CANADA
DEPARTMENT OF MINES
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GEOLOGICAL SURVEY OF CANADA
WATER SUPPLY PAPER No. 291

GROUND-WATER RESOURCES OF TOWNSHIPS 39 TO 42, RANGES 25 TO 28, WEST OF FOURTH MERIDIAN, ALBERTA

By
R. L. Rutherford, B. A. Latour, A. M. Stalker and H. W. Tipper

OTTAWA
1948

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MINES, FORESTS AND SCIENTIFIC SERVICES BRANCH

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CONTENTS

Illustrations

INTRODUCTION

The survey of the ground-water resources of the Red Deer region, Alberta, was resumed during the field season of 1946, and much information on these resources was obtained by a compilation of records of water wells.

A division has been made in the well records, in so far as possible, between the glacial and bedrock water-bearing sands. The water records themselves were obtained mostly from the well owners, some of whom had acquired the land after the water supply had been found, and hence had no personal knowledge of the water-bearing beds that had been encountered in their wells. Also, the elevations of the wells were taken by aneroid barometer and are, consequently, only approximate. In spite of these defects, however, it is hoped that the publication of these water records may prove of value to the farmers, town authorities, and drillers in their efforts to obtain adequate water supplies.

Publication of Results

The essential information pertaining to ground-water conditions is being issued in reports that in Saskatchewan cover each municipality, and in Alberta cover each square block of sixteen townships beginning at the 4th meridian and lying between the correction lines. The secretary-treasurer of each municipality in Saskatchewan and Alberta will be supplied with the information covering that municipality. Copies of the reports will also be available for study at offices of the Provincial and Federal Departments. Further assistance in the interpretation of the reports may be obtained by applying to the Chief Geologist, Geological Survey, Ottawa. Technical terms used in the report are defined in the glossary.

How to Use the Report

Anyone desiring information concerning ground water in any particular locality will find the available data listed in the well records. These should be consulted to see if a supply of water is likely to be found in shallow wells sunk in the glacial drift, or whether a better supply may be obtained at greater depth in the underlying bedrock formations. The wells in glacial drift commonly show no regional level, as the sands or gravels in which the water occurs are irregularly distributed and of limited extent. As the surface of the ground is uneven, the best means of comparing water wells is by the elevations of their water-bearing beds. For any particular well this elevation is obtained by subtracting the figure for the depth of the well to the water-bearing bed from that for the surface elevation at the well. For convenience, both the elevation of the wells and the elevation of the water-bearing bed or beds in each well are given in the well-record tables. Where water is obtained from bedrock, the name of the formation in which the water-bearing sand occurs is also listed in these tables, and this information should be used in conjunction with that on bedrock formations, provided in the report, which describes these formations and gives their thickness and sequence. Where the level of the water-bearing sand is known, its depth at any point can easily be calculated by subtracting its elevation, as given in the well-records tables, from the elevation of the surface at that point.

With each report is a map consisting of two figures. Figure 1 shows the distribution and type of surface deposits and bedrock formation that occur in the area. Figure 2 shows the locations of all wells for which records are available, the class of well at each location, and the contour lines or lines of equal elevation. The elevation at any location can thus be roughly judged from the nearest contour line, and the records of the wells show at what levels water is apt to be encountered. The depth of the well can then be calculated, and some information on the character and quantity of water can be obtained from a study of the records of surrounding wells.

GLOSSARY OF TERMS USED

Alkaline. The term "alkaline" has been applied rather loosely to some ground waters that have a peculiar and disagreeable taste. In the Prairie Provinces, water that is commonly described as alkaline usually contains a large amount of sodium sulphate and magnesium sulphate, the principal constituents of Glauber's salt and Epsom salts respectively. Most of the so-called alkaline waters are more correctly termed sulphate waters, many of which may be used for stock without ill effect. Water that tastes strongly of common salt is described as salty.

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

Aquifer. A porous bed, lens, or pocket in unconsolidated deposits or in bedrock that carries water.

Buried pre-Glacial Stream Channel. A channel carved into 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 pauses in 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 first encountered.

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 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 overlies 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.

(2) Wells in which the water is under pressure but does not rise to the surface.

(3) Wells in which the water does not rise above the water-table.

BEDROCK FORMATIONS OF EAST-CENTRAL ALBERTA

The formations that outcrop in east-central Alberta are of Tertiary and Upper Cretaceous age, and consist entirely of relatively soft shales and sandstones, with some bands of hard sandstone and layers of ironstone nodules. The succession, character, and estimated thickness of the formations are shown in the following table:

Age	Formation	Character	Thickness
Tertiary	Paskapoo	Light grey sandstone, in part carbonaceous; shale; small amounts of siliceous limestone and volcanic dust; coal seams.	Feet 800 ±
	Edmonton	Grey to white, bentonitic sands and sandstones, with grey and greenish shales; coal seams prominent in some areas, as at Drumheller.	1,000 to 1,150
	Bearpaw	Dark shales, green sands with smooth, black chert pebbles; partly non-marine, with white bentonic sands, carbonaceous shales, or thin coal seams similar to those in Pale Beds; shales at certain horizons contain lobster-claw nodules and marine fossils; at other horizons selenite crystals are abundant.	300 to 600
Upper Cretaceous	Pale and Variegated Beds	Light grey sands with bentonite; soft, dark grey and light grey shales with selenite and ironstone; carbonaceous shales and coal seams; abundant selenite crystals in certain layers.	600 ±
	Birch Lake (?)	Grey sand and sandstone in upper part; middle part of shales and sandy shales, thinly laminated; lower part with grey and yellow weathering sands; oyster bed commonly at base.	100 ±
	Grizzly Bear	Mostly dark grey shale of marine origin, with a few minor sand horizons; selenite crystals and nodules up to 6 or 8 inches in diameter.	100 -
	Ribstone Creek	Grey sands and sandstones at the top and bottom with intermediate sands and shales; mostly non-marine, but middle shale in some areas is marine.	325 -

WATER ANALYSES

Introduction

The following discussion of water analyses is included to assist those who wish to know the effect of various mineral constituents in well water, which give the water in some wells certain peculiar qualities.

Discussion of Chemical Determinations

The dissolved mineral constituents vary with the material encountered by the water in its migration to the reservoir bed. The mineral salts present are referred to as the total dissolved solids, and they represent the residue when the water is completely evaporated. This is expressed quantitatively as "parts per million", which refers to the proportion by weight in 1,000,000 parts of water. A salt when dissolved in water separates into two chemical units called "radicals", and these are expressed as such in the chemical analyses. In the one group is included the metallic elements of calcium (Ca), magnesium (Mg), and sodium (Na), and in the other group are the sulphate (SO_4), chloride (Cl), and carbonate (CO_3) radicals.

Mineral Constituents Present

Calcium (Ca) in the water comes from mineral particles present in the surface deposits, the chief source being limestone, gypsum, and dolomite. Fossil shells provide a source of calcium, as does also the decomposition of igneous rocks. The common compounds of calcium are calcium carbonate ($CaCO_3$) and calcium sulphate ($CaSO_4$).

Magnesium (Mg) is a common constituent of many igneous rocks and, therefore, very prevalent in ground water. Dolomite, a carbonate of calcium and magnesium, is also a source of the mineral. The sulphate of magnesium ($MgSO_4$) combines with water to form "Epsom salts", and if present in large amounts imparts a bad taste and is detrimental to the health.

Sodium (Na) is derived from a number of important rock-forming minerals, so that sodium sulphate and carbonate are very common in ground waters. Sodium sulphate (Na_2SO_4) combines with water to form "Glauber's salts", which if present in amounts over 1,200 parts per million makes the water unfit for domestic use or for irrigation. Sodium carbonate (Na_2CO_3) or "black alkali" waters are mostly soft, the degree of softness depending upon the ratio of sodium carbonate to the calcium and magnesium salts. Waters containing sodium carbonate in excess of 200 parts per million are unsuitable for irrigation.

Chlorine (Cl) is, with a few exceptions, expressed as sodium chloride (NaCl), which is common table salt. When found in water in excess of 400 parts per million it renders the water unfit for domestic use.

Iron, when present in more than 0.1 parts per million, will settle out of the water as a red precipitate on exposure to the air. Water that contains not more than 0.5 parts per million

is considered the usual upper limit for potable water, but this amount is often exceeded. A water that contains considerable iron will stain porcelain, enamel ware, and clothing that is washed in it, but the iron can be almost completely removed by aeration and filtration of the water.

Hardness. Hardness is of two kinds, temporary and permanent. Temporary hardness is caused by calcium and magnesium bicarbonates, which are soluble in water but are precipitated as insoluble normal carbonates by boiling, as shown by the scale that forms in teakettles. Permanent hardness is caused by the presence of calcium and magnesium sulphates, and is not removed by boiling. Waters grade from very soft to very hard, and can be classified according to the following system[1].

[1] The "Examination of Waters and Water Supplies"; Thresh and Beale, Fourth Ed. 1933, p. 21.

A water under 50 degrees (that is, parts per million) of hardness may be said to be very soft.

A water with 50 to 100 degrees of hardness may be said to be moderately soft.

A water with 100 to 150 degrees of hardness may be said to be moderately hard.

A water with more than 200 and less than 300 degrees of hardness may be said to be hard.

A water with more than 300 degrees of hardness may be said to be very hard.

Hard waters are usually high in calcium carbonate. Almost all of the waters from the glacial drift are of this type, particularly those not associated with sand and gravel deposits that come close to the surface.

In soft water the calcium carbonate has been replaced by sodium carbonate, due to natural reagents present in the sands and clays. Bentonite and glauconite are two such reagents known to be present. Montmorillonite, one of the clay-forming minerals, has the same property of softening water, owing to the absorbed sodium that is available for chemical reaction.[2]

[2] Piper, A.M.: "Ground Water in Southern Pennsylvannia", Penn. Geol. Surv., 4th series.

If surface water reaches the lower sands by percolating through the higher beds it may be highly charged with calcium salts before reaching the bedrock formations containing bentonite or glauconite. The completeness of the exchange of calcium carbonate for sodium carbonate will, therefore, depend upon the length of time that the water is in contact with the softening reagent, and also upon the amount of this material present. The rate of movement of underground water will, consequently, be a factor in determining the extent of the reaction.

TOWNSHIPS 39 to 42, RANGES 25 to 28,

WEST FOURTH MERIDIAN, ALBERTA

Introduction

Information on the ground-water resources of this area was obtained from the records of water wells and by a study of both the surface deposits and the underlying bedrock in their relation to the ground-water supply. The well record information was collected by R.L. Rutherford in 1935, and B.A. Latour in 1946; the surface deposits were mapped by B.A. Latour in 1946, and A.M. Stalker in 1947; and the report was compiled by H.W. Tipper in 1948.

Physical Features

The main topographic feature in this area is the low valley trending north-northeasterly through the centre of the area, with low hills and slightly rolling country rising 300 to 400 feet above it on either side. The valley, which is an extension of the plain along Red Deer River, is relatively flat near Red Deer Junction, but becomes more rolling towards Morningside. It represents an old glacial river channel with well-defined banks or escarpments that rise steeply to the higher ground east and west of the valley. The topography of the higher ground is in general slightly rolling, with distinctive knob and kettle topography in areas of terminal moraine.

Red Deer and Blindman Rivers have cut channels 150 feet deep in the southern part of the valley, and where Red Deer River leaves the area, it flows through a canyon 500 feet deep.

Gull Lake occupies a large part of the western townships and is probably a remnant glacial lake.

Geology

Bedrock Formations

The Paskapoo formation underlies the glacial drift throughout the area except near the northern and eastern boundaries where the Edmonton formation underlies small areas. Bedrock is only exposed along Red Deer and Blindman Rivers, in road cuts, and on some of the higher hills.

Paskapoo Formation. This formation was first named by Tyrrell from exposures of the lower part of the formation occurring along Blindman River near its confluence with the Red Deer. It is composed essentially of sandstones and shales of freshwater deposition, and includes some thin coal seams and carbonaceous beds. The basal beds are massive, crossbedded sandstones that weather buff-yellow, and are in striking contrast with the underlying, light-coloured, bentonitic clays of the Edmonton formation. About 150 to 200 feet above the base of the formation lenticular beds of siliceous limestones containing gastropods and pelecypods, occupy a widespread zone at about the same stratigraphic level.

Edmonton Formation. The name Edmonton formation was first applied to the beds containing coal in the Edmonton area, and later to the same beds in adjoining areas. The formation has a total thickness of 1,000 to 1,150 feet, but is bevelled off eastwards, and the east edge of the formation follows a northwest line from Coronation through Tofield to a point on North Saskatchewan River about midway between Edmonton and Fort Saskatchewan. No Edmonton beds occur northeast of this line, but the formation becomes progressively thicker to the southwest due to the fact that the beds dip in that direction.

The Edmonton formation consists of poorly bedded grey and greenish clay shales, coal seams, and sand and sandstones that contain clay and a white material known as bentonite. This material when wet is very sticky and swells greatly in volume, and when dry tends to whiten the beds containing it. Such beds are relatively impervious to water, and at the surface produce the "burns" of barren ground, where vegetation is scanty or absent.

Unconsolidated Deposits

During the Pleistocene or Glacial epoch, great accumulations of ice formed at various centres in northern Canada. This ice moved out in all

directions from these centres and covered large regions with what has been called the continental ice sheet. As the ice advanced, it picked up great quantities of loose rock debris, which was deposited when the ice finally melted. This material is unconsolidated, and is commonly called glacial drift.

This area was entirely covered by one or more continental ice-sheets during Pleistocene time, and the final retreat of the ice left the bedrock surface covered to a variable depth with a mantle of glacial drift. This drift, together with alluvium and sand dunes, constitutes the unconsolidated deposits in the area. Most of the glacial drift consists of boulders and pebbles of various compositions and sizes embedded in a matrix of clay or sandy clay to form a more or less impervious mass known as boulder clay or till. Irregularly intermingled with this impervious mass, and also lying above it, are beds, pockets, and lenses of sand and gravel that form the water-bearing members or aquifers of the drift.

Ground Moraine. This type of glacial drift is chiefly boulder clay and till laid down at the base of the ice-sheet, and consists of a heterogeneous mixture of clay, boulders, and pebbles enclosing irregularly distributed lenses and pockets of water-laid sand and gravel. The matrix of such deposits varies in composition from a yellowish sandy clay to a grey or white clay. Boulders and pebbles contained in the ground moraine are generally less than 6 to 8 inches in diameter but may reach dimensions of 2 to 3 feet.

Terminal Moraine. Part of the load carried by the continental ice-sheet was dropped at its front or margin during pauses in the general retreat of the melting glacier. This load consisted of material gathered during the advance of the ice-sheet, and was deposited as a mixture of boulder clay, silt, sand, and gravel. Much of the clay, silt, and fine sand has been carried away by melt water from the glacier. The deposits now consist mainly of coarse till, gravel and sand arranged in characteristic hummocks and poorly drained hollows.

Glacial Outwash. An area of outwash deposits occurs in the northern part of tp. 42, rge. 26. This deposit consists of at least 30 feet of medium-coarse, well stratified and crossbedded gravel with well rounded pebbles. Interbedded with the gravel are thin beds and lenses of fine sand and some carbonaceous material.

Glacial-lake Deposits. Glacial-lake sand, together with silt and clay, forms the surface deposits of the central valley. The sand is dark buff and fine grained, and is poorly to well stratified. The silt and clay occur in small discontinuous areas, and are light buff to grey in colour. In some places they are varved, and in others the silt is quite sandy and the clay, silt, and sand grade into one another.

The glacial-lake deposits around Gull Lake are composed entirely of sand, and may be of later deposition than the other lake sand in the map-area.

Sand Dunes. In some localities the lake sand has been blown into sand dunes and dune areas occur around Morningside and Lacombe Lake. The dunes consist of fine, buff sand, with little or no evidence of stratification, and occur as rounded knolls 30 to 40 feet high.

Alluvium. Along the valleys and near the confluence of Red Deer and Blindman Rivers, shallow recent deposits of silt, sand, and gravel have been laid down in the bows of these meandering streams.

Water Supply

Within this area, the wells yield an adequate supply of water for present needs, although in some wells the supply is not excessive. In the southern townships there is generally an abundant supply of water, whereas in the northern townships the supply is limited or barely sufficient. Only two dry holes have been recorded within the area.

Most of the wells obtain water from bedrock at depths of less than 200 feet, the greatest recorded depth being 570 feet. In general these wells yield ample supplies of soft water under sub-artesian conditions. Porous, water-bearing lenses occur at close intervals in the Paskapoo formation, and although none of them is continuous throughout the area, a sufficient number overlap each other so that few dry holes have been drilled in bedrock. Although no continuous aquifer has been traced over any great area, there are several definite zones extending over several townships from which water has been obtained.

Wells in the glacial drift usually yield hard water, and the supply of many varies with the seasonal rainfall, so that they are not as dependable as the bedrock wells. The porous lenses of sand and gravel in the till serve as the best aquifers, but it is not possible to predict where these lenses will occur and their discovery is a matter of chance. The glacial-lake sand usually yields sufficient supplies of hard water, but the sand is fine and tends to sift into the well and plug it.

Township 39, Range 25. Glacial till forms the surface deposit of most of this township. The surface is gently rolling except in the northwest and southeast sections where the country has the hummocky topography of a terminal moraine. Depth of drift is between 60 and 70 feet for most of the township.

Several wells 50 to 65 feet deep are obtaining water from the glacial till, usually at elevations of between 2,900 and 2,970 feet. Most of these wells are non-artesian, and none of them is flowing. They provide a good supply of water, which is clear, usually hard, and quite satisfactory for all requirements.

Most of the bedrock wells secure their water from two zones, an upper zone between elevations of 2,960 and 3,000 feet and a lower zone between 2,800 and 2,870 feet. The water in the lower zone is under good hydrostatic pressure, and one of the wells from this zone is flowing. Other wells in the township found water in bedrock both above and below these zones.

Township 39, Range 26. This township is covered by a surface deposit of glacial till, and along the western sections the till is overlain by glacial-lake deposits, sand dunes, and alluvium.

Red Deer River crosses the southwest corner of the township and has cut a canyon 500 feet into the glacial drift and the Paskapoo formation.

Hard, clear water has been obtained from shallow wells in the glacial drift. The water occurs in porous lenses of sand and gravel that serve as local aquifers in the glacial till. The wells are usually 15 to 25 feet deep but are not common as most well owners prefer to seek their water supply in bedrock.

Two water-bearing zones in bedrock have yielded adequate supplies of soft water. The upper zone lies between elevations 2,885 and 2,935 feet, and the lower zone between 2,685 and 2,735 feet. The water in either zone is not under great hydrostatic pressure and does not rise high in the wells. Those drilled to the lower zone are between 135 and 200 feet deep, and those that obtain water from the upper zone are less than 100 feet deep. Other wells have secured water both above and below these zones, and the deepest well is 570 feet.

Township 39, Range 27. The surface deposits of this township consist chiefly of glacial-lake sand overlying glacial till, which is exposed only in the northwest sections. The township is a flat or gently rolling plain except for the valleys cut into it by Red Deer and Blindman Rivers.

Hard, clear water is obtained from shallow wells in the glacial-lake sand. The water-bearing zone occurs between elevations of 2,800 and 2,830 feet but unless the well has a good cribbing the sand tends to sift in and stop the flow of water into the well.

Many bedrock wells obtain soft, clear water from a water-bearing zone at elevations between 2,685 and 2,735 feet. The water in this zone is not under great hydrostatic pressure and does not rise high in the wells. This zone is a continuation of a similar zone in tp. 39, rge. 26, and supplies water at depths of 150 to 200 feet.

Township 39, Range 28. A deposit of glacial till, 10 to 20 feet deep, overlies bedrock throughout most of this township. The surface is gently rolling, with a valley 250 feet deep cut into the till deposits by Blindman River.

A few shallow wells in glacial till supply hard clear water. The wells are less than 30 feet deep, and obtain their water from porous lenses of sand and gravel in the glacial till.

Most of the bedrock wells in the township are obtaining soft water from a zone between elevations of 2,875 and 2,925 feet, which is reached by wells 75 to 150 feet deep. Water is obtained at elevations above and below this zone, but shallower wells do not give as adequate a supply and the water is hard.

Township 40, Range 25. Glacial till forms the surface deposit of the township. Areas of terminal moraine exhibit characteristic knob and kettle topography, whereas the remainder of the township is slightly undulating. The deposit of till is 20 to 40 feet thick and in places as much as 90 feet.

Shallow wells, 15 to 20 feet deep in the glacial drift, provide hard, clear water. The water is obtained from lenses of sand and gravel in the glacial drift at various elevations and at various depths below the surface, the greatest depth being 90 feet.

Hard or soft water is obtained from wells in bedrock at elevations of from 2,700 to 3,110 feet, with two major water-bearing zones occurring between elevations 2,875 and 2,925 feet and 3,080 and 3,110 feet. Wells 150 feet deep or less usually reach one of these zones, and the deepest well in the township is 300 feet deep.

Township 40, Range 26. This township has a surface deposit of till in the eastern sections and glacial-lake sand overlying the till in the western sections. The surface is low and slightly rolling in the west and rises to a hummocky terrain in the east. Depth of drift varies from as much as 100 feet in the west to as little as 10 feet in the east.

Wells 20 to 50 feet deep supply hard, clear water from the glacial drift. In areas of glacial till, water occurs in porous lenses of gravel and sand at various depths. In areas of glacial-lake sand, the water occurs in the sand, which is underlain by glacial till.

In this township, most of the wells in bedrock obtain water between elevations of 2,490 and 2,700 feet. Within this interval are three water-bearing zones, the lowest between elevations of 2,490 and 2,520 feet, the middle zone between 2,560 and 2,610 feet, and the highest between 2,640 and 2,700 feet. Several wells have obtained water at higher elevations, but no wells have been drilled below an elevation of 2,490 feet. Most of the deep wells have obtained soft water under good hydrostatic pressure. In this township most wells are at least 100 and less than 250 feet deep, but some obtain water from much greater depths, the deepest being 530 feet.

Township 40, Range 27. This township has a surface deposit of glacial till in the west and glacial-lake sand overlying till in the east. The surface is low and slightly undulating, rising gently to the west, and the drift is 50 to 100 feet deep.

Conditions of water supply from the glacial drift are similar to those existing in tp.40, rge.27. Wells 20 to 50 feet deep, obtain water from porous sand lenses in the glacial till and from the glacial-lake sand.

Most bedrock wells in this township have been drilled to depths of between 100 and 200 feet, but several are deeper, and the deepest well is 400 feet. In some of these wells a water-bearing zone occurs between elevations of 2,870 and 2,950 feet, but many wells secure water at various elevations below this zone. The deeper wells generally supply soft, clear water, and the shallower wells slightly harder water.

Township 40, Range 28. This township has a surface deposit of glacial till, and around Gull Lake, which occupies the northwest sections, lake sand overlies the glacial till. The surface of the township is slightly rolling and slopes gently toward Gull Lake.

Adequate information on the supply of water from glacial drift is not available. However, it is probable that hard water could be obtained from porous lenses of sand and gravel that occur in the glacial till.

Wells in bedrock are preferred in this township, and a good supply of medium-hard water under hydrostatic pressure is obtained from a zone between elevations of 2,965 and 2,995 feet. Other wells obtain hard or soft water at lower elevations, and all but three wells reach a water-bearing zone at depths of less than 100 feet.

Township 41, Range 25. Glacial till covers most of this township to a depth of 40 feet or less. In the west, glacial-lake sand overlies the till. The surface is slightly undulating, sloping gently west.

Hard, clear water is obtained from lenses of sand and gravel in the glacial till and from the glacial-lake sand. The aquifers are discontinuous and occur at various elevations, but most wells 15 to 40 feet deep reach a water-bearing zone.

Two water-bearing zones occur in bedrock, an upper zone between elevations of 2,790 and 2,810 feet and a lower zone between 2,670 and 2,725 feet. In most wells, the upper zone yields a sufficient supply of hard water and the lower zone a good supply of soft water. Other wells obtain hard or soft water above these zones. A sufficient supply of water under good hydrostatic pressure usually is secured by wells less than 200 feet deep.

Township 41, Range 26. Glacial-lake sand covers most of this township, and around Morningside the sand has been blown into dunes. The surface, except in the hummocky, dunal areas, is gently rolling.

Wells in glacial drift in this township are usually less than 30 feet deep, and provide a limited supply of hard water. The wells are dependent on rainfall to maintain the supply of water and, therefore, are not a reliable source in dry seasons.

Wells in bedrock usually provide a sufficient supply of hard or soft water throughout the township. A water-bearing zone occurs between elevations of 2,590 and 2,650 feet, at depth of between 120 and 200 feet. This zone is at or near the base of the Paskapoo formation, and some of the deeper wells reach the underlying Edmonton formation. A few wells have found water above this zone, but the supply is usually limited.

Township 41, Range 27. The surface deposits of this township consist of glacial till with glacial-lake sand overlying the till in the eastern sections. The surface is slightly rolling, rising gently from east to west.

Hard water is supplied by wells 15 to 50 feet deep in glacial drift. Water is obtained from glacial-lake sand between elevations of 2,785 and 2,835 feet, and from porous sand lenses in the till at elevations between 2,975 and 3,025 feet. The supply is sufficient for present requirements.

No extensive water-bearing zones or aquifers in bedrock have been recognized in this township. However, wells drilled to depths of 100 to 200 feet usually provide a sufficient supply of hard or soft water.

Township 41, Range 28. Glacial till forms the surface deposit of this township except near Gull Lake where glacial-lake sand overlies the till. The surface is rolling and slopes gently westward to Gull Lake, which occupies the western half of the township.

Aquifers in the glacial drift have not been used extensively as a source of water in this township. The depth of drift is not great, and farmers have preferred to seek a water supply in bedrock.

Three water-bearing zones in bedrock supply sufficient hard or soft water. These zones occur between elevations of 2,835 and 2,860 feet, 2,910 and 2,915 feet, and 2,970 and 3,025 feet. The upper zone supplies hard water while in the lower zones the water is usually soft.

Township 42, Range 25. The surface deposits of this township consist of glacial till overlain by glacial-lake sand in the eastern and western sections. Wells in the glacial drift obtain water from porous sand and gravel lenses in the till and from the glacial-lake sand. Aquifers are of local extent, and most of them supply only limited amounts of water.

Most of the deep wells in bedrock throughout this township have penetrated the Paskapoo formation and are obtaining water from bentonitic sand in the Edmonton formation. Water obtained from the bentonitic sand is usually soft and in good supply. Such a water-bearing zone occurs between elevations of 2,585 and 2,655 feet and is usually reached by wells 100 to 200 feet deep. Shallower wells obtain water from the Paskapoo formation at various elevations. The water in most of the wells throughout the township is under good hydrostatic pressure.

Township 42, Range 26. Glacial till occurs in the northwest sections of this township, and elsewhere glacial-lake sand overlies the till. In the southeast sections, the glacial-lake sand has been blown into dunes. The surface is generally rolling, and rises to the west.

The township relies on wells in glacial drift for most of its water supply. The depth of drift, which is as much as 120 feet, discourages deep drilling. A few wells obtain water from lenses of sand in the till, but most of the wells secure hard water from the overlying glacial-lake sand at various elevations. Aquifers in the sand are local in extent, but wells less than 40 feet deep furnish a sufficient supply of water.

A few bedrock wells, 100 to 200 feet deep, obtain a sufficient supply of soft water from bentonitic sand of the Edmonton formation.

Township 42, Range 27. Glacial till overlies bedrock throughout this township, and in the southeast sections glacial-lake sand and sand dunes overlie the till. The surface is rolling and the drift is at least 60 feet deep.

Wells, 20 to 60 feet deep, obtain water from sand lenses in the till and from glacial-lake sand at elevations between 2,820 and 2,835 feet. The water is hard, and in some wells the supply is limited.

Wells in bedrock provide a sufficient supply of water for local requirements. Most of the wells obtain hard or soft water at various elevations in the Paskapoo formation at depths of less than 200 feet. Only one well is drilled through the Paskapoo into the Edmonton formation.

Township 42, Range 28. Except for two small areas of glacial-lake sand, this township is covered by a mantle of glacial till of variable thickness. The surface is hilly and rolling, especially in areas of terminal moraine.

Few wells in this township obtain water from glacial drift, although it is probable that a limited supply of hard water could be secured from lenses of sand and gravel.

A water-bearing zone in bedrock occurs between elevations of 2,890 and 2,990 feet, and most wells in the township obtain a sufficient supply of hard or soft water from this zone. Those drilled to depths of 75 to 175 feet usually reach this water-bearing zone or some aquifer at a lower elevation.

WELL RECORDS—Rural Municipality of

TOWNSHIPS 39 to 42, RANGES 25 to 28, WEST FOURTH MERIDIAN, ALBERTA

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	SE	2	39	25	4	Drilled	68	2988			68	2920	Glacial	Hard, clear		D,S	Sufficient supply
2	NE	2	39	25	4	Drilled	325	3041			325	2716	Paskapoo	Soft, iron		D,S	" "
3	SW	2	39	25	4	Drilled	75	2898	-50	2848	75	2823	Paskapoo	Hard, clear		D,S	" " Bedrock at 60'
4	SW	5	39	25	4	Drilled	60	3009			60	2949	Glacial	Hard, clear		D	" "
5	SE	6	39	25	4	Drilled	43	3009			43	2966	Glacial (?)	Hard, clear	42°	D	" "
6	NE	6	39	25	4	Dug	30	3005	-20	2985	30	2975	Glacial clay	Medium,clear	45°	D,S.	" "
7	NW	8	39	25	4	Drilled	79	2902	-36	2866	79	2823	Paskapoo	Medium,clear		D,S	" " Bedrock at 60'
8	NE	8	39	25	4	Drilled	55	2887	-25	2862	55	2832	Paskapoo	Medium,clear		D,S	" "
9	SW	9	39	25	4	Drilled	16	2869	+5	2874	16	2853	Paskapoo	Soft, clear		D,S	" "
10	NW	11	39	25	4	Drilled	155	2963	-120	2843	155	2808	Paskapoo	Soft, clear	42°	D,S	" "
11	NW	12	39	25	4	Dug	60	2867	-10	2866	60	2807	Paskapoo	Hard, iron		D,S,I	" " Bedrock at 73'
12	NE	13	39	25	4	Drilled	103	2814	-48	2766	103	2711	Paskapoo	Hard, iron		D,S	" "
13	SE	16	39	25	4	Drilled	90	3004			90	2914	Glacial	Hard, iron		D,S	" "
14	NW	16	39	25	4	Drilled	65	2994	-20	2974	65	2929	Glacial	Soft, clear		D,S	" "
15	NE	17	39	25	4	Drilled	50	2952			50	2902	Glacial	Hard, iron		D,S	" "
16	SW	18	39	25	4	Drilled	120	3059	-60	2999	120	2939	Paskapoo	Medium,iron	45°	D,S	" "
17	NW	18	39	25	4	Dug	50	3032	-45	2987	50	2982	Paskapoo	Hard, iron		D,S	" "
18	NW	19	39	25	4	Drilled	180	3022			180	2842	Paskapoo	Hard, iron		D,S	" "
19	SE	19	39	25	4	Drilled	60	2952	- 3	2949	60	2892	Glacial contact	Medium,clear		D,S.	" " Bedrock at 60'
20	SW	20	39	25	4	Dug	12	3028	- 8	3020	12	3016	Glacial;clay	Hard, clear		D,S	" "
21	NW	21	39	25	4	Drilled	47	2984			47	2937	Glacial:clay	Hard, clear		D,S	" "
22	NW	21	39	25	4	Drilled	268	2990			268	2722	Paskapoo	Soft,clear		D,S	" " Contains soda
23	SW	21	39	25	4	Drilled	51	2990	-40	2950	51	2939	Glacial	Hard, clear		D,S	" "
24	NW	22	39	25	4	Drilled	96	3067	-54	3013	96	2971	Paskapoo	Soft, clear		D,S	" " Bedrock at 90'
25	SE	24	39	25	4	Drilled	65	2825	-25	2800	65	2760	Glacial	Soft, clear		D,S,I	" "
26	SW	25	39	25	4	Drilled	90	2957			90	2867	Paskapoo	Hard, iron	42°	D,S	" "
27	SE	26	39	25	4	Drilled	110	2955			110	2845	Paskapoo	Soft, clear		D,S	" "
28	SE	28	39	25	4	Drilled	110	3034			110	2924	Paskapoo	Soft, clear		D,S	" "
29	NW	28	39	25	4	Drilled	220	3178	-80	3098	220	2958	Paskapoo	Soft, clear		D,S	" "
30	SW	29	39	25	4	Spring							Glacial till	Medium,clear	44°	D,S	" "
31	NE	30	39	25	4	Drilled	65	3022	-20	3002	65	2957	Glacial clay	Medium,clear		D,S	" "
32	NW	31	39	25	4	Bored	80	3120			80	3040	Paskapoo	Hard, clear		D,S	" "
33	SE	31	39	25	4	Dug	50	3044			50	2994	Glacial clay	Hard, clear		D,S	" "
34	SW	32	39	25	4	Drilled	225	3073	-50	3023	225	2848	Paskapoo	Soft, clear		D,S	" "
35	NW	32	39	25	4	Drilled	132	3114			132	2982	Paskapoo	Soft, clear		D,S	" "
36	SE	34	39	25	4	Drilled	225	3074			225	2849	Paskapoo	Soft, clear		D,S	" "
37	SW	35	39	25	4	Drilled	94	3057	-70	2987	94	2863	Paskapoo	Soft, clear		D,S	" " Bedrock at 10'
1	SE	1	39	26	4	Dug	30	3015	-28	2987	30	2985	Paskapoo	Hard, clear		D,S	" " Bedrock at 25'
2	SW	2	39	26	4	Drilled	200	3244	-180	3064	200	3044	Paskapoo	Soft, clear		D,S	" "
3	NW	3	39	26	4	Dug	33	3191	-28	3163	33	3158	Paskapoo	Medium,clear		D,S	" " Bedrock at 17'
4	SE	5	39	26	4	Dug	20	3128	-14	3114	20	3108	Glacial contact	Medium,clear		D,S	" " Bedrock at 20'
5	SW	6	39	26	4	Dug	18	2884	-15	2869	18	2866	Glacial (?)	Hard, clear		D,S	" "
6	NW	6	39	26	4	Drilled	200	2885			200	2685	Paskapoo	Soft, clear		D,S	" "
7	NE	7	39	26	4	Drilled	60	2993			60	2933	Paskapoo	Medium,clear		D.S	" "
8	SW	8	39	26	4	Drilled	100	2896			100	2796	Paskapoo	Soft,clear		D.S	"" "
9	NW	13	39	26	4	Drilled	100	3129	-85	3044	100	3029	Paskapoo	Soft, clear		D.S	" "
10	NW	14	39	26	4	Drilled	94	2983			94	2889	Paskapoo	Soft, clear		D.S	" "
11	SE	16	39	26	4	Drilled	165	2901	-140	2761	165	2736	Paskapoo	Soft, clear		D.S	" " Coal at 60'
12	NW	16	39	26	4	Dug	30	2911	- 20	2891	30	2881	Glacial clay	Hard, clear	45°	D.S	" "
13	NW	18	39	26	4	Spring		2725				2725	Paskapoo	Medium,clear	42°	D.S	" "
14	SW	20	39	26	4	Drilled	165	2851	- 60	2791	165	2686	Paskapoo	Medium,clear	45°	D.S	" " Bedrock at 100'
15	NE	20	39	26	4	Drilled	240	2812	- 60	2752	240	2572	Paskapoo	Medium, clear		D.S	" "

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

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

TOWNSHIPS 39 to 42, RANGES 25 to 28, WEST FOURTH MERIDIAN, ALBERTA

B 4-
R. 752

WELL RECORDS—Rural Municipality of .....

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
16	SW	21	39	26	4	Drilled	151	2929	-120	2809	151	2778	Paskapoo	Soft, clear	45°	D,S	Sufficient supply
17	NE	22	39	26	4	Drilled	40	2975			40	2935	Glacial clay	Hard, iron		D	" "
18	SE	22	39	26	4	Drilled	180	2950	-150	2800	180	2770	Paskapoo	Medium, clear		D,S	" "
19	SE	25	39	26	4	Drilled	60	2981			60	2921	Glacial	Hard, clear		D,S	" "
20	NW	26	39	26	4	Drilled	80	3042	- 25	3017	80	2962	Paskapoo	Medium, iron		D,S	" "
21	SW	26	39	26	4	Drilled	100	3005	- 40	2965	100	2905	Paskapoo	Soft, clear		D,S	" "
22	SW	27	39	26	4	Drilled	93	2979	- 50	2929	93	2886	Paskapoo	Medium, iron		D,S	" " Bedrock at 90'
23	SW	31	39	26	4	Drilled	123	2825			123	2702	Paskapoo	Soft, clear		D,S	" "
24	NE	32	39	26	4	Dug	21	2892			21	2871	Glacial clay	Hard, clear		D,S	" "
25	SW	33	39	26	4	Drilled	192	2912	-120	2792	192	2720	Paskapoo	Soft, clear		D,S	" "
26	NE	33	39	26	4	Drilled	80	2967	- 25	2942	80	2887	Paskapoo	Soft, clear		D,S	" "
27	SE	35	39	26	4	Drilled	120	3097			120	2977	Paskapoo	Medium, clear		D,S	" "
28	SE	36	39	26	4	Drilled	570	3004	-200	2804	570	2434	Paskapoo	Soft, cloudy		D,S	" " Contains sulphur
1	NE	1	39	27	4	Drilled	160	2885			160	2725	Paskapoo	Hard, clear		D,S	Sufficient supply
2	SE	4	39	27	4	Drilled	160	2903	- 60	2842	160	2743	Paskapoo	Medium, clear		D	" "
3	SE	5	39	27	4	Drilled	124	2918	- 74	2844	124	2794	Paskapoo	Hard, clear		D,S	" "
4	SW	7	39	27	4	Dug	26	2941			26	2915	Paskapoo	Medium, clear		D,S	" "
5	SW	10	39	27	4	Dug	34	2914	- 30	2884	34	2880	Glacial: sand	Medium, clear	45°	D,S	" "
6	NW	10	39	27	4	Drilled	194	2894	-120	2774	194	2700	Paskapoo	Medium, clear		D,S	" " Bedrock at 75'
7	SW	13	39	27	4	Dug	50	2850	- 35	2815	50	2800	Glacial; gravel	Hard, clear		D,S	" "
8	SE	14	39	27	4	Drilled	175	2871			175	2696	Paskapoo	Soft, clear	45°	D,S	" "
9	NW	20	39	27	4	Drilled	52	2947	- 20	2927	52	2895	Paskapoo	Soft, clear	45°	D,S	" "
10	NE	21	39	27	4	Dug	60	2897	- 57	2840	60	2837	Glacial: sand	Medium, clear	45°	D,S	" "
11	NE	22	39	27	4	Dug	16	2875	- 12	2863	16	2859	Glacial: sand	Hard, clear	40°	D,S	" "
12	SE	23	39	27	4	Dug	10	2816	- 7	2809	10	2806	Glacial: sand	Hard, clear	45°	D,S	" "
13	SE	23	39	27	4	Dug	12	2824	- 7	2817	12	2812	Glacial: sand	Medium, clear		D,S	" "
14	SW	25	39	27	4	Drilled	200	2889	-185	2704	200	2689	Paskapoo	Soft, clear		D,S	" "
15	NE	26	39	27	4	Drilled	200	2897			200	2697	Paskapoo	Soft, clear		D,S	" "
16	NW	26	39	27	4	Drilled	226	2887	-100	2787	226	2661	Paskapoo	Soft, clear		D,S	" "
17	NE	28	39	27	4	Drilled	215	2911			215	2696	Paskapoo	Soft, clear		S	" "
18	SW	28	39	27	4	Drilled	90	2910			90	2820	Paskapoo	Hard, cloudy	45°	D,S	" "
19	NE	29	39	27	4	Drilled	180	2911			180	2731	Paskapoo	Medium, clear		D,S	" " Bedrock at 40'
20	NW	32	39	27	4	Drilled	175	2997			175	2822	Paskapoo	Soft, clear		D,S	" "
21	NE	33	39	27	4	Drilled	337	2923	- 8	2915	337	2586	Paskapoo	Soft, clear	42°	D,S	" "
22	NE	34	39	27	4	Dug	32	2863	- 29	2834	32	2831	Glacial: sand	Medium, clear		D,S	" "
23	SW	36	39	27	4	Drilled	200	2888			200	2688	Paskapoo	Soft, clear			" "
1	SE	2	39	28	4	Dug	30	3075	- 18	3057	30	3045	Paskapoo	Hard, clear		D,S	Sufficient supply, Bedrock at 8'
2	SE	3	39	28	4	Dug	22	3110	- 18	3092	22	3088	Paskapoo	Hard, clear	38°	D,S	Insufficient supply, Bedrock at 18'
3	SE	3	39	28	4	Dug	16	3086	- 12	3074	16	3070	Paskapoo	Medium, clear		D,S	Sufficient supply, Bedrock at 12'
4	SW	4	39	28	4	Dug	20	3131	- 12	2119	20	3121	Glacial contact	Hard, clear		D,S	" " Bedrock at 10'
5	NE	8	39	28	4	Dug	30	3084	- 15	3069	30	3054	Glacial clay	Hard, clear		D	" "
6	SE	11	39	28	4	Dug	16	3033	- 6	3027	16	3017	Glacial clay	Medium, clear		D,S	" "
7	SW	16	39	28	4	Drilled	90	3014			90	2924	Paskapoo	Hard, cloudy		S	" "
8	NW	17	39	28	4	Drilled	85	2984	- 30	2954	85	2899	Paskapoo	Hard, iron	41°	D,S	" "
9	SW	20	39	28	4	Drilled	150	2975			150	2825	Paskapoo	Medium, clear		D,S	" "
10	NW	26	39	28	4	Drilled	180	3057	- 30	3027	180	2877	Paskapoo	Soft, clear		D,S	" "
11	NE	28	39	28	4	Drilled	83	3011	- 45	2966	83	2928	Paskapoo	Soft, clear	45°	D	" "
12	SE	29	39	28	4	Drilled	130	2843			130	2713	Paskapoo	Soft, clear		D,S	" "
13	NE	34	39	28	4	Drilled	116	3035	- 40	2995	116	2919	Paskapoo	Medium, clear	45°	D,S	" "

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

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

WELL RECORDS — ~~Rural Municipality of~~ TOWNSHIPS 39 to 42, RANGES 25 to 28, WEST FOURTH MERIDIAN, ALBERTA

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
14	SE	34	39	28	4	Drilled	265	3051			265	2786	Paskapoo	Soft, clear		D,S	Sufficient supply
15	SW	35	39	28	4	Drilled	188	3059	- 45	3014	188	2871	Paskapoo	Soft, clear		D,S	" " Bedrock at 50'
16	SW	36	39	28	4	Drilled	55	3074	- 12	3062	55	3016	Glacial	Hard, clear	45°	D,S	" "
1	NW	2	40	25	4	Dug	30	2877			30	2847	Glacial till	Hard, clear		D,S	Sufficient supply
2	SW	5	40	25	4	Drilled	140	3159			140	3019	Paskapoo	Medium, clear		D,S	" "
3	NW	5	40	25	4	Dug	27	3121			27	3094	Paskapoo			N	Well caved in
4	SE	6	40	25	4	Drilled	70	3176			70	3106	Paskapoo	Medium, clear		D,S	Sufficient supply
5	NE	6	40	25	4	Drilled	90	3200			90	3110	Paskapoo			N	Well gone dry. Bedrock at 90'
6	SW	7	40	25	4	Drilled	65	3154			65	3089	Paskapoo	Hard, clear		D,S	Sufficient supply
7	NW	7	40	25	4	Drilled	67	3177	- 20	3157	67	3110	Paskapoo	Medium, clear		D,S	" " Bedrock at 20'
8	NE	8	40	25	4	Dug	35	3064	- 18	3046	35	3029	Glacial till	Medium, clear		D,S	" "
9	NW	9	40	25	4	Drilled	83	3007	- 25	2982	83	2924	Paskapoo	Soft, clear		D,S	" "
10	NE	9	40	25	4	Dug	35	3008	- 20	2988	35	2973	Paskapoo	Hard, clear		D,S	" " Bedrock at 30'
11	SE	9	40	25	4	Dug	35	2960			15	2945	Glacial till	Soft, clear		D,S	" "
12	NE	10	40	25	4	Dug	15	2988			15	2973	Glacial till	Hard, clear		D,S	" "
13	NE	12	40	25	4	Drilled	60	2944			60	2884	Paskapoo	Hard, clear		D,S	" "
14	SE	13	40	25	4	Drilled	180	3012			180	2832	Paskapoo	Medium, clear		D,S	" "
15	NE	13	40	25	4	Drilled	260	2990	-180	2810	260	2730	Paskapoo	Medium, clear		D,S	" "
16	SW	13	40	25	4	Drilled	60	2964			60	2904	Paskapoo	Hard, clear	42°	D	" "
17	NE	14	40	25	4	Drilled	86	2985	- 60	2925	86	2899	Paskapoo	Medium, clear		D,S	" " Bedrock at 40'
18	SW	14	40	25	4	Drilled	270	2989	-120	2869	270	2719	Paskapoo	Soft, clear		D,S	" "
19	NW	16	40	25	4	Drilled	100	3037	- 20	3017	100	2937	Paskapoo	Soft, clear		D,S	" " Bedrock at 40'
20	SE	17	40	25	4	Drilled	80	3040	- 15	3025	80	2960	Paskapoo	Soft, clear		D,S	" "
21	SW	18	40	25	4	Drilled	125	3172			125	3047	Paskapoo	Medium, clear		D,S	" "
22	SW	19	40	25	4	Drilled	155	3219	-103	3116	155	3064	Paskapoo	Medium, clear		D,S	" "
23	SE	19	40	25	4	Dug	18	3111	- 4	3107	18	3093	Glacial till	Hard, clear		D,S	" "
24	SE	20	40	25	4	Drilled	125	2952	- 32	2920	125	2827	Paskapoo	Soft, clear		D,S	" "
25	SW	24	40	25	4	Drilled	175	3026	- 70	2956	175	2851	Paskapoo	Soft, clear		D,S	" "
26	NW	24	40	25	4	Drilled	75	2947			75	2872	Paskapoo	Medium, clear		D,S	" "
27	SE	26	40	25	4	Drilled	300	3000	-150	2850	300	2700	Paskapoo	Medium, clear		D,S	" "
28	SW	28	40	25	4	Dug	36	3037			36	3001	Glacial till	Hard, clear		D,S	" "
29	NW	31	40	25	4	Dug	32	2990	- 20	2970	32	2958	Glacial till	Hard, clear		D,S	" "
30	NE	32	40	25	4	Dug	39	2907	- 9	2898	39	2878	Glacial till	Soft, clear		D,S	" "
31	NE	33	40	25	4	Drilled	75	2896			75	2821	Paskapoo (?)	Hard, clear		D,S	" "
32	SW	35	40	25	4	Spring		2832					Glacial till	Hard, clear		D,S	" "
33	SW	36	40	25	4	Drilled	80	2873	- 20	2853	80	2793	Paskapoo	Hard, clear		D,S	" "
1	NE	1	40	26	4	Drilled	95	3139	- 85	3054	95	3044	Paskapoo	Medium, clear		D,S	Sufficient supply
2	SE	3	40	26	4	Dug	45	3119			45	3074	Glacial contact	Hard, clear		D,S	" " Bedrock at 45'
3	NW	3	40	26	4	Drilled	65	2958			65	2893	Paskapoo	Soft, clear		D	" "
4	SE	4	40	26	4	Dug	39	2949			39	2910	Glacial till	Hard, clear		D,S	" "
5	SW	5	40	26	4	Drilled	157	2811			157	2654	Paskapoo	Soft, clear		D,S	" "
6	NE	6	40	26	4	Dug	50	2799	- 15	2784	50	2749	Glacial: sand	Hard, clear		D,S	" "
7	SW	7	40	26	4	Drilled	152	2791			152	2639	Paskapoo	Soft, clear		D,S	" "
8	SE	8	40	26	4	Drilled	125	2845			125	2720	Paskapoo	Soft, clear		D,S	" "
9	SW	9	40	26	4	Drilled	200	2866			200	2666	Paskapoo	Soft, clear		D,S	" "
10	SW	10	40	26	4	Drilled	460	2955			460	2495	Paskapoo	Soft, clear		D,S	" "
11	NW	10	40	26	4	Drilled	225	2896			225	2671	Paskapoo			N	Dry hole. Bedrock at 100'

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.

TOWNSHIPS 39 to 42, RANGES 25 to 28, WEST FOURTH MERIDIAN, ALBERTA

B 4-1

WELL RECORDS—Rural Municipality of .....

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
12	NE	10	40	26	4	Bored	47	2960	- 18	2942	47	2913	Glacial till	Hard, clear	40°	D,S	Sufficient supply
13	SW	11	40	26	4	Dug	12	3100	- 6	2994	12	2988	Paskapoo	Medium, cloudy		D,S	" " Bedrock at 8'
14	SE	12	40	26	4	Drilled	104	3146	- 40	3106	104	3042	Paskapoo	Soft, clear		D,S	Drilled in 1946 Bedrock at 45'
15	SE	13	40	26	4	Drilled	120	3161	- 30	3131	120	3041	Paskapoo	Soft, clear		D,S	Sufficient supply
16	SW	13	40	26	4	Drilled	130	3093			130	2963	Paskapoo	Medium, clear		D,S	" "
17	SE	14	40	26	4	Drilled	530	3029			530	2499	Paskapoo	Soft, clear		D,S	" "
18	SW	14	40	26	4	Drilled	80	2977			80	2897	Paskapoo	Soft, clear		D	" "
19	SE	15	40	26	4	Dug	37	2978	- 11	2967	37	2941	Glacial contact	Soft, clear		D,S	" " Bedrock at 37'
20	NE	16	40	26	4	Dug	24	2896	- 20	2876	24	2872	Glacial: sand	Hard, clear		D	" "
21	NE	17	40	26	4	Drilled	127	2836			127	2709	Paskapoo	Soft, clear		D,S	" "
22	NE	18	40	26	4	Drilled	214	2787			214	2573	Paskapoo	Soft, clear		D,S	" "
23	SW	18	40	26	4	Dug	14	2781	- 10	2771	14	2767	Glacial: sand	Hard, clear		D,S	" "
24	NW	18	40	26	4	Drilled	190	2802	- 40	2762	190	2612	Paskapoo	Soft, clear		D,S	" "
25	NW	22	40	26	4	Dug	30	2894	- 24	2870	30	2864	Glacial: sand	Hard, clear		D,S	" "
26	NE	22	40	26	4	Drilled	400	2918	-180	2738	400	2518	Paskapoo	Soft, clear		D,S	" "
27	SW	23	40	26	4	Dug	24	2942	- 16	2926	24	2918	Glacial till	Hard, clear		D,S	" "
28	NE	23	40	26	4	Drilled	190	2996			190	2806	Paskapoo	Soft, clear		D,S	" "
29	SE	24	40	26	4	Dug	33	3222	- 20	3202	33	3189	Paskapoo	Hard, clear		D,S	" " Bedrock at 10'
30	SE	25	40	26	4	Drilled	105	3128	- 80	3048	105	3023	Paskapoo	Soft, clear		D,S	" "
31	SE	26	40	26	4	Drilled	475	2985			475	2510	Paskapoo	Soft, clear		D,S	" "
32	SE	26	40	26	4	Drilled	196	2954	-120	2834	196	2758	Paskapoo	Soft, clear		D,S	" "
33	NW	26	40	26	4	Drilled	300	2948			306	2648	Paskapoo	Soft, clear		D,S	" "
34	NW	27	40	26	4	Drilled	330	2891			330	2561	Paskapoo	Medium, clear		D,S	" "
35	SW	28	40	26	4	Dug	24	2827	- 8	2819	24	2803	Glacial: sand	Hard, clear		D,S	" "
36	SW	28	40	26	4	Drilled	240	2827			240	2587	Paskapoo	Soft, clear		D,S	" "
37	SE	29	40	26	4	Drilled	140	2783	- 7	2777	140	2643	Paskapoo	Soft, clear	45°	D,S	" "
38	NE	30	40	26	4	Drilled	231	2832	- 30	2802	231	2601	Paskapoo	Soft, clear		D,S	" "
39	NE	31	40	26	4	Drilled	250	2800+			250	2550	Paskapoo	Soft, clear		D,S	" "
40	NE	32	40	26	4	Drilled	100	2850+			100	2750	Glacial (?)	Soft, clear			Supply unknown
41	SE	34	40	26	4	Drilled	190	2889	- 60	2829	190	2699	Paskapoo	Soft, clear		D	Sufficient supply
42	NW	34	40	26	4	Drilled	140	2850+			140	2710	Glacial (?)	Hard, clear		D,S	" "
43	NW	35	40	26	4	Drilled	182	2941	- 70	2871	182	2759	Paskapoo	Soft, clear		D,S	" "
44	NW	36	40	26	4	Drilled	90	3020	- 26	2994	90	2930	Paskapoo	Soft, clear		D,S	" "
1	NW	1	40	27	4	Dug	43	2863	- 40	2823	43	2820	Glacial: sand	Medium, clear		D,S	Sufficient supply
2	SW	4	40	27	4	Drilled	369	2946			369	2637	Paskapoo	Hard, clear		D,S	" "
3	NW	5	40	27	4	Drilled	112	3046	- 50	2996	112	2934	Paskapoo	Medium, clear	45°	D,S	" "
4	SW	7	40	27	4	Drilled	400	3099			400	2699	Paskapoo	Soft, clear		D,S	" "
5	NE	7	40	27	4	Drilled	102	3048	- 51	2997	102	2946	Paskapoo	Medium, clear		D,S	" "
6	SE	7	40	27	4	Drilled	137	3050	- 30	3020	137	2913	Paskapoo	Soft, clear		D,S	" "
7	SE	9	40	27	4	Drilled	112	2887	- 14	2873	112	2775	Paskapoo	Soft, clear	45°	D,S	" " Coal at 53'
8	NW	11	40	27	4	Dug	25	2834	- 23	2811	25	2809	Glacial: sand	Medium, clear		D,S	" "
9	SW	12	40	27	4	Dug	25	2838	- 20	2818	25	2813	Glacial: sand	Hard, clear		D,S	" "
10	SW	12	40	27	4	Dug	12	2830	- 9	2821	12	2818	Glacial: sand	Hard, clear		D,S	" "
11	SE	14	40	27	4	Drilled	98	2829	- 50	2779	98	2731	Glacial: sand	Medium, clear		D,S	" "
12	NE	14	40	27	4	Drilled	180	2824	- 44	2780	180	2644	Paskapoo	Soft, clear	45°	D,S	" " Bedrock at 100'
13	SE	15	40	27	4	Drilled	175	2843	- 15	2828	175	2668	Paskapoo	Soft, clear		D,S	" "
14	NE	15	40	27	4	Drilled	270	2841	- 11	2830	270	2571	Paskapoo	Soft, clear		D,S	" "
15	SE	16	40	27	4	Dug	12	2875	- 7	2868	12	2863	Glacial till	Hard, clear		D,S	" "
16	SW	17	40	27	4	Drilled	75	3022			75	2947	Paskapoo	Medium, clear		D,S	" "
17	NW	20	40	27	4	Drilled	220	3037	- 90	2947	220	2817	Paskapoo	Medium, clear		D,S	" "
18	NE	20	40	27	4	Drilled	120	2992			120	2872	Paskapoo (?)	Hard, clear		D,S	" "
19	SE	20	40	27	4	Drilled	165	2983			165	2818	Paskapoo	Medium, clear		D,S	" " Bedrock at 90'

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.

TOWNSHIPS 39 to 42, RANGES 25 to 28, WEST FOURTH MERIDIAN, ALBERTA

WELL RECORDS — Rural Municipality of

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
20	NE	23	40	27	4	Drilled	300	2895			300	2595	Paskapoo	Soft, clear		D	Sufficient supply
21	NE	25	40	27	4	Drilled	246	2839			246	2593	Paskapoo	Medium, clear		D,I	" "
22	SE	26	40	27	4	Drilled	217	2842	-16	2826	217	2625	Paskapoo	Soft, clear		D,S	" "
23	SW	27	40	27	4	Dug	43	2874	-27	2847	43	2831	Glacial till	Medium, clear		D,S	" "
24	SW	27	40	27	4	Dug	12	2936	- 2	2934	12	2924	Glacial: clay, sand	Hard, clear		D,S	" "
25	NE	28	40	27	4	Drilled	52	2958	- 8	2950	52	2906	Glacial contact	Hard, clear		D,S	" " Bedrock at 50'
26	SW	28	40	27	4	Dug	45	2966	-25	2941	45	2921	Glacial	Hard, iron		D,S	" "
27	SE	29	40	27	4	Dug	47	3024	-16	3008	47	2977	Glacial till	Medium, clear		D,S	" "
28	SW	30	40	27	4	Dug	18	3048			18	3030	Glacial till	Hard, clear		N	" "
29	SW	30	40	27	4	Drilled	315	3048	-112	2936	315	2733	Paskapoo	Hard, iron	45°	D,S	" "
30	NW	30	40	27	4	Drilled	165	3063			165	2898	Paskapoo	Hard, clear		D,S	" "
31	SE	32	40	27	4	Dug	28	3034	- 24	3010	28	3006	Glacial till	Hard, iron		D,S	" "
32	NW	34	40	27	4	Drilled	108	2977	- 70	2907	108	2864	Paskapoo	Soft, clear		D,S	" "
33	NE	35	40	27	4	Drilled	137	2845	- 30	2815	137	2708	Paskapoo	Soft, clear		D	" "
1	SE	2	40	28	4	Dug	17	3099			17	3082	Glacial till	Hard, clear		D,S	Sufficient supply
2	NE	2	40	28	4	Drilled	60	3083	- 10	3073	60	3023	Paskapoo	Medium, clear		D,S	" "
3	NW	2	40	28	4	Drilled	85	3059	- 35	3024	85	2974	Paskapoo	Medium, clear	43°	D,S	" "
4	SW	2	40	28	4	Drilled	83	3056	- 35	3021	83	2973	Paskapoo	Medium, clear	45°	D,S	" "
5	SW	3	40	28	4	Drilled	94	3032	- 30	3002	94	2938	Paskapoo	Soft, clear		D,S	" "
6	SW	9	40	28	4	Drilled	73	3040	- 16	3024	73	2967	Paskapoo	Medium, clear		D,S	" "
7	NW	11	40	28	4	Drilled	92	3056	- 55	3001	92	2964	Paskapoo	Medium, clear	43°	D,S	" " Bedrock at 60'
8	NW	12	40	28	4	Drilled	93	3091	- 20	3071	93	2998	Paskapoo	Medium, clear		D,S	" "
9	NE	13	40	28	4	Drilled	87	3066			87	2979	Paskapoo	Medium, clear	45°	D,S	" " Bedrock at 25'
10	SW	13	40	28	4	Drilled	90	3082	- 30	3052	90	2992	Paskapoo	Soft, clear		D	" "
11	NW	16	40	28	4	Drilled	69	3049	- 29	3020	69	2980	Paskapoo	Medium, clear	43°	D,S	" " Bedrock at 20'
12	SW	24	40	28	4	Drilled	105	3029	- 50	2979	105	2924	Paskapoo	Medium, clear		D,S	" "
13	SE	24	40	28	4	Drilled	186	3063			186	2877	Paskapoo	Hard, clear		D,S	" "
14	SE	26	40	28	4	Drilled	103	3003	- 25	2878	103	2900	Paskapoo	Medium, clear		D,S	" "
15	NE	35	40	28	4	Drilled	168	2988			168	2820	Paskapoo	Soft, clear		D	" "
16	NE	36	40	28	4	Drilled	165	3023	- 72	2951	165	2858	Paskapoo	Hard, cloudy	45°	D,S	" "
1	SW	3	41	25	4	Drilled	126	2850-	- 85	2765	126	2724	Paskapoo	Soft		D,S	Good supply
2	NW	3	41	25	4	Drilled	180	2850-			180	2670		Soft		D,S	" "
3	SW	4	41	25	4	Drilled	57	2850+	- 7	2843	57	2793				D	" "
4	NE	4	41	25	4	Drilled	219	2900-			219	2681		Soft		D	" "
5	SE	4	41	25	4	Drilled	135	2850-			135	2715		Soft			" "
6	NW	4	41	25	4	Drilled	133	2900-	- 7	2893	133	2767	Paskapoo	Hard		D,S	" "
7	SW	6	41	25	4	Drilled	140	2950+			140	2810		Hard		D,S	" "
8	NE	7	41	25	4	Dug	25	3000	- 17	2983	25	2975	Glacial clay	Hard		D,S	Sufficient Supply
9	NE	10	41	25	4	Dug	25	2850	- 18	2832	25	2825	Glacial clay	Hard		D,S	" "
10	SW	10	41	25	4	Drilled	173	2875	- 40	2835	173	2702	Paskapoo	Soft		D,S	" "
11	NE	13	41	25	4	Drilled	50	2850+			50	2800		Hard		D,S	Good supply
12	SW	13	41	25	4	Drilled	110	2900+			110	2790	Paskapoo	Hard		D,S	Sufficient supply
13	NE	14	41	25	4	Drilled	65	2900+			65	2835	Paskapoo	Hard		D,S	" "
14	NW	16	41	25	4	Drilled	257	2950-			257	2693		Hard			Very good supply. Coal at 200'
15	SE	17	41	25	4	Drilled	196	2950+			196	2754		Soft		D,S	Sufficient supply
16	SE	20	41	25	4	Drilled	197	2950+			197	2753		Soft		D,S	Good supply
17	NE	21	41	25	4	Drilled	80	2950			80	2870	Paskapoo	Hard		D,S	Sufficient supply
18	SW	23	41	25	4	Dug	20	2880	-10	2870	20	2860	Glacial sand	Hard		D,S	" "
19	NW	24	41	25	4	Dug	28	2900+	-11	2889	28	2872	Glacial clay	Hard		D,S	Good 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.

TOWNSHIPS 39 to 42, RANGES 25 to 28, WEST FOURTH MERIDIAN, ALBERTA

WELL RECORDS—Rural Municipality of

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	SE	2	39	25	4	Drilled	68	2988			68	2920	Glacial	Hard, clear		D,S	Sufficient supply
2	NE	2	39	25	4	Drilled	325	3041			325	2716	Paskapoo	Soft, iron		D,S	" "
3	SW	2	39	25	4	Drilled	75	2898	-50	2848	75	2823	Paskapoo	Hard, clear		D,S	" " Bedrock at 60'
4	SW	5	39	25	4	Drilled	60	3009			60	2949	Glacial	Hard, clear		D	" "
5	SE	6	39	25	4	Drilled	43	3009			43	2966	Glacial (?)	Hard, clear	42°	D	" "
6	NE	6	39	25	4	Dug	30	3005	-20	2985	30	2975	Glacial clay	Medium,clear	45°	D,S.	" "
7	NW	8	39	25	4	Drilled	79	2902	-36	2866	79	2823	Paskapoo	Medium,clear		D,S	" " Bedrock at 60'
8	NE	8	39	25	4	Drilled	55	2887	-25	2862	55	2832	Paskapoo	Medium,clear		D,S	" "
9	SW	9	39	25	4	Drilled	16	2869	+5	2874	16	2853	Paskapoo	Soft, clear		D,S	" "
10	NW	11	39	25	4	Drilled	155	2963	-120	2843	155	2808	Paskapoo	Soft, clear	42°	D,S	" "
11	NW	12	39	25	4	Dug	60	2867	-10	2866	60	2807	Paskapoo	Hard, iron		D,S,I	" " Bedrock at 73'
12	NE	13	39	25	4	Drilled	103	2814	-48	2766	103	2711	Paskapoo	Hard, iron		D,S	" "
13	SE	16	39	25	4	Drilled	90	3004			90	2914	Glacial	Hard, iron		D,S	" "
14	NW	16	39	25	4	Drilled	65	2994	-20	2974	65	2929	Glacial	Soft, clear		D,S	" "
15	NE	17	39	25	4	Drilled	50	2952			50	2902	Glacial	Hard, iron		D,S	" "
16	SW	18	39	25	4	Drilled	120	3059	-60	2999	120	2939	Paskapoo	Medium,iron	45°	D,S	" "
17	NW	18	39	25	4	Dug	50	3032	-45	2987	50	2982	Paskapoo	Hard, iron		D,S	" "
18	NW	19	39	25	4	Drilled	180	3022			180	2842	Paskapoo	Hard, iron		D,S	" "
19	SE	19	39	25	4	Drilled	60	2952	- 3	2949	60	2892	Glacial contact	Medium,clear		D,S.	" " Bedrock at 60'
20	SW	20	39	25	4	Dug	12	3028	- 8	3020	12	3016	Glacial;clay	Hard, clear		D,S	" "
21	NW	21	39	25	4	Drilled	47	2984			47	2937	Glacial:clay	Hard, clear		D,S	" "
22	NW	21	39	25	4	Drilled	268	2990			268	2722	Paskapoo	Soft,clear		D,S	" " Contains soda
23	SW	21	39	25	4	Drilled	51	2990	-40	2950	51	2939	Glacial	Hard, clear		D,S	" "
24	NW	22	39	25	4	Drilled	96	3067	-54	3013	96	2971	Paskapoo	Soft, clear		D,S	" " Bedrock at 90'
25	SE	24	39	25	4	Drilled	65	2825	-25	2800	65	2760	Glacial	Soft, clear		D,S,I	" "
26	SW	25	39	25	4	Drilled	90	2957			90	2867	Paskapoo	Hard, iron	42°	D,S	" "
27	SE	26	39	25	4	Drilled	110	2955			110	2845	Paskapoo	Soft, clear		D,S	" "
28	SE	28	39	25	4	Drilled	110	3034			110	2924	Paskapoo	Soft, clear		D,S	" "
29	NW	28	39	25	4	Drilled	220	3178	-80	3098	220	2958	Paskapoo	Soft, clear		D,S	" "
30	SW	29	39	25	4	Spring							Glacial till	Medium,clear	44°	D,S	" "
31	NE	30	39	25	4	Drilled	65	3022	-20	3002	65	2957	Glacial clay	Medium,clear		D,S	" "
32	NW	31	39	25	4	Bored	80	3120			80	3040	Paskapoo	Hard, clear		D,S	" "
33	SE	31	39	25	4	Dug	50	3044			50	2994	Glacial clay	Hard, clear		D,S	" "
34	SW	32	39	25	4	Drilled	225	3073	-50	3023	225	2848	Paskapoo	Soft, clear		D,S	" "
35	NW	32	39	25	4	Drilled	132	3114			132	2982	Paskapoo	Soft, clear		D,S	" "
36	SE	34	39	25	4	Drilled	225	3074			225	2849	Paskapoo	Soft, clear		D,S	" "
37	SW	35	39	25	4	Drilled	94	3057	-70	2987	94	2863	Paskapoo	Soft, clear		D,S	" " Bedrock at 10'
1	SE	1	39	26	4	Dug	30	3015	-28	2987	30	2985	Paskapoo	Hard, clear		D,S	" " Bedrock at 25'
2	SW	2	39	26	4	Drilled	200	3244	-180	3064	200	3044	Paskapoo	Soft, clear		D,S	" "
3	NW	3	39	26	4	Dug	33	3191	-28	3163	33	3158	Paskapoo	Medium,clear		D,S	" " Bedrock at 17'
4	SE	5	39	26	4	Dug	20	3128	-14	3114	20	3108	Glacial contact	Medium,clear		D,S	" " Bedrock at 20'
5	SW	6	39	26	4	Dug	18	2884	-15	2869	18	2866	Glacial (?)	Hard, clear		D,S	" "
6	NW	6	39	26	4	Drilled	200	2885			200	2685	Paskapoo	Soft, clear		D,S	" "
7	NE	7	39	26	4	Drilled	60	2993			60	2933	Paskapoo	Medium,clear		D.S	" "
8	SW	8	39	26	4	Drilled	100	2896			100	2796	Paskapoo	Soft,clear		D.S	"" "
9	NW	13	39	26	4	Drilled	100	3129	-85	3044	100	3029	Paskapoo	Soft, clear		D.S	" "
10	NW	14	39	26	4	Drilled	94	2983			94	2889	Paskapoo	Soft, clear		D.S	" "
11	SE	16	39	26	4	Drilled	165	2901	-140	2761	165	2736	Paskapoo	Soft, clear		D.S	" " Coal at 60'
12	NW	16	39	26	4	Dug	30	2911	- 20	2891	30	2881	Glacial clay	Hard, clear	45°	D.S	" "
13	NW	18	39	26	4	Spring		2725				2725	Paskapoo	Medium,clear	42°	D.S	" "
14	SW	20	39	26	4	Drilled	165	2851	- 60	2791	165	2686	Paskapoo	Medium,clear	45°	D.S	" " Bedrock at 100'
15	NE	20	39	26	4	Drilled	240	2812	- 60	2752	240	2572	Paskapoo	Medium, clear		D.S	" "

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

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

WELL RECORDS—Rural Municipality of TOWNSHIPS 39 to 42, RANGES 25 to 26, WEST FOURTH MERIDIAN, ALBERTA

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	SW	1	41	28	4	Drilled	132	2980	-15	2965	132	2848		Hard			Sufficient supply
2	NE	1	41	28	4	Drilled	165	3000+			165	2835	Paskapoo	Soft			Good supply
3	SE	1	41	28	4	Drilled	165	3000+			165	2835	Paskapoo				" "
4	SE	2	41	28	4	Drilled	144	3000-			144	2856		Soft			Sufficient supply
5	NW	2	41	28	4	Drilled	116	2970	-30	2940	116	2854	Paskapoo	Soft			" "
6	SW	12	41	28	4	Dug	30	2960+			30	2930		Hard			Limited supply
7	SW	14	41	28	4	Drilled	90	3000-			90	2910		Soft			Sufficient supply
8	NW	14	41	28	4	Drilled	85	3000-			85	2915		Soft			Good supply
9	NE	22	41	28	4	Drilled	90	3000+			90	2910					" "
10	SW	23	41	28	4	Drilled	96	3010	-14	2996	96	2914		Soft			Sufficient supply
11	NW	23	41	28	4	Drilled	80	3050-			80	2970		Hard			Limited supply
12	SW	25	41	28	4	Drilled	80	3050+			80	2970		Hard			Sufficient supply
13	SE	25	41	28	4	Dug	14	3050+			14	3036	Glacial	Hard			" "
14	NE	35	41	28	4	Drilled	160	3150+			160	2990	Paskapoo	Hard		D,S	" "
1	SE	2	42	25	4	Spring		2950+					Paskapoo	Soft		D,S	Good supply
2	SW	2	42	25	4	Bored	30	3000-	High		30	2970	Glacial	Soft		D,S	" "
3	NW	4	42	25	4	Dug	30	2990+			30	2870	Glacial	Hard		D,S	" "
4	NE	4	42	25	4	Dug		2920					Glacial	Soft		S	" "
5	SE	6	42	25	4	Drilled	263	2850+			263	2587	Edmonton	Soft		D,S	Sufficient supply
6	NW	8	42	25	4	Drilled	136	2782			136	2646		Hard		D,S	" "
7	NW	9	42	25	4	Drilled	195	2815	-136	2679	195	2620	Edmonton	Soft			Good supply
8	SE	10	42	25	4	Spring		2859						Soft		D,S	3½ gals. per min.
9	SW	10	42	25	4	Dug	18	2870			18	2852	Glacial	Hard		D,S	
10	SW	13	42	25	4	Drilled	213	2800-			213	2587	Edmonton	Soft		D,S	Good supply
11	SW	14	42	25	4	Dug	25	2850	- 15	2835	25	2825	Paskapoo	Soft		D	Limited supply
12	NW	16	42	25	4	Drilled	170	2800-			170	2630	Edmonton	Soft			Good supply
13	NE	18	42	25	4	Dug	25	2750+			25	2725	Glacial	Hard		D,S	Poor supply
14	NW	20	42	25	4	Dug	25	2700			25	2675	Glacial	Hard		D,S	Limited supply
15	NW	21	42	25	4	Dug	10	2770			10	2760	Glacial	Hard		D,S	" "
16	NE	22	42	25	4	Drilled	200	2850-			200	2650	Edmonton	Soft		D,S	
17	SE	27	42	25	4	Drilled	150	2875	- 50	2825	150	2725	Edmonton	Soft			
18	NE	28	42	25	4	Drilled	160	2847			160	2687	Edmonton	Soft		D,S	Good supply
19	NE	30	42	25	4	Dug	20	2685			20	2665	Glacial	Hard		D,S	Sufficient supply
20	NW	30	42	25	4	Dug	18	2684			18	2666	Glacial	Hard		D,S	Limited supply
21	NE	31	42	25	4	Drilled	160	2694			160	2534	Edmonton	Soft		D,S	Sufficient supply
22	SW	32	42	25	4	Drilled	500	2700-	- 60	2640	90	2610	Edmonton	Hard		D,S	
											500	2200	Edmonton				
23	SE	33	42	25	4	Drilled	100	2820	High		100	2720	Edmonton	Soft		D,S	
24	NE	34	42	25	4	Drilled	110	2763			110	2653		Hard		D,S	Sufficient supply
1	NE	4	42	26	4	Dug	25	2750+			25	2725	Glacial sand	Hard		D,S	Limited supply
2	NW	4	42	26	4	Dug	40	2765			40	2725	Fine sand	Hard			Sufficient supply
3	SW	6	42	26	4	Dug	16	2850-			16	2834	Gravel	Hard		D,S	" "
4	SW	7	42	26	4	Dug	33	2840	- 31	2809	33	2807	Gravel	Hard		D,S	Limited supply
5	NE	8	42	26	4	Drilled	120	2760	- 70	2690	120	2640	Gravel	Hard		D,S	Sufficient supply
6	SE	10	42	26	4	Dug	12	2740	- 9	2731	12	2728	Sand	Hard		D,S	" "
7	SW	12	42	26	4	Dug	20	2800+			20	2780	Fine sand	Hard		D,S	" "
8	SW	14	42	26	4	Dug	22	2730			22	2708	Glacial sand	Hard		D,S	" "
9	NE	14	42	26	4	Spring		2700-					Paskapoo	Hard			
10	SW	16	42	26	4	Dug	40	2770	- 38	2732	40	2730	Glacial	Hard		D,S	" "

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

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

8

TOWNSHIPS 39 to 42, RANGES 25 to 28, WEST FOURTH MERIDIAN, ALBERTA

B 4-4
R. 7526

WELL RECORDS—Rural Municipality of .....

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	16	42	26	4	Drilled	200	2815	- 70	2745	200	2615	Edmorgon	Soft		D,S	Sufficient supply
12	SE	21	42	26	4	Drilled	180	2750-			180	2570	Edmonton	Soft		D,S	" "
13	NW	21	42	26	4	Drilled	150	2770			150	2620	Edmonton	Soft		D,S	" "
14	NE	24	42	26	4	Drilled	50	2700-			50	2650	Sand	Hard		D,S	" "
15	NW	28	42	26	4	Drilled	240	2770	- 29	2741	240	2530	Edmonton	Soft		D,S	" "
16	NE	30	42	26	4	Dug	23	2850+	- 19	2831	23	2827	Glacial	Hard		D,S	" "
17	SW	31	42	26	4	Dug	12	2860			12	2848	Glacial	Hard		D,S	" "
18	SE	36	42	26	4	Drilled	48	2679			48	2631	Edmonton	Hard		D,S	" "
1	NW	2	42	27	4	Drilled	125	2900+			125	2775	Paskapoo	Soft		D,S	Sufficient supply
2	SE	4	42	27	4	Drilled	74	2900+			74	2826	Paskapoo	Soft		D,S	" "
3	SW	4	42	27	4	Drilled	144	3000+			144	2856	Paskapoo	Hard		D,S	Limited supply
4	SW	5	42	27	4	Drilled	117	3100			117	2983	Paskapoo	Hard		D,S	Sufficient supply
5	SW	9	42	27	4	Drilled	225	3000+			225	2775	Paskapoo	Soft		D,S	" "
6	NE	12	42	27	4	Dug	25	2860	- 23	2837	25	2835	Glacial	Hard		D,S	" "
7	NE	13	42	27	4	Dug	22	2780	- 5	2775	22	2758	Glacial	Hard		D,S	Limited supply
8	NE	14	42	27	4	Dug	30	2850+	- 22	2828	30	2820	Glacial	Hard		D,S	" "
9	SW	15	42	27	4	Drilled	135	2850-			135	2715	Paskapoo	Hard		D,S	Sufficient supply
10	SW	16	42	27	4	Spring		2900					Paskapoo	Soft		D,S	" "
11	NW	20	42	27	4	Dug	17	2850-			17	2833	Glacial sand	Hard		D,S	Limited supply
12	SE	20	42	27	4	Dug	17	2850-			17	2833	Glacial sand	Soft		D,S	Sufficient supply
13	SW	23	42	27	4	Drilled	240	2810	- 60	2750	125	2685	Edmonton	Soft		D,S	" "
											240	2570					
14	NE	25	42	27	4	Dug	22	2900-			22	2878	Glacial	Hard		D,S	" "
15	SE	31	42	27	4	Drilled	112	2850-			112	2738	Paskapoo	Hard		D,S	" "
16	SE	33	42	27	4	Dug	22	2850-	- 8	2842	22	2828	Glacial sand	Hard		D,S	Limited supply
17	NE	34	42	27	4	Drilled	60	2880	-30	2850	60	2820	Glacial sand	Soft		D,S	" "
1	SW	1	42	28	4	Dug	20	3050			20	3030	Glacial clay	Hard		D,S	Sufficient supply
2	SE	4	42	28	4	Drilled	175	3100-			175	2925	Paskapoo	Soft		D,S	" "
3	SW	4	42	28	4	Dug	18	3000			18	2982	Sandstone	Hard		D,S	" "
4	SE	9	42	28	4	Drilled	114	3100+			114	2986	Paskapoo	Soft		D,S	" "
5	NE	12	42	28	4	Drilled	93	2950+			93	2857	Paskapoo	Soft		D,S	" "
6	SE	15	42	28	4	Drilled	95	3050			95	2955	Paskapoo	Hard			" "
7	NW	16	42	28	4	Drilled	180	3100+			180	2920	Paskapoo	Soft		D,S	" "
8	NE	20	42	28	4	Drilled	80	3050			90	2970	Paskapoo	Hard		D,S	" "
9	SE	22	42	28	4	Drilled	100	3000+			100	2900	Paskapoo	Soft		D,S	" "
10	SE	23	42	28	4	Dug	18	2920	- 6	2914	18	2902	Paskapoo	Soft		D,S	" "
11	NW	25	42	28	4	Spring		2900+					Paskapoo	Hard		D,S	" "
12	NE	27	42	28	4	Drilled	103	3000-			103	2897	Paskapoo	Hard		D,S	" "
13	NW	34	42	28	4	Drilled	90	2950	- 17	2933	90	2860	Paskapoo	Hard		D,S	" "
14	NE	35	42	28	4	Dug	30	2850-			30	2820	Blue clay	Hard		D,S	" "
15	NE	36	42	28	4	Drilled	100	2850-			100	2750	Paskapoo	Hard		D,S	" " Coal

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.