CANADA

DEPARTMENT OF MINES

AND

TECHNICAL SURVEYS

GEOLOGICAL SURVEY OF CANADA

WATER SUPPLY PAPER No. 45

PRELIMINARY REPORT

GROUND-WATER RESOURCES OF THE RURAL MUNICIPALITY OF ARLINGTON NO. 79 SASKATCHEWAN

By

B. R. MacKay, H. H. Beach, and R. Johnson

OTTAWA

1936

CANADA

DEPARTMENT OF MINES

BUREAU OF ECONOMIC GEOLOGY

GEOLOGICAL SURVEY

GROUND WATER RESOURCES OF THE RURAL MUNICIPALITY OF ARLINGTON NO. 79 SASKATCHEWAN

BY

B.R. MacKAY, H.H. BEACH, and R. JOHNSON

WATER SUPPLY PAPER NO. 45

CONTENTS

Illustrations

GROUND WATER RESOURCES OF THE RURAL MUNICIPALITY OF ARLINGTON, NO. 79 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 given 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

---

[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 age.

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 rests 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 Arlington covers an area of 324 square miles in the southwestern part of the province of Saskatchewan. The area is described as tps. 7, 8, and 9, ranges 19, 20, and 21, W. 3rd mer. The centre of the municipality is approximately 57 miles due southwest of the city of Swift Current. The Lethbridge-Weyburn line of the Canadian Pacific railway crosses the southern half of the municipality. Swiftcurrent creek flows from the southwest corner to the central part of the northern boundary of the area in a narrow, deeply carved valley. Jones creek, flowing southward in a narrow, steep-sided valley, is tributary to Swiftcurrent creek, joining it near the southern boundary of township 8, range 20. Many excellent exposures of the bedrock formations are to be seen along the sides of these two creeks. Rock creek, flowing intermittently in a northerly direction along the eastern edge of the municipality, joins Swiftcurrent creek in the municipality immediately north. From the bottom of Swiftcurrent creek at elevations ranging from 2,900 feet to 3,050 feet above sea-level the ground surface rises abruptly some 100 to 150 feet to form the eastern bank of the creek, and then extends as a gently rolling upland rising gradually to the southeast and reaching elevations exceeding 3,200 feet in the southeast corner of the municipality. The western slope of Swiftcurrent Creek valley is much more rugged. The area is deeply dissected by many narrow ravines producing in their vicinity a rough irregular topography.

The ground surface rises irregularly to elevations exceeding 3,700 feet above sea-level in township 8, range 21, to form the eastern extension of Cypress hills. It is to be noted that the relief as indicated by contour lines on Figure 2 covers only part of the municipality, no contoured base of townships 7 and 8, range 19 being available.

Water-bearing Horizons in the Unconsolidated Deposits

Beds of silts, sands, and, in a few places, gravels, of Recent origin, cover the bottoms of the large stream valleys, and particularly those of Swiftcurrent, Jones, and Bone creeks. These deposits are generally very thin, however, and do not contain extensive water-bearing horizons, and no wells are known to be drawing their supplies from them. It is probable, however, that where gravel beds exist small quantities of drinkable water will be obtained within 15 to 20 feet from the surface. The small seepages to be expected in the finer sands and silts in which ground water circulation is much slower will probably be of poor quality, due to a concentration of dissolved mineral salts. It may be necessary to dig several prospect holes before a productive gravel bed is encountered.

A mantle of glacial drift covers practically the whole municipality. It is absent in some places as along the sides of the creeks where the underlying bedrock is exposed and 100 to 120 feet thick on top of the western highlands. The drift in the form of glacial till is composed of compact, yellow to bluish grey boulder clay through which are scattered small, irregular pockets of porous sands and gravel. The till was deposited over this municipality during the southward advance of a great continental ice-sheet which many thousands of years ago advanced southward over the province of Saskatchewan. With the melting of the ice and the retreat of the ice front additional material was deposited, particularly in areas where the retreating ice front was stationary for a considerable period of time. This greater accumulation of drift is called terminal moraine. It is generally more porous than the glacial till due to the sorting action of the water that issued from the melting ice. The moraine is confined to the highlands in the western part of township 8, range 21, and the southern and western border of township 9, range 21.

The boulder clay itself is practically impervious to the passage of ground water and the small seepages of water obtained from it are in many cases too highly charged with dissolved mineral salts to be used for drinking. Sand and gravel pockets encountered in the boulder clay within 25 feet of the surface form a source of drinking water for many farms. The supply is in a few places sufficient for 10 to 15 head of stock. Water found in porous beds at greater depths in the boulder clay contains a greater amount of dissolved salts, presumably washed down from the overlying blue clay. Since there is little or no indication on the surface of the porous beds several attempts have often to be made before a productive bed is tapped.

Wells sunk in the moraine-covered areas to depths not exceeding 50 feet should yield drinkable water in sufficient quantities for household requirements and for a few head of stock.

In nearly all parts of this municipality residents if they have difficulty in procuring water in the drift are well advised to sink wells through it into the underlying bedrock formations.

Water-bearing Horizons in the Bedrock

A much greater uniformity over large areas exists in the beds comprising the bedrock formations of this municipality than in the overlying glacial drift. Five distinct formations are recognized, namely the Cypress Hills, Ravenscrag, Whitemud, Eastend, and Bearpaw formations. These formations were presumably laid down more or less uniformly over the entire municipality. The oldest or Bearpaw formation underlies the other formations. Subsequent erosion by streams has caused the upper formations to have been in part removed, exposing the lower formations in many places. An attempt has been made on the accompanying map, Figure 1, to indicate by the superposition of symbols not only the varying

character of the glacial drift, but also which of the bedrock formations immediately underlies the drift at any given locality. The Cypress Hills beds are the youngest and are 20 to 120 feet thick. They are confined to the uplands west of Swiftcurrent creek, where they underlie the glacial drift at depths ranging from 10 to 120 feet. They consist mainly of a thick bed of quartzite cobbles varying from 2 inches to 5 inches in diameter, firmly cemented in a matrix of sand and lime, locally referred to as "cobble rock". Interspersed in this conglomerate are beds of clay, sand, and gravel.

Good supplies of medium hard water are commonly obtained from the sand and gravel of the Cypress Hills beds at depths between 50 and 175 feet. In some localities, however, no water-bearing beds are encountered and residents have been forced to sink wells down to the beds of coarse, blue-grey sand and seams of lignite coal that form aquifers in the underlying Ravenscrag formation. The Ravenscrag underlies the Cypress Hills beds at elevations between 3,500 and 3,000 feet above sea-level and occurs immediately below the glacial drift in an area from 2 to 3 miles in width paralleling Swiftcurrent creek on the west and on the uplands in the southeast corner and bordering the eastern edge of the municipality.

The upper part of the Ravenscrag consists essentially of yellow to brown shales and clays, beds of soft sandstone, and thin seams of lignite coal. The lower part of the formation is made up largely of soft, coarse, grey sandstone beds with only minor amounts of clays and shales. These latter beds form extensive water-bearing horizons not only in this municipality but over large areas in southern Saskatchewan. Very little detailed information can be given on the water horizons in the Ravenscrag of the western part of the municipality where it underlies the Cypress Hills beds and the glacial drift down to an approximate elevation of 3,000 feet. Good supplies of hard water have been obtained from sand beds and more

occasionally coal seams at shallow depths below the Cypress Hills conglomerate. Wells varying in depth from 70 to 190 feet reach the water-bearing beds at elevations between 3,350 and 3,450 feet. Springs along the west side of Jones creek yield large supplies of water from sand and coal aquifers at elevations between 3,000 and 3,250 feet. The water from the lower beds of the formation is soft, whereas that from the upper beds is usually hard.

The Ravenscrag formation is relatively thick at the southeastern corner of the municipality. Good supplies of hard water containing varying amounts of dissolved mineral salts are obtained from sand beds and coal seams in the upper part of the formation. Three extensive horizons of water-bearing coal seams are believed to exist in this area. The "A" line of the geological map marks the approximate boundary of an area to the southeast in which water can be obtained from coal seams at elevations between 3,270 and 3,230 feet above sea-level. The "B" line is the northwest boundary of an area in which water can be obtained from coal seams at elevations between 3,170 and 3,130 feet. The "C" line is the northwest boundary of an area in which water can be obtained from coal seams at elevations between 3,090 and 3,050 feet. The boundary lines indicated on the map are only approximate. The depths necessary to reach any one of the above-mentioned horizons depends on the surface elevation. Ample supplies of drinkable water are generally obtained from one of these horizons, or from other less extensive aquifers, at depths not exceeding 100 feet. Should the first horizon encountered not yield sufficient supplies, it appears to be advisable to sink wells to lower horizons rather than to prospect a new location. The massive sand bed at the base of the Ravenscrag formation yields large supplies of soft water in this area and will be encountered below the "C" horizon at elevations between 2,950 and 3,000 feet. The depths necessary to tap this horizon vary from 150 to 400 feet depending on the elevation of the

selected well site.

The Ravenscrag of the remaining area along the eastern boundary of the municipality is thin, the upper part of the formation having been eroded away. The remaining part, however, consists mostly of the basal sand from which water is commonly obtained at depths not exceeding 100 feet. A considerable variation, both in the quality and the quantity of water obtainable from this sand, is noted in this part of the area. The numerous springs occurring along the banks of Rock creek derive their supply from these basal sands of the Ravenscrag.

A bed of buff to white, fine clay, known as the Whitemud formation and having a thickness not exceeding 40 feet, underlies the Ravenscrag in parts of the municipality. It is exposed on the western bank of Swiftcurrent creek from a point about 3 miles north of South Fork, southwest to the southwestern corner of the municipality. It also occurs in the southeastern corner of township 7, range 20. Due to the compact nature of this formation it does not usually yield water. It does, however, form a readily recognizable horizon marker in drilling in this part of the municipality.

The Eastend formation underlies the glacial drift and younger bedrock formations of the municipality down to elevations between 2,850 to 2,750 feet above sea-level, where it grades downward imperceptibly into the marine shales of the Bearpaw formation. It immediately underlies the drift in a belt about 6 miles in width that extends between Swiftcurrent creek and Rock creek from north to south across the central part of the municipality. Massive beds of yellowish and yellowish green, fine sands and coarse silts compose the upper part of the Eastend formation. Thick beds of silts and very fine sand comprise the lower part.

Ground water supplies are quite commonly obtained from these sands and silts at depths of 20 to 100 feet. A very fine sand or silt bed is encountered in wells located in the lowland area south and east of the railroad, from which only small supplies of generally highly mineralized water are obtainable. North of the railroad coarser sands are encountered from which larger supplies of drinkable water are generally available. Two wells sunk to depths of 240 feet in the town of Dollard produced large supplies of soft, drinkable water from a sand bed occurring at an elevation of 2,770 feet. These findings would indicate that a fairly extensive aquifer probably exists at this approximate elevation. A well located in the southeast corner of township 7, range 21, was sunk to a depth of 220 feet without penetrating a productive horizon. This well does not extend below an elevation of 2,855 feet, and hence does not indicate whether or not the aquifer struck in the Dollard wells is productive in this part of the area. Wells in the northeast corner of the municipality yield large supplies of soft water at depths between 100 and 120 feet. However, a 380-foot dry hole drilled in the same area may indicate that these wells are near the western edge of the extensive soft water horizon that occurs in municipalities on the east.

Although there are some prospects of obtaining good supplies of water from deep wells in the Eastend and the upper sandy part of the underlying Bearpaw formation, it is inadvisable to drill into the dark marine shale of the Bearpaw formation which will be encountered below elevations of 2,650 feet in all parts of the municipality. This shale is easily recognizable in drilling by its dark grey to black, soapy appearance when wet, and by the small, roughly cubical fragments into which it crumbles upon drying. Only small supplies of highly "alkaline", salty water, which is unfit for any farm use, can be expected from this formation.

GROUND WATER CONDITIONS BY TOWNSHIPS

Township 7, Range 19

Small supplies of hard, and in several places "alkaline", water are available from the scattered sand and gravel pockets in the glacial drift that covers the township down to depths of 10 to 50 feet. Wells tapping such pockets provide water for the household on several farms and the supply in some is sufficient for a few head of stock. Where many head of stock are to be watered, however, it is advisable to sink wells into the underlying Ravenscrag formation. The coal seams and coarse sand beds in this formation are the aquifers in most of the wells in the township.

Water-bearing coal seams at the "A", "B", and "C" horizons underlie the southern part of the township as indicated on Figure 1. Ample supplies of hard water containing varying quantities of mineral salts are generally available in these and other less extensive horizons in the upper Ravenscrag, at depths varying from 20 to 175 feet. Large supplies of soft water are to be expected in the massive sand bed in the lower part of the formation. This sand is considered to be continuous throughout the township at an approximate elevation of 3,000 to 2,950 feet above sea-level, except in the extreme northwest corner where the Eastend formation immediately underlies the drift. In that part of the township south of the "C" line this basal sand yields large supplies of soft, drinkable water at depths varying from 150 feet along the "C" line, to depths of 375 feet at the highest points in the township along the southern boundary. North of the "C" line this horizon is generally penetrated at depths of 20 to 100 feet from the surface. The bed becomes thinner to the north and its yield is correspondingly diminished. The quality of the water is in places slightly "alkaline", but still serves for household use. Small supplies of water could undoubtedly be obtained in the Eastend formation underlying the Ravenscrag but it has not

been found necessary to sink wells below the Ravenscrag. In the northwest corner of the township where the Ravenscrag is believed to be absent, it seems advisable to thoroughly prospect the glacial deposits within 60 feet of the surface before considering deep drilling. Water was obtained from the lower part of the Eastend at depths of 240 feet in the town of Dollard immediately to the west of this area, and it will probably be necessary to drill to similar depths before adequate supplies can be expected from the Eastend in the northwestern part of this township.

Township 7, Range 20

Sufficient supplies of water are generally obtained from sand and gravel pockets in the glacial drift that overlies the township to depths of 20 to 80 feet. Pockets encountered in wells not exceeding 25 feet in depth form the best source and yield the most desirable quality of water for household use. Wells from 25 to 70 feet deep in the north and west parts of the township generally yield adequate supplies of hard water for local stock needs. The amount of dissolved mineral salts in the water makes it unsuitable for drinking in a number of places.

The Ravenscrag formation underlies the drift in the southeastern quarter of the township down to an elevation of 3,000 feet. Sand beds and coal seams of this formation supply the greater part of the ground water used in this part of the area. Two extensive water-bearing coal horizons encountered in wells sunk in the areas southeast of the "B" and "C" lines shown on Figure 1 yield ample supplies of hard, drinkable water at depths between 60 and 125 feet.

Water supplies will generally be obtained from sand and silt at the top of the Eastend formation which underlies the Ravenscrag in the southeast corner of the township and is immediately beneath the glacial drift in the remaining part. In the northwestern half of the township it has been difficult to determine whether the

ground water supply is derived from the lower part of the drift or the sand beds of the upper part of the Eastend. Wells sunk to depths of 30 to 70 feet yield a sufficient supply of water for approximately 15 to 20 head of stock. In several places, however, the dissolved sulphate salts in the water renders it objectionable for drinking. No drilling has been extended down to the lower part of the Eastend formation in this township. The two 240-foot wells located at Dollard in the township adjacent on the north suggest, however, that fairly large supplies of soft water are available at an approximate elevation of 2,770 feet in at least the northeastern part of this township.

Township 7, Range 21

The ground water conditions in general are poorer in this township than in other parts of the municipality. The mantle of boulder clay covering the township is thin, being practically absent along the western escarpment which trends diagonally southwestward across the township, to more than 50 feet thick on the uplands on both sides of the creek. The few wells deriving their supply from the drift do not yield an adequate quantity of water for more than a few head of stock. Residents have found it expedient to sink wells into the underlying bedrock, where slightly larger supplies of water are usually obtainable. The water from the drift is hard and varies in its dissolved mineral salt content depending on the factors outlined in the general discussion of the water-bearing horizons of the unconsolidated deposits of the municipality.

Considerably better water conditions are to be expected in the northwestern upland part of the township than on the lowlands. A quite porous mantle of glacial drift is immediately underlain by the Cypress Hills formation, and it in turn by the Ravenscrag formation, all three of which contain water-bearing horizons. Although no wells have been sunk in this part of the area, it is probable that fairly large supplies of drinkable water are to be obtained at depths not

exceeding 100 feet.

Throughout the southeastern lowland part of the township the sparingly productive glacial drift is underlain by the lower part of the Eastend formation which is composed largely of beds of very fine sands and silts. This material is essentially too compact to contain any large supplies of water. Wells sunk to depths varying from 20 to 90 feet yield small quantities of hard and generally highly mineralized water which in many places is objectionable for household use. It is improbable that deeper drilling in this half of the township will produce a supply of water adequate or suitable for all farm requirements. The only hope of securing good water supplies in this part of the area is in finding coarse sand or gravel beds in the drift, or coarse sand beds in the Eastend within 100 feet of the surface.

Township 8, Range 19

Supplies of water sufficient for local requirements have been obtained by a few residents from wells not exceeding 50 feet in depth tapping sand or gravel pockets in the glacial drift. Most residents, however, obtain their supplies from sand of the lower Ravenscrag and upper part of the underlying Eastend bedrock formations.

The thin layer of Ravenscrag composed largely of beds of bluish-grey sand underlies the drift throughout the area east of Rock creek. An adequate supply of water for local farm requirements is being obtained from many bedrock wells in this part of the township at depths not exceeding 70 feet. The water is generally soft and does not contain sufficient quantities of mineral salts in solution to render it objectionable for household use. A few wells however, yield hard water with noticeable amounts of dissolved sulphate salts. Residents of the district call such water "alkaline". The small springs along Rock creek are believed to derive their supply from the coarse sand beds of the Ravenscrag formation. The flow is not generally large, but if conserved in reservoirs would

provide ample supplies of water for stock requirements.

Most of the wells sunk to similar depths in the area west of Rock creek obtain adequate supplies of water from the sands of the upper part of the Eastend formation. The water in general is hard and contains larger amounts of dissolved sulphate salts than water from the sands of the Ravenscrag. It is used for the household as well as for stock. No deep drilling has been done in this township. The 240-foot wells at Dollard referred to in previous sections suggest the possibility of obtaining fairly large supplies of soft, drinkable water from the lower part of the Eastend formation at depths of approximately 200 to 250 feet.

Township 8, Range 20

No extensive water-bearing horizons are known to exist in the glacial drift that covers the township. The drift varies in thickness from a few feet along the steep banks of Swiftcurrent and Jones creeks to 40 feet or possibly more over the upland areas, and is composed largely of boulder clay. Many residents have sunk wells penetrating sand pockets at depths not generally exceeding 50 feet from which they obtain small supplies of water. A considerable variation in the quality of the water is noted from different wells; some of the shallower wells yield a soft water, whereas others yield hard water which, although containing dissolved sulphate salts, is quite suitable for drinking.

In the northwestern part of the township good supplies of water can be expected from aquifers in the Cypress Hills and Ravenscrag formations which underlie the glacial drift in the areas indicated on the geological map (Figure 1). Wells that have been sunk in adjoining townships indicate that fairly large supplies of good water are to be expected in this area at depths not exceeding 160 feet. Springs along the west side of Jones creek yield large supplies of soft water from sand beds and coal seams in the Ravenscrag formation. In the area intervening between Jones and Swiftcurrent

creeks the yields of both wells and springs deriving their supply from the Ravenscrag are smaller than in the above-mentioned area. This is to be expected as a much smaller catchment area is presented on which surface waters can accumulate and seep downward into the aquifers.

Throughout the lowland area lying to the east of Swift-current creek most residents have been successful in obtaining adequate supplies from sand and gravel pockets in the glacial drift, thus making it unnecessary to sink wells into the underlying Eastend formation. In a few places, where no water was encountered in the boulder clay, residents have sunk to depths of 40 to 50 feet from the surface and obtained a production from the upper sands of the Eastend. The water in these sand beds is hard and usually contains small amounts of sulphate salts in solution. It is used for drinking and individual wells yield sufficient quantities for approximately 10 to 20 head of stock.

Two 240-foot wells sunk in the town of Dollard in the southeast corner of the township yield large supplies of soft water from aquifers in the lower Eastend. These wells would indicate good prospects of obtaining water at similar depths over at least the southeastern part of the township. It is not usually necessary to sink wells to this depth in order to obtain an adequate supply for average farm requirements.

Township 8, Range 21

A few residents obtain small supplies of water from scattered sand and gravel pockets in the glacial drift at depths not exceeding 30 feet. The drift is known to contain fairly extensive gravel beds in the gently rolling upland of the north-western part of the township. Shallow wells located near gravel ridges can be expected to form a source of good water for household use.

The majority of the residents throughout the township, have sunk wells into the underlying beds of cemented gravels of the Cypress Hills formation. This conglomerate underlies the drift over the entire township except a small area at the southeast where the Ravenscrag is the top bedrock formation. The Cypress Hills formation is encountered at depths of 15 to 70 feet from the surface and varies in thickness between 20 and 100 feet. Good supplies of soft, or only slightly hard, water are generally obtained from porous beds of sand and gravel of the Cypress Hills formation. The depths of wells tapping these aquifers range from 60 to 172 feet.

Water-bearing sand beds and coal seams probably exist in the Ravenscrag formation which underlies the Cypress Hills conglomerate of the township, and immediately underlies the glacial drift at the extreme southeast corner. Along the eastern margin of the area covered by the Cypress Hills conglomerate many residents have failed to strike a productive horizon in the cemented gravels. Deeper drilling into the sand beds and coal seams of the underlying Ravenscrag formation, however, yielded large supplies of moderately hard water which is quite satisfactory for domestic use. Similar water conditions prevail in the Ravenscrag in the extreme southeast corner. Wells reaching these sand and coal aquifers vary in depth from 75 to 175 feet.

Township 9, Range 19

Small supplies of water are obtained from scattered sand and gravel pockets in the glacial till or boulder clay that overlies the township to depths of 10 to 50 feet. The greater amount of the supply being used, however, is obtained from sand beds in the underlying Ravenscrag and Eastend bedrock formations.

In the area east of Rock creek, the drift covering is very thin and wells sunk to depths of 10 to 50 feet generally yield adequate supplies of drinkable water from a thin, bluish grey sand

bed of the Ravenscrag formation which directly underlies the thin covering of glacial drift. The water is usually hard and contains small amounts of sulphate salts in solution, but it is drinkable. The yield of individual wells is not large, but in most places is sufficient for the local requirements. In the area west of Rock creek similar quantities are obtained from finer, greenish grey sands of the upper part of the Eastend formation at depths of 20 to 90 feet from the surface. In the south-central part of the township the water from this horizon is soft, whereas farther north the water is generally hard and charged with small amounts of sulphate salts. Wells located in sections 13, 27, and 36, sunk to depths ranging from 110 to 120 feet, have encountered a productive sand bed in the Eastend at elevations between 2,850 and 2,815 feet above sea-level. This horizon is known to produce large quantities of soft water in the municipalities adjacent on the east. A dry hole sunk to a depth of 380 feet on the SE. $\frac{1}{4}$, section 23, suggests that this horizon is confined to the northeastern corner of this township.

Township 9, Range 20

A thin mantle of glacial till or boulder clay covers the upland parts of this township and attains a maximum thickness of 40 feet in the northwest corner of the area. Although small supplies of water have been found in the drift most of the residents have sunk wells through the drift into the underlying bedrock where little difficulty is experienced in obtaining an adequate water supply.

There are three water-bearing bedrock formations present beneath the glacial drift in this township, namely the Cypress Hills conglomerate, the Ravenscrag, and the Eastend formations.

Good supplies of medium hard water are obtained from beds of sand and gravel in the Cypress Hills formation that underlies the area in the southwestern corner and along the western boundary of the township as indicated on Figure 1. Wells obtain production in

this formation at depths of 50 to 100 feet.

The Ravenscrag formation which underlies the Cypress Hills formation, contains water-bearing coal seams and sand beds which are usually productive in any area where the formation is present. Good supplies of water are to be expected from this formation in all parts of the township west of Swiftcurrent Creek valley. The depths at which water will be encountered in the Ravenscrag cannot be stated definitely as no wells have been sunk into this formation in this part of the township. It is probable, however, that adequate supplies of water for average small farm requirements will be found at depths not exceeding 100 feet. Springs located on the west bank of Jones creek yield large supplies of water of good quality from outcrops of sand beds and coal seams of the Ravenscrag formation. In the area between Jones and Swift-current creeks smaller springs occur. The flow shows considerable seasonal variation. This condition is to be expected as the narrow upland area between the creeks does not present a large catchment area for the accumulation of surface waters.

The few wells sunk along the east boundary of the township where the Eastend is the underlying bedrock formation give little information regarding the water conditions in the formation in this area. In view of conditions obtaining in the adjoining township, however, water-bearing sands can be expected in the upper part of the Eastend at depths not exceeding 100 feet.

Township 9, Range 21

The mantle of glacial drift overlying the township varies in thickness from 20 to 120 feet. Over most of the township the drift is in the form of boulder clay and extends from the surface to depths of 20 to 100 feet. A few scattered sand and gravel pockets may be expected to exist in the upper 30 feet of the clay from which small quantities of water could be obtained. The supplies from this source are seldom sufficient for local stock requirements.

The lower part of the glacial drift, immediately above the Cypress Hills conglomerate, consists of sand and gravel derived mainly from the weathered zone of the Cypress Hills conglomerate. Good supplies of slightly hard, drinkable water are encountered at this horizon. All wells in the township with one exception have their aquifers at this horizon, at depths varying from 25 to 130 feet.

The Cypress Hills conglomerate underlies the glacial drift of the entire township with the exception of a small area in Bone Creek valley where the unconsolidated material is underlain by beds of the Ravenscrag formation. The thickness of the Cypress Hills formation is variable, but probably does not exceed 75 feet. Numerous wells draw their water from aquifers at the top of this formation as previously mentioned, but no holes have been sunk to any depth into the firmly cemented conglomerate. Information is, therefore, lacking as to the water-bearing characteristics of formations at greater depths. However, should the supplies of water from the upper conglomerate be insufficient in any locality, there is a good possibility that water will be encountered at lower horizons in the Cypress Hills conglomerate, or in sand beds and coal seams of the Ravenscrag formation immediately underlying it. A single well located on the NE. $\frac{1}{4}$, section 22, was sunk to a depth of 108 feet to a coal seam in the Ravenscrag. This well yields a good supply of hard, drinkable water.

STATISTICAL SUMMARY OF WELL INFORMATION IN RURAL MUNICIPALITY OF ARLINGTON, NO. 79, SASKATCHEWAN.

West of 3rd meridian — Township	7	7	7	8	8	8	9	9	9	Total No. in municipality
Range	19	20	21	19	20	21	19	20	21	
Total No. of Wells in Township	59	61	23	55	48	26	40	29	29	370
No. of wells in bedrock	38	11	16	23	17	18	23	20	10	176
No. of wells in glacial drift	20	50	4	32	30	8	17	9	19	189
No. of wells in alluvium	1	0	3	0	1	0	0	0	0	5
Permanency of Water Supply										
No. with permanent supply	56	60	21	55	42	21	39	29	28	351
No. with intermittent supply	1	1	0	0	0	2	0	0	0	4
No. dry holes	2	0	2	0	6	3	1	0	1	15
Types of Wells										
No. of flowing artesian wells	0	0	0	1	0	0	0	0	0	1
No. of non-flowing artesian wells	27	12	4	21	7	5	15	7	2	100
No. of non-artesian wells	30	49	17	33	35	18	24	22	26	254
Quality of Water										
No. with hard water	45	40	17	30	28	15	30	24	17	246
No. with soft water	12	21	4	25	14	8	9	5	11	109
No. with salty water	0	1	0	0	0	0	0	2	0	3
No. with "alkaline" water	13	31	9	5	15	0	10	21	0	104
Depths of Wells										
No. from 0 to 50 feet deep	37	46	20	44	37	7	20	21	7	239
No. from 51 to 100 feet deep	16	11	3	9	4	9	14	8	12	86
No. from 101 to 150 feet deep	2	4	0	2	5	2	5	0	10	30
No. from 151 to 200 feet deep	3	0	0	0	0	8	0	0	0	11
No. from 201 to 500 feet deep	1	0	0	0	2	0	1	0	0	4
No. from 501 to 1,000 feet deep	0	0	0	0	0	0	0	0	0	0
No. over 1,000 feet deep	0	0	0	0	0	0	0	0	0	0
How the Water is used										
No. usable for domestic purposes	45	48	14	49	36	23	36	25	28	304
No. not usable for domestic purposes	12	13	7	6	6	0	3	4	0	51
No. usable for stock	56	57	19	54	38	23	39	29	28	343
No. not usable for stock	1	4	2	1	4	0	0	0	0	12
Sufficiency of Water Supply										
No. sufficient for domestic needs	57	61	20	55	41	22	39	28	28	351
No. insufficient for domestic needs	0	0	1	0	1	1	0	1	0	4
No. sufficient for stock needs	47	56	16	48	38	19	35	25	24	308
No. insufficient for stock needs	10	5	5	7	4	4	4	4	4	47

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 boilders 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 hardness to the sulphates and chlorides of calcium and magnesium. The permanent hardness

can be partly eliminated by adding simple chemical softeners such as ammonia or sodium carbonate, or many prepared softeners. Water that contains a large amount of sodium carbonate and small amounts of calcium and magnesium salts is soft, but if the calcium and magnesium salts are present in large amounts the water is hard. 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 Arlington, No. 79, 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	$CaCl_2$	
1.	NE	1	7	21	3	28	4,460											(4)	(1)		(2)		(3)		(5)	* 3
2.	SE	10	7	21	3	50												(4)	(1)		(2)		(3)		(5)	* 3
3.	SE	2	8	19	3	23	1,860	140	15	125	54	565	30	36	681	746	1,673	54		75		447	1,008	89		* 2
4.	SW	23	8	19	3	4	740	75	10	65	13	405	20	18	209	346	747	36		38		343	309	21		* 2
5.	NW	23	8	21	3	76	360	180	120	60	10	135	30	43	25	9	171	54		69	30		1	17		* 2

Water samples indicated thus, * 2, are from bedrock, Ravenscrag formation.
Water samples indicated thus, * 3, are from bedrock, Eastend formation.
Analyses are reported in parts per million; where numbers (1), (2), (3), (4), and (5) are used instead of parts per million, they represent the relative amounts in which the five main constituents are present in the water.
Hardness is the soap hardness expressed as calcium carbonate ($CaCO_3$).
Analyses Nos. 1 and 2 by Provincial Analyst, Regina; Analyses Nos. 3,4 and 5 by Geological Survey.
For interpretation of this table read the section on Analyses and Quality of Water.

Water from the Unconsolidated Deposits

No analysis were made of waters from the glacial deposits of this municipality. The following generalizations are based largely on analyses of water from adjoining areas in which the character of the drift is similar, and from the observations of residents interviewed in the course of this investigation. Marked variations in the character of the glacial drift occur within very small areas. Correspondingly large variations are often found in the quality of the waters from wells sunk to similar depths and yet possibly only 50 feet apart. It is not to be inferred, therefore, that if water of poor quality is encountered in one well such conditions must necessarily exist over large areas in the drift.

Water obtained from the beds and pockets of sands and gravels interspersed through the upper 30 feet of the drift is usually hard, and although containing fairly large amounts of dissolved mineral salts is quite suitable for household use. The predominant mineral salts in the order of their relative abundance are calcium sulphate ($CaSO_4$), magnesium sulphate ($MgSO_4$), calcium carbonate ($CaCO_3$), and magnesium carbonate ($MgCO_3$). At greater depths in the glacial drift the porous sand and gravel pockets are less numerous and of smaller areal extent. Water found in these pockets is usually extremely hard and the total dissolved solid content is also high. Much of this water is unsuited to household use, and in some cases is unfit for stock use. This condition is particularly true of township 7, range 20, and the southeastern half of township 7, range 21.

Water from the Bedrock

No samples of water from the Cypress Hills bedrock formation were analysed. Residents obtaining their supplies from aquifers in this formation report the water to be soft or only slightly hard. Carbonates of calcium and magnesium are probably the predominant mineral salts in solution.

Ground water obtained from the coal seams and sand beds of the upper part of the Ravenscrag formation is reported to be hard. Sulphate salts are present in solution, but are not generally in sufficient quantities to render the water unfit for household use. Iron is the most objectionable constituent in this water as it tends to form stains on utensils.

The fifth analysis on the accompanying table is of water from the Upper Ravenscrag. The analysis indicated this water to be only moderately hard and that the sulphate salts are present in only very small amounts. It is an exceptionally good water. The Cypress Hills formation immediately overlies the Ravenscrag in the well from which the sample was taken. Water from the Upper Ravenscrag, in areas where it immediately underlies the glacial drift, is generally much harder and more highly mineralized than indicated by this analysis.

Analyses 3 and 4 are of two samples of water from the lower Ravenscrag. Analysis No. 4 is of water from a spring on sec. 23, tp. 8, range 19, and may be considered representative of the quality of water commonly obtained from sand of the lower Ravenscrag. The predominant mineral salts contained are sodium carbonate (Na_2CO_3), and sodium sulphate (Na_2SO_4). The concentration of these salts is not sufficiently high to render the water unsuitable for household or stock use. This water is being used for garden irrigation with apparently no ill effects. The analysis of water from a well located on the SE. $\frac{1}{4}$, sec. 2, tp. 8, range 19 (No. 3 on the table) shows that the water is quite soft but has a much higher total dissolved mineral salt content than the water from the spring. Glauber's salt, (Na_2SO_4) is the dominant salt constituent and tends to give an objectionable taste to the water. Usually the Glauber's salt content in waters from the Lower Ravenscrag is lower than this as many residents use the water from the basal sand beds in the households.

Analyses Nos. 1 and 2 on the accompanying table are representative of the quality of water obtained from the upper silts and sands of the Eastend, which immediately underlie the glacial drift in the northwest part of township 7, range 20, and the southeast part of township 7, range 21. Analysis No. 1 shows a total dissolved solid content in the water of 4,460 parts per million. The most abundant mineral salts present in solution are calcium sulphate ($CaSO_4$), Epsom salts ($MgSO_4$), and Glauber's salt (Na_2SO_4). This water is not satisfactory for domestic purposes, although many residents are forced to use it in the absence of better supplies.

Less highly mineralized water supplies are derived from the upper sands of the Eastend underlying the drift in the western parts of townships 8 and 9, range 19. The water varies from soft to hard and is a sulphate water. However, the mineral salt content is seldom as high as in the water previously described and most supplies are satisfactory for household use.

The soft water obtained from the lower Eastend, in wells at the northeast of the municipality, and at Dollard, probably is similar in quality to the water obtained from the basal sands of the Ravenscrag.

WELL RECORDS—Rural Municipality of ARLINGTON, NO. 79, 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	SE.	1	7	19	3	Dug	45	3,375	- 37	3,338	45	3,330	Ravenscrag sandstone	Hard, clear, iron, "alkaline"		D, S	Sufficient for local needs.
2	SE.	2	"	"	"	Drilled	175	3,395	-150	3,245	165	3,230	Ravenscrag sand	Hard, clear		D, S	Sufficient for local needs.
3	SW.	3	"	"	"	Dug	28	3,300	- 13	3,287	28	3,272	Ravenscrag coal	Hard, clear		D, S	Insufficient for local needs.
4	NW.	4	"	"	"	Dug	80	3,350	- 58	3,292	80	3,270	Ravenscrag coal	Hard, rusty, iron, "alkaline"		S	Sufficient for local needs.
5	NE.	4	"	"	"	Dug	38	3,340	- 28	3,312	38	3,302	Ravenscrag coal	Hard, brown, iron		S	Insufficient for local needs.
6	SE.	5	"	"	"	Dug	23	3,295	- 20	3,275	23	3,272	Ravenscrag coal	Hard, clear, iron		D, S	Sufficient for local needs.
7	NW.	5	"	"	"	Bored	80	3,165	- 52	3,113	80	3,085	Ravenscrag coal	Hard, clear, "alkaline"		D, S	Sufficient for 11 head stock.
8	NE.	6	"	"	"	Bored	45	3,165	- 25	3,140	35	3,130	Glacial sand	Hard, clear, "alkaline"		S	Sufficient for local needs.
9	NE.	7	"	"	"	Dug	40	3,135					Glacial drift	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
10	SE.	7	"	"	"	Dug	68	3,175	- 64	3,111	64	3,111	Ravenscrag clay	Hard, clear		D, S	Sufficient for 10 head stock.
11	NW.	8	"	"	"	Bored	47	3,130	- 10	3,120	47	3,083	Ravenscrag sand	Soft, clear		D, S	Sufficient for local needs.
12	SW.	8	"	"	"	Bored	83	3,165	- 72	3,093	79	3,086	Ravenscrag sand	Hard, clear, "alkaline"		N	Sufficient for local needs.
13	SW.	9	"	"	"	Dug	12	3,325	- 9	3,316	9	3,316	Ravenscrag coal	Hard, clear		D, S	Sufficient for 8 head stock.
14	NW.	10	"	"	"	Bored	66	3,230	- 52	3,178	54	3,176	Ravenscrag coal	Hard, clear, iron		D, S	Sufficient for 30 head stock.
15	NW.	11	"	"	"	Bored	85	3,250	- 69	3,181	85	3,165	Glacial sand	Hard, clear		S	Sufficient for 50 head stock.
16	SE.	12	"	"	"	Dug	25	3,375	- 19	3,356	25	3,350	Glacial sand	Hard, clear		D, S	Sufficient for local needs.
17	SW.	13	"	"	"	Bored	93	3,400	- 86	3,314	93	3,307	Glacial clay	Hard, clear, "alkaline"		D, S	Insufficient for local needs.
18	SE.	13	"	"	"	Dug	30	3,255	- 26	3,229	26	3,229	Glacial clay	Hard, clear		D, S	Insufficient for local needs.
19	SW.	14	"	"	"	Dug	30	3,290	- 10	3,280	30	3,260	Glacial sand	Hard, clear		D, S	Sufficient for local needs.
20	SE.	14	"	"	"	Drilled	245	3,345	-243	3,102	243	3,102	Ravenscrag sand	Hard, clear		D, S	Sufficient for local needs.
21	SE.	15	"	"	"	Drilled	160	3,225			160	3,065	Ravenscrag sand	Soft, clear		D	Sufficient for local needs.
22	SE.	16	"	"	"	Drilled	148	3,115	-100	3,015	125	2,990	Ravenscrag sand	Soft, clear, iron		D, S	Sufficient for local needs.
23	SW.	16	"	"	"	Bored	89	3,090	- 73	3,017	60	3,030	Ravenscrag sand	Hard, clear		D, S	Sufficient for local needs.
24	SW.	16	"	"	"	Dug	25	3,000	- 20	2,980	20	2,980	Glacial sand	Hard		D, S	Sufficient for local needs.
25	SE.	18	"	"	"	Bored	75	3,090	- 71	3,019	75	3,015	Ravenscrag sand?	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
26	SW.	19	"	"	"	Drilled	40	3,000	- 35	2,965	35	2,965	Glacial sand	Soft		D, S	Sufficient for local needs.

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 ARLINGTON, NO. 79, 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	SW.	19	7	19	3	Bored	42	3,050	- 19	3,031	20	3,030	Ravenscrag sand	Soft, clear		D, S	Sufficient for 25 head stock.
28	NE.	19	"	"	"	Dug	33	3,015	- 22	2,993	12	3,003	Ravenscrag sand	Soft, clear		D, S	Sufficient for local needs.
29	NE.	20	"	"	"	Bored	96	3,000	- 66	2,936	84	2,916	Ravenscrag coal	Hard		D, S	Sufficient for local needs.
30	NE.	20	"	"	"	Bored	52	3,020	- 46	2,974	48	2,972	Ravenscrag sand	Hard, clear, iron		D, S	Sufficient for 60 head stock.
31	NE.	21	"	"	"	Dug	8	3,105	- 4	3,101	4	3,101	Recent stream sands	Hard, clear, iron	50	D	Sufficient for local needs.
32	SW.	21	"	"	"	Dug	22	2,995	- 16	2,979	22	2,973	Ravenscrag sand	Soft, clear		D, S	Sufficient for 150 head stock.
33	SW.	23	"	"	"	Dug	45	3,190	- 43	3,147	43	3,147	Ravenscrag coal	Hard, clear		D, S	Sufficient for 25 head stock.
34	NW.	24	"	"	"	Bored	80	3,205	- 70	3,135	70	3,135	Ravenscrag coal	Hard, clear, iron		D, S	Insufficient for local needs.
35	NW.	25	"	"	"	Dug	4	2,985	- 2	2,983	2	2,983	Glacial gravel	Hard, clear		S	Sufficient for local needs.
36	SW.	27	"	"	"	Dug	44	3,000	- 30	2,970	34	2,966	Ravenscrag sand	Hard, clear		D, S	Insufficient supply; only enough for 7 head stock.
37	SE.	27	"	"	"	Drilled	115	3,080	- 65	3,015	115	2,965	Ravenscrag sand	Hard, clear		D, S	Sufficient for local needs.
38	NE.	27	"	"	"	Dug	19	3,015	- 13	3,002	17	2,998	Ravenscrag sand	Hard, clear		D, S	Sufficient for local needs.
39	SE.	29	"	"	"	Bored	65	3,000	- 45	2,955	65	2,935	Ravenscrag sand	Hard, clear		S	Sufficient for local needs.
40	NW.	31	"	"	"	Dug	28	3,020	- 16	3,004	16	3,003	Glacial clay	Hard, clear		D, S	Sufficient for local needs.
41	SE.	35	"	"	"	Dug	35	3,015	- 27	2,988	27	2,988	Glacial gravel	Hard, clear, iron		D, S	Sufficient for 50 head stock.
42	NW.	35	"	"	"	Spring		2,975	0	2,975		2,975	Ravenscrag sand	Soft, clear			
43	NE.	36	"	"	"	Dug	46	3,100	- 32	3,068	46	3,054	Ravenscrag sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
1	SW.	1	7	20	3	Bored	72	3,190	- 69	3,121	69	3,121	Ravenscrag coal	Hard, clear, "alkaline"			Insufficient; well caved in this summer.
2	NE.	2	"	"	"	Bored	68	3,160	- 60	3,100	60	3,100	Ravenscrag coal	Hard, clear, iron		D, S	Sufficient for 15 head stock.
3	SE.	3	"	"	"	Drilled	105	3,175	- 60	3,115	105	3,070	Ravenscrag sand	Hard, clear, iron		D, S	Sufficient for local needs.
4	NW.	3	"	"	"	Dug	24	3,145	- 19	3,126	19	3,126	Glacial sand	Hard, clear	46	D, S	Sufficient for 10 head stock.
5	NW.	4	"	"	"	Dug	7	3,085	0	3,085	3	3,082	Glacial sand	Soft, clear		D, S	Sufficient for local needs.
6	NW.	4	"	"	"	Dug	26	3,100	- 20	3,080	20	3,080	Glacial gravel	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
7	NW.	5	"	"	"	Dug	10	3,075	+ 2	3,077	10	3,065	Glacial sand	Soft, clear, "alkaline"		D, S	Sufficient for local needs.
8	SW.	6	"	"	"	Drilled	45	3,100	- 36	3,064	36	3,064	Glacial gravel	Hard, clear		D, S	Insufficient for local needs.
9	NW.	6	"	"	"	Drilled	60	3,125	- 57	3,068	60	3,065	Glacial gravel	Soft, clear		D	Sufficient for local needs.
10	NW.	8	"	"	"	Dug	16	3,025	- 11	3,014	12	3,013	Glacial sand	Soft, clear		D, S	Sufficient for local needs.

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 ARLINGTON, NO. 79, 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.	10	7	20	3	Bored	125	3,125	- 90	3,035	125	3,000	Ravenscrag coal	Soft, clear		D, S	Sufficient for local needs.
12	NW.	10	"	"	"	Bored	120	3,050	- 80	2,970	80	2,970	Ravenscrag sand	Soft, soda		D, S	Sufficient for local needs.
13	NW.	12	"	"	"	Bored	73	3,110	- 67	3,043	73	3,037	Ravenscrag coal	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
14	SE.	14	"	"	"	Bored	72	3,050	- 68	2,982	68	2,982	Glacial clay	Hard, "alkaline"		D, S	Sufficient for local needs.
15	SE.	14	"	"	"	Bored	72	3,150	- 57	3,093	40	3,110	Ravenscrag sand	Hard, "alkaline"		D, S	Sufficient for local needs.
16	SW.	14	"	"	"	Dug	60	3,150	- 52	3,098	50	3,100	Glacial sand	Soft, clear		D, S	Sufficient for 8 head stock.
17	SE.	15	"	"	"	Dug	65	3,100	- 60	3,040	60	3,040	Glacial sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
18	NW.	16	"	"	"	Dug	48	3,100	- 38	3,062	38	3,062	Glacial clay	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
19	NE.	17	"	"	"	Dug	42	3,100	- 28	3,072	28	3,072	Eastend silt	Hard, clear		D, S	Sufficient for local needs.
20	SW.	18	"	"	"	Dug	20	3,132	- 18	3,114	18	3,114	Glacial clay	Soft		D, S	Usually sufficient for local needs.
21	SE.	18	"	"	"	Dug	29	3,125	- 14	3,111	29	3,096	Glacial gravel	Hard, salty, "alkaline"		S	Sufficient for local needs.
22	NE.	21	"	"	"	Dug	57	3,110	- 51	3,059	51	3,059	Glacial clay	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
23	SE.	22	"	"	"	Bored	35	3,070	- 20	3,050	20	3,050	Glacial clay	Hard, clear, "alkaline"		N	Not used if other water available.
24	NE.	22	"	"	"	Dug	30	3,060	- 22	3,038	22	3,038	Glacial clay	Hard, clear, "alkaline"		S	Hauls water for drinking.
25	SW.	23	"	"	"	Dug	14	3,070	- 7	3,063	7	3,063	Glacial sand, gravel	Soft, clear		D, S	Sufficient for local needs.
26	NE.	23	"	"	"	Dug	43	3,000	- 31	2,969	31	2,969	Glacial sand	Soft		D, S	Sufficient for local needs.
27	NE.	23	"	"	"	Dug	44	3,085	- 36	3,049	44	3,041	Glacial sand	Hard, clear	44	D, S	Sufficient for 50 head stock.
28	NE.	24	"	"	"	Dug	22	3,000	- 18	2,982	18	2,982	Glacial sand	Soft		D, S	Sufficient for local needs.
29	NE.	24	"	"	"	Dug	20	3,045	- 17	3,028	17	3,028	Glacial gravel	Soft, clear	46	D, S	Sufficient for local needs.
30	SW.	25	"	"	"	Dug	25	3,050	- 20	3,030	20	3,030	Glacial clay	Hard, clear, "alkaline"		D, S	Poor drinking water.
31	SE.	26	"	"	"	Dug	16	3,050	- 12	3,038	12	3,038	Glacial gravel	Soft, clear		S	Sufficient for local needs.
32	NE.	26	"	"	"	Dug	47	3,000	- 40	2,960	40	2,960	Glacial clay	Soft		D, S	Sufficient for local needs.
33	NE.	26	"	"	"	Dug	44	3,025	- 26	2,999	44	2,981	Glacial drift	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
34	NW.	27	"	"	"	Bored	70	3,045	- 50	2,995	50	2,995	Glacial clay	Hard, clear, "alkaline"		S	Unfit for drinking
35	SW.	28	"	"	"	Bored	50	3,125	- 38	3,087	50	3,075	Glacial sand	Hard, clear		D, S	Sufficient for 30 head stock.
36	NW.	28	"	"	"	Bored	150	3,100	-120	2,980	150	2,950	Eastend sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
37	NE.	29	"	"	"	Dug	35	3,120	- 25	3,095	35	3,085	Glacial sand	Hard, clear, "alkaline"		S	Sufficient for local needs.

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 ARLINGTON, NO.79, 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
38	SE.	30	7	20	3	Bored	80	3,125	- 65	3,060	65	3,060	Glacial clay	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
39	SE.	32	"	"	"	Bored	47	3,090	- 42	3,048	42	3,048	Glacial sand	Hard, clear, iron, "alkaline"		D, S	Insufficient for local needs.
40	NW.	33	"	"	"	Dug	26	3,045	- 20	3,025	26	3,019	Glacial sand	Soft, clear		D, S	Sufficient for local needs.
41	SE.	34	"	"	"	Dug	35	3,025	- 15	3,010	35	2,990	Glacial sand	Hard, clear, "alkaline"		S	Unfit for drinking.
42	SW.	34	"	"	"	Dug	40	3,050	- 30	3,020	30	3,020	Glacial sand	Hard, clear, "alkaline"		D, S	Sufficient for 18 head stock.
43	SW.	35	"	"	"	Dug	35	3,025	- 16	3,009	16	3,009	Glacial sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
44	SE.	36	"	"	"	Dug	50	3,015	- 30	2,985	46	2,969	Glacial gravel	Hard, clear		S	
45	SE.	36	"	"	"	Dug	14	3,010	- 9	3,001	12	2,998	Glacial sand, gravel	Soft, clear		D, S	Sufficient for local needs.
46	SW.	36	"	"	"	Dug	22	3,010	- 15	2,995	15	2,995	Glacial clay	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
47	NW.	36	"	"	"	Dug	24	3,015	- 18	2,997	18	2,997	Glacial clay	Hard, clear, "alkaline"		S	Sufficient for local needs.
1	SE.	1	7	21	3	Dug	37	3,075	- 13	3,062	34	3,041	Glacial clay	Hard		D, S	Sufficient for local needs.
2	SE.	1	"	"	"	Dug	60	3,075	- 33	3,042	36	3,039	Eastend sand	Clear, "alkaline"	41	S	Insufficient for local needs.
3	NE.	1	"	"	"	Dug	28	3,080	- 17	3,063	17	3,063	Eastend silt	Faintly yellow, "alkaline"	41	D, S	Sufficient for local needs. #.
4	SW.	1	"	"	"	Spring		3,075		3,075		3,075	Eastend sand	Clear, "alkaline"	41	D, S	Sufficient for local needs.
5	SE.	2	"	"	"	Dug	27	3,085	- 23	3,062	23	3,062	Eastend silt	Clear, "alkaline"	42	D, S	Sufficient for local needs.
6	SW.	2	"	"	"	Bored	33	3,100	- 23	3,077	23	3,077	Eastend sandy clay	Soft, clear	41	D	Sufficient for local needs.
7	SE.	3	"	"	"	Dug	30	3,100					Glacial clay			S	Unfit for drinking.
8	SE.	3	"	"	"	Bored	45	3,100	- 30	3,070	30	3,070	Eastend sandy clay	Clear, "alkaline"	42	S	Sufficient for local needs.
9	SW.	3	"	"	"	Dug	23	3,075	- 15	3,060	15	3,060	Eastend silt	Clear, "alkaline"	41	S	Sufficient for local needs.
10	NW.	5	"	"	"	Dug	20	3,050					Eastend silt				Dry hole.
11	NE.	8	"	"	"	Dug	6	3,060	- 3	3,057	6	3,054	Stream clays	Hard, clear	42	D, S	Sufficient for local needs.
12	NW.	9	"	"	"	Bored	30	3,050	- 27	3,023	29	3,021	Glacial sand	Hard, clear	42	D	Insufficient for local needs.
13	SE.	10	"	"	"	Bored	50	3,090	- 27	3,063	36	3,054	Eastend silt	Clear, "alkaline"	42	S	Sufficient for local needs. #.
14	SE.	10	"	"	"	Dug	21	3,080	- 17	3,063	17	3,063	Eastend silt	Soft, clear	41	D	Sufficient for local needs.
15	NE.	12	"	"	"	Dug	35	3,110	- 15	3,095	27	3,083	Eastend sand	Clear, "alkaline"	42	D, S	Sufficient for local needs.
16	SE.	14	"	"	"	Dug	31	3,130	- 26	3,104	26	3,104	Eastend sand	Hard, clear	42	D, S	Sufficient for local needs.

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 ARLINGTON, NO. 79, 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
17	SW.	14	7	21	3	Dug	16	3,125	- 8	3,117	8	3,117	Eastend sand	Soft, clear	42	D, S	Sufficient for local needs.
18	NE.	17	"	"	"	Dug	20	3,120					Glacial clay	Hard, clear	42	D	Sufficient for local needs.
19	SW.	18	"	"	"	Dug	12	3,400	- 2	3,398	10	3,390	Stream silt	Hard, clear	42	D, S	Sufficient for local needs.
20	NW.	22	"	"	"	Dug	30	3,100	- 25	3,075	25	3,075	Eastend sand	Hard, clear		N	Not used because water from creek foundsati factory.
21	SE.	24	"	"	"	Bored	95	3,120	- 50	3,070	84	3,036	Eastend silt	Clear, "alkaline"	41	S	Sufficient for local needs.
22	NE.	25	"	"	"	Dug	12	3,025	- 7	3,018	7	3,018	Stream silt	Soft, clear	42	N	Abandoned on account of contamination.
1	SE.	2	8	19	3	Dug	23	3,022	- 14	3,008	23	2,999	Ravenscrag sand	Soft, yellow	57	D, S	Sufficient for household needs only.
2	SW.	3	"	"	"	Bored	102	2,980	- 90	2,890	102	2,878	Ravenscrag sand	Soft, clear		D, S	Sufficient for local needs.
3	NE.	3	"	"	"	Drilled	69	3,000	- 8	3,012	69	2,999	Ravenscrag sand	Soft, clear		D, S	Sufficient for local needs.
4	NE.	3	"	"	"	Dug	42	2,977	- 35	2,942	35	2,942	Glacial sand	Hard		D, S	Sufficient for local needs.
5	E½	4	"	"	"	Bored	45	3,350	- 40	3,310	40	3,310	Glacial clay	Hard, clear		D, S	Sufficient for local needs.
6	SW.	4	"	"	"	Drilled	60	3,000	- 10	2,990	60	2,940	Glacial fine grey sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
7	NW.	4	"	"	"	Dug	17	3,020	- 14	3,006	17	3,003	Ravenscrag coal	Soft, clear		D, S	Sufficient for local needs.
8	SW.	5	"	"	"	Dug	40	2,988					Glacial clay	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
9	SW.	6	"	"	"	Dug	40	3,026	- 35	2,991	38	2,988	Glacial gravel	Hard, clear, "alkaline"		D	Sufficient for 3 families.
10	NW.	7	"	"	"	Dug	40	2,990	- 25	2,965	40	2,950	Glacial sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs; hauls drinking water
11	N½	9	"	"	"	Dug	45	2,972	- 30	2,942	43	2,929	Glacial sand	Soft		D, S	Sufficient for 23 head stock.
12	SW.	12	"	"	"	Drilled	27	3,000	+ 3	3,003	27	2,973	Ravenscrag sand-rock	Soft, clear		S	Sufficient for 100 head stock.
13	NW.	12	"	"	"	Drilled	50	3,020	- 5	3,015	30	2,990	Glacial sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
14	NW.	13	"	"	"	Dug	24	3,040	- 12	3,028	21	3,019	Ravenscrag sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
15	NW.	14	"	"	"	Drilled	40	2,974	- 30	2,944	23	2,951	Ravenscrag sand	Hard, clear		D, S	Sufficient for local needs.
16	NW.	15	"	"	"	Dug	22	2,965	- 14	2,951	18	2,947	Eastend sand-stone	Hard, clear, "alkaline"		D, S	Sufficient for 25 head stock.
17	SE.	16	"	"	"	Dug	45	2,986	- 40	2,946	40	2,946	Glacial sand	Hard, clear, "alkaline"		D, S	Sufficient for 20 head stock.
18	SE.	16	"	"	"	Dug	47	2,967	- 43	2,924	43	2,924	Glacial clay	Soft		D, S	Sufficient for local needs.
19	NE.	16	"	"	"	Bored	48	2,986	- 38	2,948	44	2,942	Glacial clayey gravel	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
20	NW.	18	"	"	"	Dug	10	2,955	- 6	2,949	10	2,945	Glacial sand	Soft, clear		D, S	Sufficient for local needs.
21	SE.	19	"	"	"	Spring		2,935	0	2,935	0	2,935	Eastend sand	Soft, clear		D, S	Sufficient for local needs.

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 ARLINGTON, NO. 79, 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.	19	8	19	3	Dug	20	2,937	- 16	2,921	20	2,917	Glacial sand	Hard, clear		D, S	Sufficient for 40 head stock.
23	SW.	20	"	"	"	Dug	28	2,980	- 25	2,955	28	2,952	Eastend sandstone	Soft, clear		D, S	Sufficient for local needs.
24	SE.	20	"	"	"	Dug	24	2,970	- 19	2,951	19	2,951	Glacial sand	Soft, clear		D, S	Sufficient for 15 head stock.
25	NW.	20	"	"	"	Dug	3	2,925	0	2,925	0	2,925	Glacial sand	Hard, clear		S	Sufficient for local needs.
26	NE.	21	"	"	"	Drilled	40	3,000			40	2,960	Glacial gravel	Hard, clear, "alkaline"		D	Sufficient for household needs.
27	SW.	23	"	"	"	Dug	4	2,930	0	2,930	0	2,930	Ravenscrag hard sand			D, S	Sufficient for local needs. #.
28	NW.	23	"	"	"	Drilled	65	2,989	- 40	2,949	65	2,924	Ravenscrag hard sand	Soft, clear		D, S	Sufficient for local needs.
29	SE.	24	"	"	"	Drilled	65	3,005	- 22	2,983	65	2,940	Ravenscrag sand	Soft, clear		D, S	Sufficient for local needs.
30	SW.	25	"	"	"	Dug	12	2,955	- 9	2,946	10	2,945	Ravenscrag sand	Soft, clear		S	Sufficient for 25 head stock.
31	NE.	26	"	"	"	Dug	20	2,930	- 8	2,922	20	2,910	Ravenscrag hard sand	Soft, clear		D, S	Sufficient for 15 head stock.
32	SE.	27	"	"	"	Dug	35	2,977					Glacial sand	Soft, clear		D, S	Sufficient for household only.
33	NW.	27	"	"	"	Bored	75	2,970	- 30	2,940	75	2,895	Eastend sand	Soft, clear		D, S	Sufficient for local needs.
34	SE.	28	"	"	"	Drilled	110	2,978	- 30	2,948	30	2,948	Eastend ?	Hard, clear		D, S	Sufficient for local needs.
35	NW.	28	"	"	"	Dug	32	2,954	- 28	2,926	28	2,926	Glacial clay	Hard, clear		D, S	Sufficient for local needs.
36	NE.	30	"	"	"	Dug	45	2,962	- 35	2,927			Glacial clay	Soft, clear		D, S	Insufficient for local needs.
37	NW.	30	"	"	"	Bored	80	3,260					Eastend sand	Hard, clear		D, S	Sufficient for local needs.
38	E½	31	"	"	"	Dug	28	2,986	- 10	2,976	10	2,976	Glacial clay	Soft		D, S	Sufficient for local needs.
39	NE.	32	"	"	"	Dug	20	2,940	- 14	2,926	20	2,920	Glacial gravel	Soft, clear		D, S	Sufficient for local needs.
40	NE.	36	"	"	"	Bored	60	3,027	- 20	3,007	60	2,967	Glacial sand	Hard, clear		D, S	Sufficient for 25 head stock.
1	SE.	1	8	20	3	Drilled	240	3,026	- 40	2,986	240	2,786	Eastend sand	Hard, clear, "alkaline"		N	
2	SE.	1	"	"	"	Bored	50	3,026	- 25	3,001			Glacial sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
3	SE.	1	"	"	"	Drilled	240	3,010					Eastend sand	Soft, clear		D, S	Sufficient for local needs.
4	SE.	1	"	"	"	Drilled	50	3,026	- 48	2,978	40	2,986	Glacial sand	Soft		D, S	Sufficient for local needs.
5	SE.	1	"	"	"	Dug	26	3,026	- 22	3,004	22	3,004	Glacial sand	Hard		D, S	Sufficient for local needs.
6	NE.	1	"	"	"	Bored	52	3,025	- 42	2,983			Eastend sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
7	SW.	2	"	"	"	Dug	32	3,025	- 24	3,001	26	2,999	Glacial hard clay	Hard, clear		D, S	Sufficient for local needs.
8	NE.	2	"	"	"	Dug	20	3,020	- 13	3,007			Glacial sand	Soft, clear		D, S	Sufficient for local needs.

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 ARLINGTON, NO. 79, 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
9	SW.	3	8	20	3	Bored	65	3,030					Glacial sand	Hard, clear, "alkaline		D, S	Sufficient for local needs.
10	NW.	3	"	"	"	Dug	65	3,015	- 35	2,980	35	2,980	Glacial sand	Hard, clear		N	Not used. Needs cleaning.
11	NE.	3	"	"	"	Dug	44	3,050	- 24	3,026	40	3,010	Eastend hard sandstone	Hard, clear		D, S	Sufficient for local needs.
12	NW.	5	"	"	"	Dug	10	2,950	- 7	2,943	7	2,943	Stream sands	Soft, clear		I	Sufficient for local needs.
13	SW.	10	"	"	"	Dug	20	2,950	- 15	2,935	15	2,935	Glacial sand	Hard, clear		D, S	Sufficient for local needs.
14	NE.	10	"	"	"	Dug	33	3,065	- 20	3,045	33	3,032	Glacial clay	Hard		D, S	Sufficient for 10 head stock.
15	NE.	11	"	"	"	Dug	26	3,020	- 22	2,998	26	2,994	Glacial sand	Hard, clear		D, S	Sufficient for local needs; yields 75 barre a day.
16	NE.	13	"	"	"	Dug	13	2,990	- 11	2,979	11	2,979	Glacial sand	Hard, clear		S	Sufficient for stock needs.
17	SE.	14	"	"	"	Dug	30	3,030	- 27	3,003	27	3,003	Glacial sand	Soft, clear		D, S	Sufficient for local needs.
18	NE.	15	"	"	"	Dug	20	2,925	- 15	2,910	15	2,910	Glacial sand	Hard, clear		D, S	Insufficient for local needs.
19	SW.	20	"	"	"	Spring	0	3,030	0	3,030	0	3,030	Lower Ravenscrag	Soft, clear		D, S	Sufficient for local needs.
20	SW.	22	"	"	"	Dug	60	3,100	- 54	3,046	54	3,046	Ravenscrag	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
21	NE.	21	"	"	"	Dug	16	3,000	- 10	2,990	10	2,990	Eastend sand	Soft, clear		D, S	Sufficient for local needs.
22	NE.	23	"	"	"	Dug	30	3,000	- 27	2,973	27	2,973	Glacial sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
23	NE.	24	"	"	"	Dug	15	2,975	- 4	2,971	13	2,962	Glacial gravel	Soft, clear		D, S	Sufficient for local needs.
24	SE.	25	"	"	"	Dug	22	2,950	- 20	2,930	20	2,930	Glacial sand?	Hard, clear		L	Insufficient for local needs.
25	SE.	25	"	"	"	Dug	15	3,000	- 11	2,989	11	2,989	Glacial sand?	Soft		D, S	Sufficient for 59 head stock.
26	NE.	25	"	"	"	Dug	42	2,945	- 35	2,910	42	2,903	Eastend grey shale	Hard, clear		S	Sufficient for local needs.
27	NW.	27	"	"	"	Spring	8	3,025	0	3,025	0	3,025	Ravenscrag sand	Hard, clear		D, S	Sufficient for local needs.
28	SE.	28	"	"	"	Dug	30	3,075	- 28	3,047	28	3,047	Glacial clay	Hard, clear, "alkaline"		D, S	Insufficient; waters only 8 head stock.
29	SW.	33	"	"	"	Spring	0	3,100	0	3,100	0	3,100	Ravenscrag sand, coal	Soft, clear		D, S	Sufficient for local needs.
30	NW.	33	"	"	"	Spring	0	3,100	0	3,100	0	3,100	Ravenscrag coal	Soft, clear		D, S	Sufficient for local needs.
31	NW.	34	"	"	"	Dug	38	3,065	- 34	3,031	34	3,031	Glacial sand	Soft, clear		D, S	Sufficient for local needs.
32	SE.	36	"	"	"	Dug	40	2,945					Glacial sand	Hard, clear		D, S	Sufficient for local needs.
33	NE.	36	"	"	"	Dug	40	2,975					Glacial sand?	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
1	NW.	3	8	21	3	Spring	0	3,500	0	3,500	0	3,500	Glacial sand, gravel	Soft, clear		D, S, I	Sufficient for local needs.
2	SE.	6	"	"	"	Dug	20	3,700	- 16	3,684	16	3,684	Glacial sand	Hard, clear	40	D, S,	Sufficient for local needs.

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 ARLINGTON, NO. 79, 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
3	NW.	7	8	21	3	Dug	60	3,675	- 55	3,620	60	3,615	Cypress Hills sand	Hard, clear	41	D, S	Sufficient for local needs.
4	SE.	7	"	"	"	Dug	75	3,700					Glacial clay				Dry hole; 2 other dry holes.
5	SE.	10	"	"	"	Spring	0	3,450	0	3,450	0	3,450	Ravenscrag sand	Soft, clear	41	D, S	Sufficient for local needs.
6	NE.	16	"	"	"	Dug	10	3,650	- 8	3,642	8	3,642	Glacial sand	Hard, clear	42	D, S	Sufficient for 20 head stock.
7	NE.	16	"	"	"	Dug	12	3,580	- 6	3,574	10	3,570	Glacial gravel	Hard, clear		D, S	Insufficient for local needs.
8	SE.	17	"	"	"	Drilled	187	3,650	-150	3,500	150	3,500	Ravenscrag sand	Soft, clear	42	D, S	Sufficient for local needs.
9	NE.	18	"	"	"	Drilled	175	3,710	-105	3,605	150	3,560	Cypress Hills sand	Soft, clear	42	D, S	Sufficient for local needs.
10	NE.	19	"	"	"	Drilled	172	3,710	-130	3,580	152	3,558	Cypress Hills sand	Hard, clear	42	D, S	Sufficient for local needs.
11	SW.	23	"	"	"	Drilled	92	3,490	- 60	3,430	89	3,401	Cypress Hills sand	Hard, clear	42	D, S	Sufficient for local needs.
12	NW.	23	"	"	"	Drilled	76	3,485	- 56	3,429	56	3,429	Ravenscrag sand	Soft, clear	42	D, S	Sufficient for local needs. #
13	SE.	23	"	"	"	Spring	0	3,470	0	3,470	0	3,470	Cypress Hills gravel	Hard, clear	42	D,	Sufficient for local needs.
14	NW.	24	"	"	"	Drilled	160	3,560	-130	3,430	160	3,400	Ravenscrag sand	Soft, clear		D, S	Sufficient for local needs.
15	NW.	25	"	"	"	Drilled	190	3,610	-150	3,460	150	3,460	Cypress Hills sand	Hard, clear	42	D, S	Sufficient for local needs.
16	SW.	26	"	"	"	Drilled	95	3,525	- 90	3,435	90	3,435	Cypress Hills sand	Soft, clear	43	D	Insufficient for local needs.
17	NW.	26	"	"	"	Drilled	174	3,625	-163	3,462	163	3,462	Cypress Hills sand	Hard, clear	42	D, S	Sufficient for local needs.
18	NE.	30	"	"	"	Drilled	157	3,700	-141	3,559	141	3,559	Cypress Hills sand	Hard, clear	42	D, S	Sufficient for local needs.
19	SW.	30	"	"	"	Drilled	156	3,700	-136	3,564	136	3,564	Cypress Hills sand	Hard, clear	42	D, S	Sufficient for local needs.
20	NW.	33	"	"	"	Dug	60	3,610	- 45	3,565	56	3,554	Cypress Hills sand	Hard, clear	43	D, S	Sufficient for local needs.
21	SW.	34	"	"	"	Dug	10	3,600	- 8	3,592	8	3,592	Glacial gravel	Hard, clear	43	D, S	Sufficient for local needs.
22	NE.	34	"	"	"	Dug	140	3,600	-120	3,480	140	3,460	Ravenscrag sand	Hard, clear		D, S	Insufficient for local needs.
23	NW.	35	"	"	"	Dug	125	3,500	-120	3,380	120	3,380	Ravenscrag sand	Hard, clear	42	D, S	Insufficient for local needs.
24	NE.	35	"	"	"	Dug	95	3,485	- 92	3,393	92	3,393	Ravenscrag sand	Soft, clear	41	D, S	Sufficient for local needs.
1	SE.	1	9	19	3	Dug	28	2,980	- 18	2,962	28	2,952	Glacial sand	Hard, clear		D, S	Sufficient for local needs at times.
2	NW.	1	"	"	"	Spring	0	2,930	0	2,930	0	2,930	Glacial clay	Hard, "alkaline"		S	Sufficient for local needs.
3	SE.	2	"	"	"	Bored	26	2,940	- 8	2,932	26	2,914	Ravenscrag sand	Soft, clear		D, S	Sufficient for local needs.
4	SW.	2	"	"	"	Dug	20	2,940	- 17	2,923	20	2,920	Glacial sand	Soft, clear		D, S	Sufficient for local needs.
5	NE.	4	"	"	"	Drilled	57	2,950			57	2,893	Eastend sand	Soft, clear		D, S	Sufficient for 50 head stock.

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

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

WELL RECORDS—Rural Municipality of ARLINGTON, NO. 79, 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
6	SW.	4	9	19	3	Dug	21	2,950	- 13	2,937	21	2,929	Eastend sandstone	Soft, clear		D, S	Sufficient for 40 head stock.
7	NW.	5	"	"	"	Dug	45	2,960	- 43	2,917	45	2,915	Glacial clay	Hard, clear, iron, "alkaline"		D, S	Sufficient for 16 head stock.
8	SE.	6	"	"	"	Drilled	45	2,960	- 20	2,940	45	2,915	Eastend sandstone	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
9	SW.	6	"	"	"	Dug	40	2,995	- 35	2,960	40	2,955	Glacial sand	Hard, clear, "alkaline"		S	Sufficient for local needs.
10	NW.	7	"	"	"	Dug	50	3,000	- 47	2,953	50	2,950	Glacial sand	Hard, clear		D, S	Sufficient for 12 head stock.
11	SW.	9	"	"	"	Bored	50	2,950	- 30	2,920	50	2,900	Eastend sand	Soft, clear		D, S	Insufficient for local needs.
12	NW.	9	"	"	"	Dug	93	2,950	- 90	2,860	93	2,857	Eastend sand			D, S	Sufficient for 11 persons and 60 head stock.
13	NE.	10	"	"	"	Dug	23	2,940	- 10	2,930	23	2,917	Eastend sand	Hard, clear, "alkaline"		D, S	Sufficient for local needs.
14	SW.	12	"	"	"	Dug	15	2,950	- 10	2,940	15	2,935	Glacial sand	Hard		D, S	Sufficient for 7 persons; 20 head stock.
15	NE.	13	"	"	"	Drilled	110	2,940	- 2	2,938	110	2,830	Eastend sand	Soft, clear		D, S	Sufficient for local needs; supplies two neighbours.
16	NE.	16	"	"	"	Dug	55	2,950	- 51	2,899	55	2,895	Glacial sand	Hard, clear		D, S	Sufficient for 12 head stock.
17	NW.	17	"	"	"	Dug	65	3,010	- 61	2,949	65	2,945	Eastend sand	Hard, clear		D, S	Sufficient for local needs.
18	SW.	18	"	"	"	Dug	65	3,000	- 59	2,941	65	2,935	Glacial sand, clay	Hard		D, S	Sufficient for 38 head stock.
19	NE.	18	"	"	"	Bored	70	3,010	- 54	2,956	70	2,940	Eastend sand	Hard, clear		D, S	
20	NW.	18	"	"	"	Dug	88	3,010	- 70	2,940	88	2,922	Eastend rusty sand	Hard, clear, iron, "alkaline"		S	Sufficient for local needs.
21	NE.	20	"	"	"	Bored	60	2,950	- 46	2,904	60	2,890	Eastend sand	Hard, clear iron		D, S	Sufficient for 45 head stock.
22	SW.	20	"	"	"	Dug	66	3,000	- 63	2,937	66	2,934	Glacial sand	Hard, clear, iron		D, S	Sufficient for local needs.
23	NE.	21	"	"	"	Bored	41	2,940	- 29	2,911	41	2,899	Glacial gravel	Hard, clear		D, S	Sufficient for 75 head stock.
24	NE.	22	"	"	"	Dug	22	2,920	- 18	2,902	19	2,901	Glacial hard sand	Hard, clear, "alkaline"		D, S	Sufficient for 15 head stock.
25	NW.	23	"	"	"	Dug	45	2,910	- 27	2,883	45	2,865	Glacial gravel	Hard, clear		D, S	Sufficient for local needs.
26	SE.	23	"	"	"	Drilled	380	2,910					Bearpaw shale				Dry hole.
27	SW.	25	"	"	"	Dug	44	2,930	- 22	2,908	44	2,886	Ravenscrag sand	Hard, clear		D, S	Sufficient for 15 head stock.
28	SE.	27	"	"	"	Dug	28	2,940	- 26	2,914	26	2,914	Glacial sand	Hard, clear, "alkaline"		D, S	Insufficient for 12 head stock.
29	SW.	27	"	"	"	Drilled	120	2,930	- 60	2,870	120	2,810	Eastend sand	Soft, clear		D, S	Sufficient for local needs.
30	SW.	30	"	"	"	Dug	93	2,990	- 91	2,899	91	2,899	Eastend hard sand	Hard, clear		D, S	Sufficient for 26 head stock.
31	NE.	30	"	"	"	Bored	100	2,980	- 86	2,894	86	2,894	Eastend sand	Hard, clear		D, S	Sufficient for local needs.

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 ARLINGTON, NO. 79, 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
32	SE.	32	9	19	3	Dug	85	3,000	- 82	2,918	82	2,918	Eastend sandstone	Hard, clear		D, S	
33	SW.	32	"	"	"	Dug	84	3,000	- 81	2,919	84	2,916	Eastend sand	Hard		D, S	Sufficient for 4 head stock.
34	NW.	32	"	"	"	Dug	83	3,000	- 79	2,921	83	2,917	Eastend sandstone	Hard		D, S	Sufficient for 10 head stock.
35	NW.	33	"	"	"	Dug	86	2,980	- 84	2,896	84	2,896	Eastend sandstone	Hard, clear, iron, "alkaline"		D, S	Sufficient for 14 head stock.
36	SE.	35	"	"	"	Dug	20	2,890	- 14	2,876	20	2,870	Glacial sand	Hard, clear		D, S	Sufficient for local needs.
37	SE.	36	"	"	"	Drilled	107	2,990	- 27	2,963	107	2,883	Eastend fine sand	Soft, clear		D, S	Sufficient for local needs.
38	NW.	36	"	"	"	Drilled	110	2,955	- 60	2,895	110	2,845	Eastend sand	Soft, clear		D, S	Sufficient for local needs.
1	SW.	1	9	20	3	Dug	39	2,995	- 32	2,963	39	2,956	Glacial clay	Soft, clear		D, S	
2	NW.	6	"	"	"	Dug	94	3,485	- 89	3,396	94	3,391	Ravenscrag light coloured sandstone	Soft, clear		D, S	Sufficient for local needs.
3	NE.	7	"	"	"	Drilled	44	3,420	- 24	3,396	44	3,376	Ravenscrag sand	Hard, clear		D	Sufficient for household needs.
4	SW.	8	"	"	"	Drilled	92	3,460	- 72	3,388	92	3,368	Ravenscrag hard sand	Hard, clear		D, S	Sufficient for local needs.
5	SW.	9	"	"	"	Spring	0	3,250	0	3,250	0	3,250	Ravenscrag sand	Soft, clear		D, S, I	Sufficient for local needs.
6	NW.	9	"	"	"	Drilled	63	3,400	- 42	3,358	63	3,337	Ravenscrag sandstone	Hard, clear		D, S	Sufficient for local needs.
7	W½.	11	"	"	"	Spring	0	3,000	0	3,000	0	3,000	Ravenscrag sand	Hard, clear		S	Sufficient for local needs.
8	SE.	12	"	"	"	Bored	65	3,000	- 59	2,941	65	2,935	Eastend sand	Hard, clear, iron, "alkaline"		D, S	Sufficient for local needs.
9	NW.	12	"	"	"	Bored	36	2,950	- 23	2,927	26	2,924	Glacial sand	Hard, iron, "alkaline"		D	Insufficient for local needs.
10	SW.	16	"	"	"	Spring	0	3,250	0	3,250	0	3,250	Ravenscrag sand	Medium hard		D, S	Sufficient for local needs.
11	NW.	17	"	"	"	Dug	12	3,350	- 9	3,341	12	3,338	Cypress Hills conglomerate and sand	Soft, clear		D	Sufficient for local needs.
12	SW.	18	"	"	"	Drilled	50	3,425	- 42	3,383	50	3,375	Cypress Hills conglomerate and sandstone	Hard, clear		D, S	Sufficient for local needs.
13	NE.	18	"	"	"	Spring	0	3,350	0	3,350	0	3,350	Cypress Hills conglomerate	Hard, clear		S	
14	SE.	30	"	"	"	Dug	55	3,350	- 49	3,301	55	3,295	Cypress Hills conglomerate	Hard, clear		D, S	Sufficient for local needs.
15	SW.	30	"	"	"	Drilled	80	3,400	- 65	3,335	75	3,325	Cypress Hills sandstone	Hard, clear		D, S	Sufficient for 30 head stock.
16	NW.	31	"	"	"	Drilled	48	3,325	- 40	3,285	48	3,277	Cypress Hills conglomerate, and sand	Hard, clear		D, S	Sufficient for local needs.
17	NE.	31	"	"	"	Drilled	100	3,300	- 80	3,220	100	3,200	Ravenscrag sand	Hard, clear, iron		D, S	Sufficient for local needs.

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.

18	SE. 34	9	19	3	Spring	0	3,200	0	3,200	0	3,200	Cypress Hills conglomerate	Soft, clear	D, S	Sufficient for local needs.
19	NW. 35	"	"	"	Bored	90	3,080	- 60	3,020	90	2,990	Ravenscrag sand	Hard, clear	D, S	Sufficient for local needs.
20	SE. 36	"	"	"	Spring	0	2,900	0	2,900	0	2,900	Eastend sand	Hard, clear	D	Sufficient for household needs.
21	NE. 36	"	"	"	Spring	0	2,900	0	2,900	0	2,900	Eastend sand	Hard, clear	S	Sufficient for stock needs.
1	SW. 2	9	21	3	Dug	90	3,580					Cypress Hills conglomerate			Dry hole.
2	NE. 3	"	"	"	Dug	55	3,550	- 52	3,498	52	3,498	Cypress Hills conglomerate	Hard, clear	D, S	Insufficient for local needs.
3	SE. 7	"	"	"	Drilled	132	3,600	-125	3,475	125	3,475	Cypress Hills conglomerate	Soft, clear	D, S	Sufficient for local needs.
4	NE. 9	"	"	"	Drilled	102	3,535	- 80	3,455	80	3,455	Glacial gravel	Soft, clear	D, S	Sufficient for local needs.
5	SW. 10	"	"	"	Dug	25	3,500	- 20	3,480	20	3,480	Glacial sand	Soft, clear	D, S	Sufficient for local needs.
6	NW. 10	"	"	"	Dug	30	3,500	- 25	3,475	25	3,475	Glacial sand	Soft, clear	D, S	Sufficient for local needs.
7	NW. 10	"	"	"	Drilled	104	3,500	-100	3,400	100	3,400	Cypress Hills conglomerate	Soft, clear	D, S	Sufficient for local needs.
8	NW. 13	"	"	"	Drilled	107	3,485	-100	3,385	100	3,385	Glacial gravel	Soft, clear	D, S	Sufficient for local needs.
9	SE. 14	"	"	"	Drilled	109	3,490	-100	3,390	100	3,390	Cypress Hills conglomerate	Soft, clear	D, S	Sufficient for local needs.
10	NE. 14	"	"	"	Drilled	110	3,500	-105	3,395	105	3,395	Cypress Hills conglomerate	Soft, clear	D, S	Sufficient for local needs.
11	NE. 15	"	"	"	Drilled	107	3,520	- 90	3,430	90	3,430	Glacial gravel	Hard, clear	D, S	Sufficient for local needs.
12	SE. 16	"	"	"	Drilled	86	3,560	- 82	3,478	82	3,478	Cypress Hills conglomerate	Soft, clear	D, S	Sufficient for local needs.
13	NE. 16	"	"	"	Drilled	121	3,550	-115	3,435	115	3,435	Cypress Hills conglomerate	Hard, clear	D, S	Sufficient for local needs.
14	SW. 22	"	"	"	Drilled	100	3,510	- 90	3,420	90	3,420	Glacial gravel	Hard, clear	D, S	Sufficient for local needs.
15	NE. 22	"	"	"	Drilled	108	3,470	- 70	3,400	102	3,368	Ravenscrag coal	Hard, clear	D, S	Sufficient for local needs.
16	SW. 23	"	"	"	Drilled	106	3,500	-100	3,400	100	3,400	Glacial gravel	Hard, clear	D, S	Sufficient for local needs.
17	SW. 24	"	"	"	Drilled	80	3,450	- 70	3,380	70	3,380	Glacial sand	Hard, clear	D, S	Insufficient for local needs.
18	SE. 28	"	"	"	Drilled	50	3,420	- 40	3,380	40	3,380	Glacial gravel	Hard, clear	D, S	Sufficient for local needs.
19	SW. 31	"	"	"	Drilled	65	3,540	- 55	3,485	55	3,485	Glacial gravel	Hard, clear	D, S	Sufficient for local needs.
20	NW. 32	"	"	"	Drilled	60	3,450	- 50	3,400	50	3,400	Glacial gravel	Soft, clear	D, S	Sufficient for local needs.
21	NE. 34	"	"	"	Drilled	90	3,430	- 80	3,350	80	3,350	Glacial gravel	Hard, clear	D, S	Sufficient for local needs.
22	SW. 35	"	"	"	Drilled	60	3,400	- 50	3,350	50	3,350	Glacial gravel	Hard, clear	D, S	Sufficient for local needs.
23	NE. 35	"	"	"	Drilled	50	3,400	- 40	3,360	40	3,360	Glacial gravel	Hard, clear	D, S	Sufficient for local needs.
24	NE. 35	"	"	"	Drilled	70	3,400	- 60	3,340	60	3,340	Glacial gravel	Hard, clear	D, S	Sufficient for local needs.
25	NW. 36	"	"	"	Drilled	100	3,370	- 50	3,320	95	3,275	Glacial gravel	Soft, clear	D, S	Sufficient for local needs.
26	NE. 36	"	"	"	Drilled	85	3,360	- 70	3,290	70	3,290	Cypress Hills conglomerate	Hard, clear	D, S	Sufficient for local needs.