; 22 foot well for house.
3	NE.	4	"	"	"	Drilled	190	1,965	- 11	1,954	170	1,795	Ravenscrag sand	Soft, soda, clear	48	S	Waters 40 head stock; 33 foot well for house.
4	SE.	6	"	"	"	Dug	20	1,998	- 3	1,985	20	1,978	Glacial sand	Hard, clear, "alkaline"		D, S	2 pails a day; 19 foot well for house.
5	SW.	6	"	"	"	Drilled	225	1,978	- 17	1,961	200	1,778	Ravenscrag sand	Soft, salty, soda	48	S	Abundant supply; 40 foot well for house.
6	SE.	8	"	"	"	Dug	25	1,970	- 18	1,952	15	1,955	Glacial sand	Hard, clear		N	Water unfit for use.
7	NW.	8	"	"	"	Dug	30	1,973	- 20	1,953	16	1,957	Glacial sand	Hard, clear		D	Very small supply; also a 12 foot well.
8	SW.	9	"	"	"	Dug	13	1,968	- 10	1,958	11	1,957	Glacial gravel	Hard, clear	43	D, S	Waters 12 head stock; several dry holes.
9	NE.	9	"	"	"	Dug	14	1,956	- 8	1,948	8	1,948	Glacial gravel	Soft, clear		D, S	Sufficient for 20 head stock only.
10	SW.	12	"	"	"	Bored	90	1,951	- 78	1,873	90	1,861	Glacial gravel	Hard, clear, "alkaline"		N	Caved in, used to water 12 horses; one well yields abundant supply of "alkaline" water.
11	SW.	13	"	"	"	Dug	30	1,962	- 28	1,934	28	1,934	Glacial sand	Hard, clear	45	D, S	Sufficient for 4 head stock only; 30 foot well, poor supply.
12	SE.	15	"	"	"	Dug	6	1,952	- 4	1,948	4	1,948	Glacial sand	Soft, clear		D, S	House use and 5 horses; 30 foot well, good supply.
13	NW.	15	"	"	"	Dug	52	1,976	- 32	1,944	50	1,926	Glacial sand	Hard, brown		D, S	Waters 15 head stock; also a 11 foot well good water.
14	SE.	16	"	"	"	Dug	14	1,991	- 8	1,983	8	1,983	Glacial sand	Hard, clear	46	S	Sufficient for only 2 horses.
15	NE.	16	"	"	"	Dug	20	1,964					Glacial clay				Many dry holes or water too "alkaline" for use.
16	NE.	16	"	"	"	Drilled	550	1,964					Bedrock				Dry hole.
17	NW.	17	"	"	"	Dug	20	1,986	- 12	1,974	17	1,969	Glacial sand	Hard, clear		D, S	Sufficient for only 4 head stock.
18	NW.	18	"	"	"	Drilled	260	1,999	- 35	1,964	245	1,754	Ravenscrag sand	Soft, salty, yellow	49	S	Abundant supply; also dry holes, 18 foot well for house.
19	SE.	20	"	"	"	Bored	40	1,978	- 28	1,950	40	1,938	Glacial sand	Hard, clear	46	D	House supply only; 40 foot well "alkaline" water.
20	NW.	20	"	"	"	Drilled	101	1,983	- 33	1,950	90	1,893	Glacial sand	Hard, clear, "alkaline"	48	S	Waters 35 head stock.
21	NW.	20	"	"	"	Dug	12	1,980	- 6	1,974	12	1,968	Glacial gravel	Hard, clear		D	Abundant supply.
22	NE.	20	"	"	"	Dug	13	1,972	- 8	1,964	8	1,964	Glacial sand	Hard, clear	45	D, S	Waters 25 head stock; 40 foot dry hole.
23	NE.	21	"	"	"	Bored	40	1,968	- 20	1,948	39	1,929	Glacial sand	Hard, clear, "alkaline"	45	D, S	Waters only 20 head stock.

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

WELL RECORDS—Rural Municipality of LOMOND NO. 37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
24	NW.	22	5	14	2	Dug	12	1,962	- 9	1,953	10	1,952	Glacial sand	Soft, clear		D, S	Waters 10 head stock.
25	NE.	24	"	"	"	Dug	8	1,926	- 4	1,922	6	1,920	Glacial sand	Hard, clear, "alkaline"	48	D, S	House supply and few head stock; 1 similar well.
26	SE.	25	"	"	"	Dug	17	1,919	- 10	1,909	17	1,902	Glacial gravel	Hard, clear	48	D, S	Waters 38 head stock; several similar wells not used.
27	SW.	25	"	"	"	Bored	48	1,939	- 20	1,919	48	1,891	Glacial sand	Hard, clear, "alkaline"		D, S	Waters 13 head stock; also 16 foot well.
28	SE.	30	"	"	"	Drilled	100	1,982	- 30	1,952	80	1,902	Glacial sand	Hard, red sediment		D, S	Abundant supply; 2 good shallow wells.
29	NE.	30	"	"	"	Drilled	200	1,979	-170	1,809	180	1,799	Ravenscrag sand	Hard, soda		D, S	Abundant supply; 2 good shallow wells.
30	NW.	31	"	"	"	Drilled	280	1,976	-165	1,811	280	1,696	Ravenscrag sand	Hard, red sediment		D, S	Abundant supply; several shallow "alkaline" wells.
31	SE.	32	"	"	"	Drilled	120	1,950	- 40	1,910	110	1,840	Glacial gravel	Hard, iron, sediment		S	Abundant supply when not plugged by sand.
32	SW.	32	"	"	"	Drilled	171	1,963	- 60	1,903	150	1,813	Glacial sand	Hard, iron, clear		S	Waters 20 head stock; 24 foot dry hole.
33	NW.	32	"	"	"	Dug	20	1,966	- 18	1,948	18	1,948	Glacial clay	Hard, clear, "alkaline"	44	D	House supply only; 12 foot dry hole.
34	NE.	33	"	"	"	Drilled	100	1,953	- 50	1,903	100	1,853	Glacial sand	Hard, clear		N	Abundant supply, but water is stagnant.
35	SE.	34	"	"	"	Dug	29	1,943	- 15	1,928	24	1,919	Glacial sand	Hard, clear, "alkaline"	46	S	Waters 15 head stock; laxative.
36	NW.	34	"	"	"	Drilled	156	1,944	- 20	1,924	150	1,794	Glacial sand	Hard, iron, clear	44	S	Waters 20 head stock; 25 foot well for house.
37	NW.	34	"	"	"	Drilled	300	1,944					Ravenscrag				Dry hole; 50 foot well for stock.
38	NW.	35	"	"	"	Bored	70	1,936			70	1,866	Glacial sand	Hard, clear, "alkaline"	46	S	Waters only 8 head stock; 40 foot well for house.
39	NE.	35	"	"	"	Dug	30	1,922	- 22	1,900	25	1,897	Glacial gravel	Hard, clear, "alkaline"		S	Waters 15 head stock; also 25 foot and 34 foot wells.
1	NE.	1	5	15	2	Drilled	225	1,999	- 20	1,979	225	1,774	Ravenscrag sand	Soft, soda, salty		S	Abundant supply.
2	NE.	2	"	"	"	Drilled	165	2,008	- 65	1,943	120	1,888	Ravenscrag sand	Hard, salty, "alkaline"		S	Sufficient for only 12 head stock; 60 foot well for house.
3	SE.	4	"	"	"	Dug	29	2,015	- 19	1,996	20	1,995	Glacial sand	Hard, clear		S	Small supply; use dugout and 2 other wells.
4	NW.	6	"	"	"	Dug	86	2,010					Glacial clay				Dry holes.
5	NE.	13	"	"	"	Dug	11	1,998	- 4	1,994	10	1,988	Glacial sand	Hard, clear		D,	House supply only; 8 foot well waters 100 head stock.
6	NE.	16	"	"	"	Dug	14	2,010	- 4	2,006	10	2,000	Glacial drift	Soft, clear	48	S	Poor supply.
7	SE.	17	"	"	"	Drilled	190	2,019	+ 10	2,029	190	1,829	Ravenscrag sand	Soft, soda, salty	48	D, S	Abundant supply.
8	SW.	21	"	"	"	Drilled	280	2,014	+ 1	2,015	280	1,734	Ravenscrag sand	Soft, soda, cloudy		D, S	Flows 1 pail an hour.
9	SW.	22	"	"	"	Dug	13	2,009	- 8	2,001	8	2,001	Glacial clay	Hard, clear	46	D	House supply only; uses dugout.
10	SE.	24	"	"	"	Dug	24	1,994	- 6	1,988	16	1,978	Glacial gravel	Hard, clear, "alkaline"	45	D, S, M	Many wells in town of Colgate; all give small supply.

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 LOMOND NO.37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE: Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED: Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
11	NE.	24	5	11	2	Drilled	240	1,999	- 20	1,979	240	1,759	Ravenscrag sand	Hard, iron		S	Abundant supply, but plugged.
12	NE.	24	"	"	"	Drilled	170	1,999	- 20	1,979	150	1,849	Ravenscrag sand	Hard, iron clear		S	Waters 100 head stock.
13	SE.	26	"	"	"	Drilled	180	2,001	- 30	1,981	180	1,821	Ravenscrag sand	Hard, clear, "alkaline"		D, S	Waters 42 head stock.
14	SW.	32	"	"	"	Dug	8-60	2,032					Glacial clay				Dry holes.
15	NE.	32	"	"	"	Dug	20	2,022	- 15	2,007	15	2,007	Glacial gravel	Hard, clear	48	D	House supply only; several dry holes.
16	NW.	35	"	"	"	Dug	26	2,025	- 6	2,019	10	2,015	Glacial sand	Hard, clear, "alkaline"	42	D	House supply only; also a 12 foot well.
17	SE.	36	"	"	"	Drilled	200	1,995	- 80	1,915	200	1,795	Ravenscrag sand	Hard, iron, sediment		D, S	Waters 40 head stock.
18	SW.	36	"	"	"	Drilled	110	1,988	- 30	1,958	107	1,881	Glacial sand	Hard, iron	46	D, S	Waters 100 head stock.
19	NW.	36	"	"	"	Dug	12	1,981	- 5	1,976	11	1,970	Glacial clay	Soft, clear		D	House supply only; 23 foot well in clay, waters 25 head stock.
1	NE.	1	6	13	2	Drilled	95	1,880	- 10	1,870	90	1,790	Glacial gravel	Hard, iron, "alkaline"		S	Waters 25 head stock; 24 foot well for house.
2	SW.	4	"	"	"	Dug	23	1,908	- 18	1,890	19	1,889	Glacial sand	Hard, iron, clear		D, S	Waters 18 head stock; also 33 foot well, small supply.
3	SW.	5	"	"	"	Dug	21	1,903	- 17	1,886	19	1,884	Glacial sand	Hard, clear, iron		D, S	Waters 14 head stock.
4	NE.	6	"	"	"	Dug	26	1,924	- 10	1,914	26	1,898	Glacial gravel	Hard, clear, iron	44	D, S	Waters 75 head stock; 19 foot well "alkaline".
5	NW.	7	"	"	"	Dug	26	1,926	- 20	1,906	20	1,906	Glacial gravel	Hard, iron, "alkaline"	44	D, S	Waters 60 head stock; 15 foot well not used.
6	NE.	8	"	"	"	Dug	35	1,918	- 29	1,889	29	1,889	Glacial sand	Hard, clear		D, S	Waters only 6 head stock; 35 foot well waters 18 head stock.
7	SW.	9	"	"	"	Dug	24	1,896	- 10	1,886	24	1,872	Glacial sand	Hard, clear, "alkaline"		S	Waters 20 head stock only; 2 other wells, small supply.
8	SW.	14	"	"	"	Dug	12	1,866	- 10	1,856	10	1,856	Glacial sand	Hard, clear		D, S	Waters 20 head stock.
9	SW.	18	"	"	"	Dug	21	1,901	- 11	1,890	10	1,891	Glacial sand	Hard, clear, "alkaline"		S	Waters 18 head stock; 2 similar wells.
10	SW.	20	"	"	"	Dug	23	1,878	- 16	1,862	22	1,856	Glacial sand	Hard, clear, "alkaline"	42	S	Waters 25 head stock; 19 foot well for house.
11	NE.	22	"	"	"	Bored	60	1,858					Shale				Dry hole; 2 shallow wells hit coal, no supply.
12	SE.	24	"	"	"	Dug	12	1,846	- 8	1,838	8	1,838	Glacial gravel	Hard, clear	48	D, S	Waters 20 head stock.
13	NW.	25	"	"	"	Dug	35	1,883	- 34	1,849	34	1,849	Glacial drift	Hard, "alkaline"		N	Practically dry.
14	SW.	28	"	"	"	Dug	10	1,838	- 6	1,832	6	1,832	River gravel	Soft, clear		D, S	Waters 18 head stock; 1 similar well.
15	SW.	30	"	"	"	Bored	47	1,881	- 44	1,837	35	1,846	Glacial sand	Hard, clear		D	Several wells too "alkaline" for use; house supply only.
16	NW.	30	"	"	"	Dug	12	1,897	- 8	1,889	8	1,889	Glacial sand	Hard, clear		D	House supply only; uses creek and spring for stock.
17	NW.	31	"	"	"	Dug	21	1,876	- 15	1,861	17	1,859	Glacial sand	Hard, clear		D, S	Waters 18 head stock; similar 21 foot well.
18	SW.	32	"	"	"	Dug	28	1,868	- 20	1,848	28	1,840	Glacial sand	Hard, clear "alkaline"		D, S	Waters 22 head stock.

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

WELL RECORDS—Rural Municipality of LOMOND NO.37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
19	NE.	34	6	13	2	Bored	30	1,815	- 22	1,793	20	1,795	Glacial sand and gravel	Hard, clear, salty		S	Poor supply; 30 foot well for house.
20	SW.	36	"	"	"	Bored	50	1,888	- 30	1,858	50	1,838	Ravenscrag sand	Hard, clear		D, S	Fairly abundant supply.
21	SW.	36	"	"	"	Dug	20	1,886	- 14	1,872	12	1,874	Glacial sand	Hard, clear, "alkaline"		S	Waters 20 head stock.
1	NE.	1	6	14	2	Dug	18	1,914	- 14	1,900	10	1,904	Glacial sandy loam	Hard, clear, "alkaline"		S	Waters 5 head stock; also 18 foot well for house.
2	SE.	3	"	"	"	Dug	19	1,916	- 9	1,907	18	1,898	Glacial gravel	Hard, clear		D	House supply only; 30 foot well "alkaline" for stock use.
3	SW.	3	"	"	"	Drilled	65	1,937	- 15	1,922	65	1,872	Glacial sand	Hard, clear,		S	Waters 60 head stock; 18 foot well for house.
4	NE.	3	"	"	"	Drilled	120	1,914	- 35	1,879	120	1,794	Glacial sand	Hard, clear		D, S	Waters 30 head stock; several dry holes.
5	NE.	6	"	"	"	Dug	18	1,946	- 15	1,931	16	1,930	Glacial sand	Hard, clear, "alkaline"	46	S	Waters only 6 head stock; 18 foot well, dry since 1931.
6	NW.	7	"	"	"	Dug	12	1,934	- 4	1,930	11	1,923	Glacial sand	Soft, clear		D	House supply only; 12 foot well for stock.
7	SW.	9	"	"	"	Dug	8	1,905	- 4	1,901	4	1,901	Glacial sand	Hard, clear, iron		D, S	Waters 16 head stock.
8	SW.	10	"	"	"	Dug	28	1,908	- 18	1,890	28	1,880	Glacial sand	Hard, clear		D, S	Waters 25 head stock.
9	NE.	10	"	"	"	Dug	26	1,899	- 15	1,884	26	1,873	Glacial sand	Hard, clear, "alkaline"		N	Very poor supply; other wells too "alkaline" for use.
10	SE.	14	"	"	"	Dug	20	1,907	- 17	1,890	18	1,889	Glacial sand	Hard, clear		D	House supply only; 2 wells for stock.
11	NE.	14	"	"	"	Dug	14	1,896	- 11	1,885	12	1,884	Glacial sand	Hard, clear	46	D	Not used. 1 other well, fair supply.
12	NE.	14	"	"	"	Dug	12	1,896	- 6	1,890	6	1,890	Glacial gravel	Hard, clear		S	Sufficient supply.
13	SW.	15	"	"	"	Dug	22	1,911	- 18	1,893	18	1,893	Glacial sand	Soft, clear		D	House supply; 44 foot well for stock.
14	NW.	15	"	"	"	Bored	42	1,913	- 11	1,902	40	1,873	Glacial sand	Hard, clear, "alkaline"		S	Waters 40 head stock; 20 foot well for house.
15	NE.	16	"	"	"	Bored	43	1,916	- 14	1,902	40	1,876	Glacial sand	Hard, clear, "alkaline"		S	Waters 20 head stock; 16 foot well for house.
16	NW.	16	"	"	"	Dug	12 26	1,915					Glacial clay				8 dry holes.
17	NW.	17	"	"	"	Bored	39	1,955	- 19	1,936	39	1,916	Glacial sand	Hard, rod "alkaline"		S	Practically dry; 26 foot dry hole.
18	SE.	18	"	"	"	Dug	19	1,942	- 12	1,930	16	1,926	Glacial sand	Hard, clear	44	S	Waters 30 head stock; 16 foot well for house use.
19	SE.	19	"	"	"	Bored	42	1,938	- 18	1,920	36	1,902	Glacial sand	Hard, clear	46	D	House supply only, dry holes to 75 feet.
20	NE.	23	"	"	"	Dug	20	1,904	- 12	1,892	20	1,884	Glacial gravel	Hard, clear		D	House supply only; 1 well too "alkaline" for use.
21	SE.	24	"	"	"	Dug	16	1,902	- 12	1,890	13	1,889	Glacial sand	Hard, clear, "alkaline"		D	House supply only; uses well on SW.¼ sec.9, tp.6, range3.
22	NE.	24	"	"	"	Dug	15	1,894	- 9	1,885	10	1,884	Glacial sand	Hard, clear		D	House supply only; use creek for stock.
23	SE.	25	"	"	"	Dug	18	1,896	- 15	1,881	17	1,879	Glacial sand	Hard, clear		D	House supply only; use creek for stock.
24	NE	26	"	"	"	Dug	10	1,892	- 5	1,887	8	1,884	Glacial sand	Hard, clear		D, S	Waters 25 head stock.

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

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WELL RECORDS—Rural Municipality of LOMOND NO.37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
25	SW.	28	6	14	2	Dug	14	1,905	- 9	1,896	11	1,894	Glacial sand	Hard, clear		S	Waters 30 head stock; 16 foot well for house.
26	NW.	28	"	"	"	Dug	11	1,898	- 6	1,892	10	1,888	Glacial sand	Soft, clear		D, S	Waters 30 head stock.
27	NE.	30	"	"	"	Dug	14	1,920	- 12	1,908	10	1,910	Glacial sand	Soft, clear	47	D, S	Waters 20 head stock.
28	SW.	31	"	"	"	Dug	14	1,867	- 9	1,858	12	1,855	Glacial gravel	Hard, clear		D, S	Sufficient supply.
29	NE.	31	"	"	"	Dug	31	1,898	- 8	1,890	16	1,882	Glacial sand	Hard, clear, "alkaline"	44	S	Waters 40 head stock; 18 foot well for house.
30	SE.	32	"	"	"	Dug	20	1,903	- 18	1,885	18	1,885	Glacial clay	Hard, iron, "alkaline"		D	House use only; use several wells for stock.
31	SW.	32	"	"	"	Dug	13	1,904	- 11	1,893	11	1,893	Glacial gravel	Hard, clear	44	D, S	Waters 35 head stock; several similar wells.
32	NW.	33	"	"	"	Dug	26	1,911	- 20	1,891	20	1,891	Glacial gravel	Hard, clear		D, S	Waters only 5 head stock.
33	NE.	33	"	"	"	Dug	40	1,909	- 30	1,879	37	1,872	Glacial sandy clay	Hard, clear		D, S	Waters 20 head stock.
34	SW.	34	"	"	"	Dug	22	1,914	- 16	1,898	16	1,898	Glacial sand	Hard, clear		D, S	Waters only 2 head stock; use several other wells.
35	NE.	34	"	"	"	Dug	18	1,904	- 13	1,891	16	1,888	Glacial sand	Hard, clear		D, S	Sufficient supply; several similar wells.
36	NE.	36	"	"	"	Dug	18	1,890	- 14	1,876	16	1,874	Glacial sand	Hard, clear		S	Waters 25 head stock; 16 foot well in sand for house.
37	NE.	25	"	"	"	Dug	10	1,898	- 5	1,893	8	1,890	Glacial gravel	Hard, clear		S	Insufficient supply.
1	NE.	2	6	15	2	Dug	15	1,980	- 11	1,969	14	1,966	Glacial sand	Hard, clear, "alkaline"	46	D, S	Waters 15 head stock; 1 similar well.
2	SE.	6	"	"	"	Dug	20	2,029	- 8	2,021	18	2,011	Glacial gravel	Hard, clear, "alkaline"		D	House supply only.
3	SE.	6	"	"	"	Dug	14	2,029	- 8	2,021	12	2,017	Glacial gravel	Hard, clear, "alkaline"		S	Waters 20 head stock.
4	SE.	9	"	"	"	Dug	12	2,013	- 4	2,009	10	2,003	Glacial sand	Hard, clear		D	House supply only.
5	NE.	9	"	"	"	Dug	16	2,028	- 8	2,020	13	2,015	Glacial sand	Hard, clear	49	D, S	Waters 45 head stock.
6	SE.	10	"	"	"	Dug	18	1,962	- 10	1,952	14	1,948	Glacial sand	Soft, clear	48	D, S	Waters 100 head stock; also has an 8 foot well.
7	NE.	10	"	"	"	Dug	14	2,016	- 10	2,006	8	2,008	Glacial sand	Hard, clear		D, S	Waters 7 head stock; 1 similar well.
8	NW.	10	"	"	"	Dug	15	1,974	- 11	1,963	11	1,963	Stream gravel	Hard, clear, "alkaline"	48	D, S	Waters 10 head stock; several "alkaline" wells.
9	NE.	11	"	"	"	Dug	12	1,958	- 6	1,952	9	1,949	Glacial gravel	Hard, clear		D	House supply only.
10	SW.	12	"	"	"	Dug	20	1,956	- 12	1,944			Glacial sandy clay	Hard, clear	46	D, S	Waters 5 head stock; 1 similar well.
11	NW.	12	"	"	"	Dug	20	1,965	- 14	1,951	12	1,953	Glacial sand	Hard, iron, "alkaline"	44	S	Waters only 8 head stock; several "alkaline" wells.
12	NE.	12	"	"	"	Dug	16	1,948	- 12	1,936	14	1,934	Glacial sand	Hard, "alkaline"	48	D, S	Waters only 6 head stock.
13	NE.	15	"	"	"	Dug	24	2,014	- 11	2,003	10	2,004	Glacial clay	Hard, clear, "alkaline"	45	D	House supply only; 41 foot well for stock.
14	SW.	16	"	"	"	Dug	16	1,988	- 12	1,976	12	1,976	Glacial drift	Hard, clear	44	D	House use only; 18 foot well for stock.

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(#) Sample taken for analysis.

WELL RECORDS—Rural Municipality of LOMOND NO#37, SASKATCHEWAN

WELL No.	LOCATION ¼	Sec.	Tp.	Rge.	Mer.	TYPE OF WELL	DEPTH OF WELL	ALTITUDE WELL (above sea level)	HEIGHT TO WHICH WATER WILL RISE Above (+) Below (−) Surface	Elev.	PRINCIPAL WATER-BEARING BED Depth	Elev.	Geological Horizon	CHARACTER OF WATER	TEMP. OF WATER (in °F.)	USE TO WHICH WATER IS PUT	YIELD AND REMARKS
15	SE.	20	6	15	2	Dug	40	2,000					Glacial drift				Dry hole.
16	SE.	21	"	"	"	Dug	30	2,028	- 10	2,018	30	1,998	Glacial sand	Hard, clear		D, S	Waters only 10 head stock; 55 foot well for stock.
17	NE.	21	"	"	"	Dug	15	2,018	- 9	2,009	10	2,008	Glacial gravel	Hard, clear		D, S	Waters only 4 head stock.
18	SE.	22	"	"	"	Dug	24	1,970	- 12	1,958	12	1,958	Glacial sand	Hard, clear	46	D, S	Waters 40 head stock.
19	NW.	22	"	"	"	Dug	14	2,019	- 6	2,013	12	2,007	Glacial sand	Hard, clear, "alkaline"	46	S	Waters 40 head stock; 16 foot well for house.
20	NE.	24	"	"	"	Dug	20	1,945	- 14	1,931	14	1,931	Glacial sand	Hard, clear, "alkaline"	46	S	Small supply.
21	SW.	26	"	"	"	Dug	10	1,915	- 8	1,907	8	1,907	Glacial sand	Hard, clear, "alkaline"	46	S	Waters 40 head stock; 10 foot well for house.
22	NW.	26	"	"	"	Dug	18	1,912	- 8	1,904	10	1,902	Glacial gravel	Hard, clear		D, S	Waters 30 head stock.
23	SW.	28	"	"	"	Dug	20	2,018	- 15	2,003	15	2,003	Glacial sand	Hard, clear	44	D, S	Waters 90 head stock.
24	SE.	32	"	"	"	Dug	15	1,962	- 8	1,954			Glacial sand	Hard, clear	46	D, S	Waters only 10 head stock; uses dugout.
25	SE.	33	"	"	"	Dug	11	2,006	- 6	2,000	4	2,002	Glacial gravel	Hard, clear, "alkaline"		D	House supply only; 13 foot well for stock.
26	NW.	33	"	"	"	Dug	12	1,994	- 3	1,991	8	1,986	Glacial gravel	Hard, clear, "alkaline"		D, S	Waters only 18 head stock; 50 foot dry hole.
27	NE.	34	"	"	"	Dug	25	1,910	- 22	1,888	25	1,885	Glacial sand	Hard, clear, "alkaline"		D, S	Small supply; 12 dry holes.
28	SW.	34	"	"	"	Dug	16	1,923	- 11	1,912	3	1,920	Glacial sand	Hard, clear, "alkaline"	45	D, S	Waters 1 team horses; 2 dry holes.
29	SE.	35	"	"	"	Bored	35	1,909	- 15	1,894	35	1,874	Glacial sand	Hard, clear	44	D	3 pails a day; dugout and 39 foot well.

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