

North Dakota Geological Survey

E.A. NOBLE, *State Geologist*

BULLETIN 55

**North Dakota State
Water Commission**

MILO W. HOISVEEN, *State Engineer*

COUNTY GROUND WATER STUDIES 14

**GEOLOGY AND
GROUND WATER RESOURCES**

of Burke and Mountrail Counties

PART II
GROUND WATER BASIC DATA

by
C.A. ARMSTRONG
Geological Survey
United States Department of the Interior



Prepared by the United States Geological Survey
in cooperation with the North Dakota State Water Commission,
the North Dakota Geological Survey,
and the Burke and Mountrail Water Management Districts

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This is one of a series of county reports published cooperatively by the North Dakota Geological Survey and the North Dakota State Water Commission. The reports are in three parts; Part I describes the geology, Part II presents ground water basic data, and Part III describes the ground water resources. Parts I and III will be published later and will be distributed as soon as possible.

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GEOLOGY AND GROUND WATER RESOURCES OF BURKE AND MOUNTRAIL COUNTIES, NORTH DAKOTA

PART II - GROUND WATER BASIC DATA

By

C. A. Armstrong

INTRODUCTION

Purpose and Scope

The purpose of the investigation was to determine the quantity and quality of ground water available in Burke and Mountrail Counties, N. Dak. (fig. 1) for municipal, domestic, livestock, industrial, and irrigation uses. Specifically, the objectives within the scope of financing and time available were to: (1) determine the location, extent, and nature of the major aquifers; (2) evaluate the occurrence and movement of ground water, including the sources of recharge and discharge; (3) estimate the quantities of water stored in the aquifers; (4) estimate the potential yields to wells tapping the major aquifers; and (5) determine the chemical quality of the ground water.

The investigation was made cooperatively by the U.S. Geological Survey, North Dakota State Water Commission, North Dakota Geological Survey, and Burke and Mountrail Counties Water Management Districts. The results of the investigation will be published in three separate parts of the bulletin series of the North Dakota Geological Survey and the county ground-water studies series of the North Dakota State Water Commission. Part I is an interpretive report describing the geology, Part II is a compilation of the ground-water basic data, and Part III is an interpretive report describing the ground-water resources. Part II makes available hydrologic data collected during the county investigation and functions as a reference for Parts I and III.

The information in this report was collected chiefly between 1965 and 1968, and consists of the following: (1) data on about 2,100 wells and test holes; (2) data on 58 springs; (3) water-level measurements in 63 observation wells; (4) logs of about 570 test holes and selected wells; and (5) chemical analyses of 504 water samples.

The data in this report are useful for predicting geologic and ground-water conditions in Burke and Mountrail Counties. For example; a person considering the construction of a new well can locate the proposed site on plates 1 and 2 (in pocket). The characteristics of nearby wells and springs may be determined from tables 1 and 2, and the water-level fluctuations in the area may be determined from table 3. The type of material encountered in nearby wells may be determined from table 4, and the chemical quality of water in adjacent wells may be determined from table 5. Extrapolations based on these data should be conservative because of the irregular distribution of the water-bearing rocks.

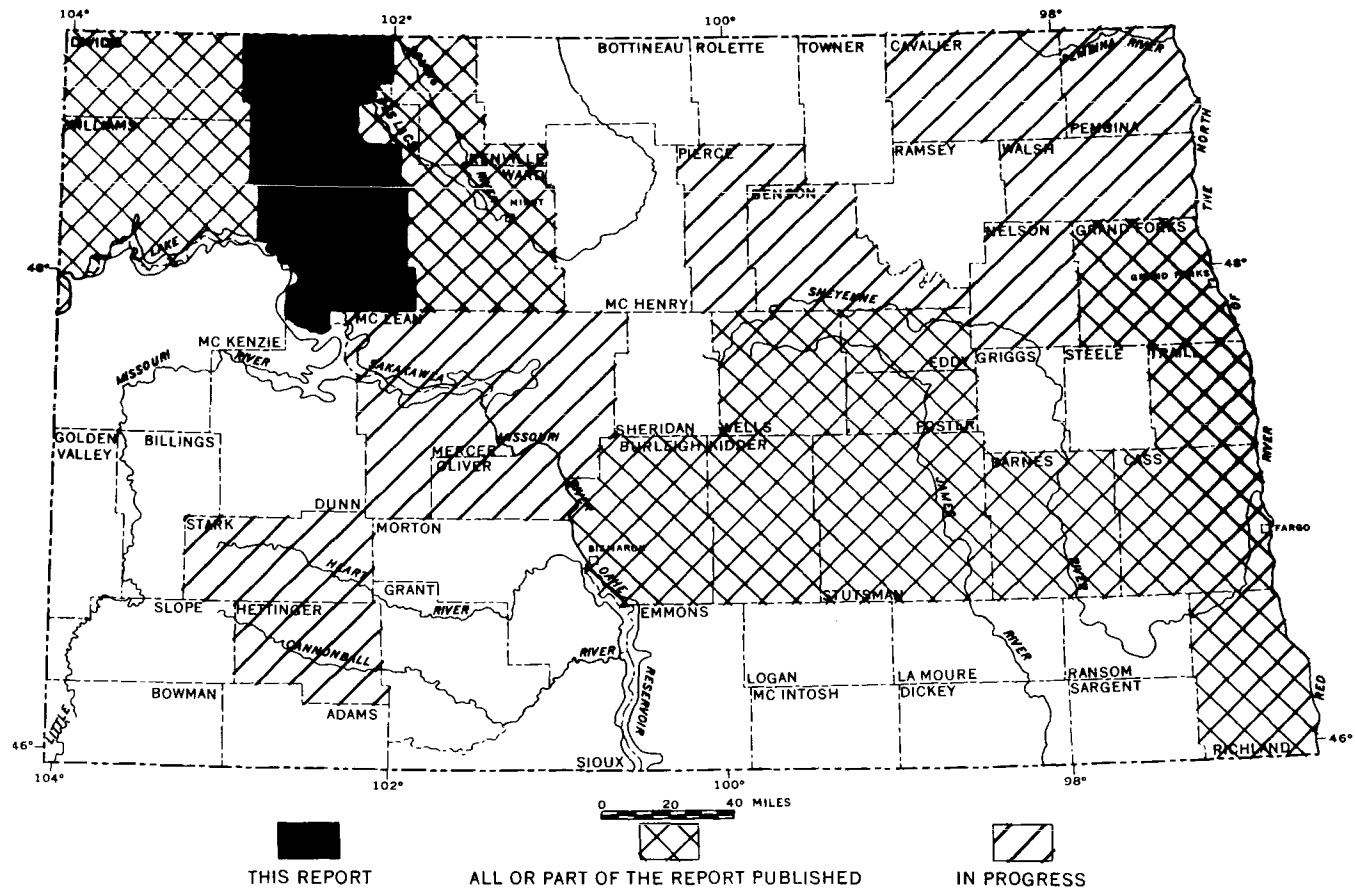


FIGURE 1.—County ground-water studies in North Dakota.

Well-Numbering System

The wells, springs, and test holes in the tables are numbered according to a system based on the location in the public land classification of the U.S. Bureau of Land Management. It is illustrated in figure 2. The first numeral denotes the township north of a base line, the second numeral denotes the range west of the fifth principal meridian, and the third numeral denotes the section in which the well is located. The letters a, b, c, and d designate, respectively, the northeast, northwest, southwest, and southeast quarter sections, quarter-quarter sections, and quarter-quarter-quarter sections (10-acre tract). For example, well 157-90-15daa is in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15, T. 157 N., R. 90 W. Consecutive terminal numerals are added if more than one well is recorded within a 10-acre tract. In T. 164 N., Rs. 88-94 W., secs. 25-30 are only about a quarter of a mile wide. These sections are considered as though they are only the southern part of a normal square-mile section.

Acknowledgments

The cooperation of the residents of the county and the municipal and county officials is gratefully acknowledged. Thanks are also due to the numerous well drillers who contributed logs and information for this report. Well-site logs were prepared principally by L. L. Froelich and C. E. Naplin of the North Dakota State Water Commission. The early stages of the investigation were under the direction of J. L. Hatchett of the U.S. Geological Survey.

EXPLANATION OF TABLES

Water levels in observation wells were measured periodically beginning in the summer of 1966. During most of 1967 and 1968, from 60 to 70 wells were measured each month, and 2 wells were equipped with continuous water-level recorders. About 20 of these observation wells will continue to be measured as part of the Statewide observation-well network. The locations of observation wells are shown on plates 1 and 2.

The logs given in table 4 are the descriptions as given by the source shown, otherwise they are composites of the well-site geologists' and drillers' descriptions, sample analyses and electric logs (where available). Visual examination, where the samples were obtained during drilling of the hole, was made by using a binocular microscope. Color descriptions were determined by comparing the sample with the Geological Society of America rock-color chart (1963). Grain-size determinations used in the logs refer to the Wentworth (1922) size scale. All of the samples of glacial drift reacted (effervesced) when treated with diluted hydrochloric acid and therefore were considered calcareous. Any large variation in the amount of calcareousness was noted on the sample logs in table 4.

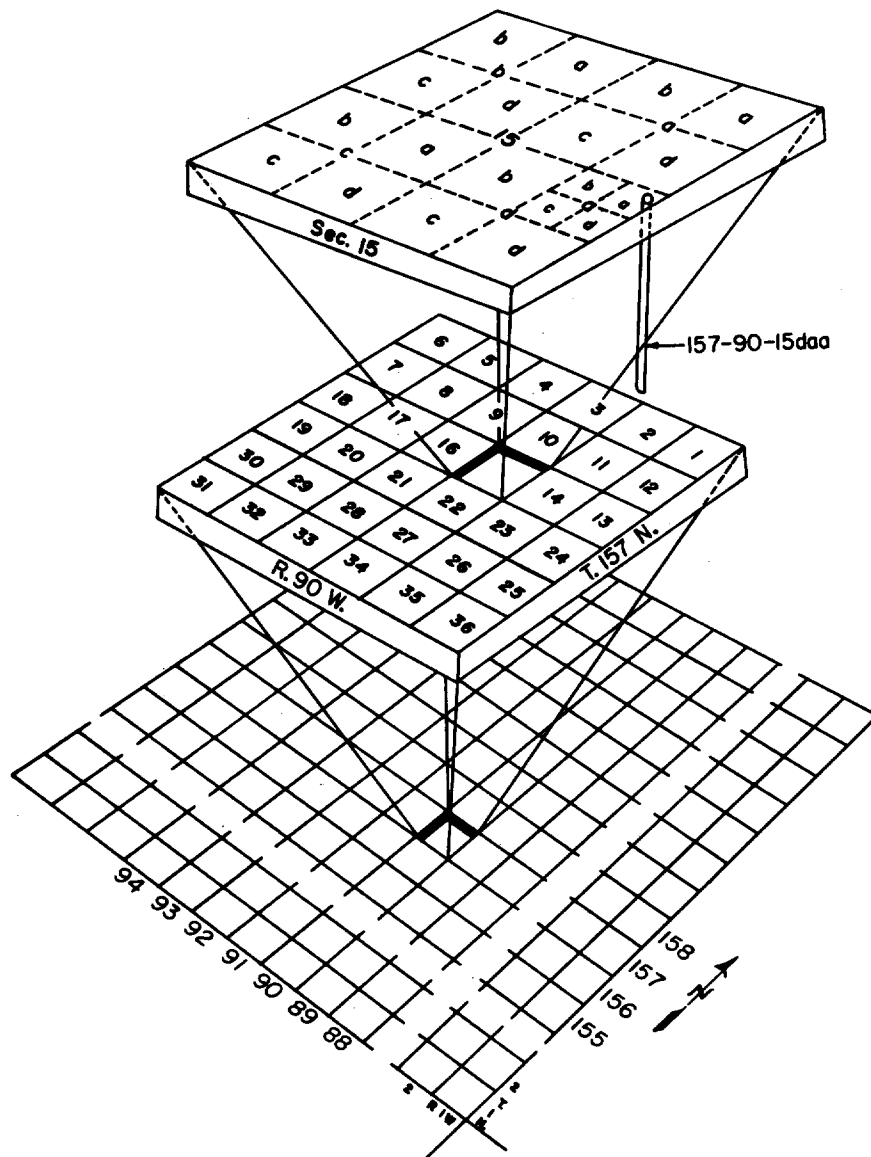


FIGURE 2.—System of numbering wells, springs, and test holes.

The term "till" indicates an unsorted, unstratified, cohesive, agglomeration of rock particles ranging from clay to boulders. In Burke and Mountrail Counties, silt and clay are the dominant particle sizes. If other particle sizes are present in appreciable amounts, they are used as modifying terms. Consequently, such terms as sandy or gravelly are textural terms used to indicate that the material described contains an appreciable, but not a dominant amount of the modifying material.

Observation wells were constructed in selected test holes. These, for the most part, were cased with $1\frac{1}{4}$ -inch plastic pipe, slotted in the lower 10 or 20 feet or screened in the lower 2 feet. They were pumped from 5 to 8 hours and a water sample was collected for chemical analysis (table 5).

The stratigraphic nomenclature used in this report is that of the North Dakota Geological Survey and, in some instances, differs from that of the U.S. Geological Survey.

WATER-QUALITY DATA

All natural waters contain dissolved mineral matter. Water in contact with soils or rock, even for only a few hours, will dissolve some mineral matter. The quantity of dissolved mineral matter in a natural water depends primarily on the type of rocks or soils with which the water has been in contact and the length of time of contact. Ground water is generally more highly mineralized than surface water because it remains in contact with the rocks and soils for much longer periods.

The mineral constituents and physical properties of natural waters reported in the table of analyses include those that have a practical bearing on the value of the waters for most purposes. The analyses generally include determinations of silica, iron, calcium, magnesium, sodium, potassium (or sodium and potassium together calculated as sodium), alkalinity as carbonate and bicarbonate, sulfate, chloride, fluoride, nitrate, boron, dissolved solids, pH, and specific conductance. Many of the specific conductances from 1947 through 1950 apparently were not adjusted for temperature and, therefore, should not be used to estimate dissolved-solids content. The source and significance of the different constituents and properties of natural waters are discussed in the following paragraphs.

Mineral Constituents in Solution

Silica (SiO_2)

Silica is dissolved from practically all rocks. Some natural waters contain less than 5 ppm (parts per million) of silica and few contain more than 50 ppm, but the more common range is from 10 to 30 ppm. Silica affects the usefulness of a water because it contributes to the formation of scale in pipes, water heaters, and boilers.

Iron (Fe)

Iron compounds are very common in rocks and they are easily leached by ground water. On exposure to air, normal basic waters that contain more than 1 ppm of iron soon become turbid with the insoluble reddish ferric oxide produced by oxidation. Surface waters, therefore, seldom contain as much as 1 ppm of dissolved iron, although some acid waters carry large quantities of iron in solution. Ground waters commonly contain as much as 10 ppm. Rarely, concentrations over 50 ppm may occur in waters with a pH of 5 to 8 (Hem, 1959). Iron causes reddish-brown stains on porcelain or enamelware and fixtures and on fabrics washed in the water. The U.S. Public Health Service (1962) recommends an upper limit of 0.3 ppm of iron in drinking water.

Calcium (Ca)

Calcium may be leached from all rocks, but limestone and dolomite fragments in the glacial drift provide the largest amount of calcium in Burke and Mountrail Counties. Calcium is a major cause of hardness and forms scale on utensils and on boilers and pipes. The calcium content of ground water may be as high as several hundred parts per million.

Magnesium (Mg)

Magnesium is dissolved from many rocks, particularly from dolomitic rocks. Its effect in water is similar to that of calcium. The magnesium in soft waters may amount to only 1 or 2 ppm, but water in areas that contain large quantities of dolomite or other magnesium-bearing rocks may contain more than 100 ppm of magnesium. Sea water contains more than 1,000 ppm of magnesium.

Sodium and potassium (Na and K)

Sodium and potassium are dissolved from practically all rocks. Sodium is the predominant cation in some of the more highly mineralized waters found in the western United States. Natural waters that contain only 3 or 4 ppm of the two together are likely to carry almost as much potassium as sodium. As the total quantity of these constituents increases, the proportion of sodium becomes much greater. However, the potassium concentration in water does not usually exceed 50 ppm. Moderate quantities of sodium and potassium have little effect on the usefulness of the water for most purposes, but waters that carry more than 50 ppm of the two may require careful operation of steam boilers to prevent foaming. More highly mineralized waters that contain a large proportion of sodium salts may be unsatisfactory for irrigation. The presence of several hundred parts per million of sodium in water makes it unsuitable for use in sodium-restricted diets used as therapy for cardiovascular diseases.

Bicarbonate and carbonate (HCO_3 and CO_3)

Bicarbonate and carbonate are sometimes reported as alkalinity. Since the major causes of alkalinity in most natural waters are carbonate and bicarbonate ions dissolved from carbonate rocks, the results are usually reported in terms of these constituents. Although alkalinity is primarily due to the presence of carbonate and bicarbonate, other ions also contribute to alkalinity such as silicates, phosphates, borates, possibly fluoride, and certain organic anions that may occur in colored waters. The significance of alkalinity to the domestic, agricultural, and industrial user is usually dependent upon the nature of the cations (Ca, Mg, Na, and K) associated with it. However, moderate amounts of alkalinity do not adversely affect most uses.

Sulfate (SO_4)

Sulfate is dissolved from many rocks and soils--in especially large quantities from gypsum and from beds of shale. It is formed also by the oxidation of sulfides of iron and may therefore be present in considerable quantities in mine waters. Sulfate in waters that contain much calcium and magnesium causes the formation of hard scale in steam boilers and may increase the cost of softening the water. The U.S. Public Health Service (1962) recommends that 250 ppm of sulfate should be the upper limit for drinking water.

Chloride (Cl)

Chlorides are generally very soluble compounds and are found in most rocks so that chlorides are found in all natural waters. Large quantities of chloride may affect the industrial use of water by increasing the corrosiveness of waters that contain large quantities of calcium and magnesium. The U.S. Public Health Service (1962) recommends an upper limit of 250 ppm of chloride for drinking water.

Fluoride (F)

Fluoride has been reported as being present in igneous and some sedimentary rocks to about the same extent as chloride. However, most fluorides, unlike the chlorides, are low in solubility so that the quantity of fluoride in natural waters is ordinarily very small compared to that of chloride. Hem (1959) reported that fluoride concentrations in excess of 10 ppm are rare. Investigations have proved that fluoride concentrations of about 0.6 to 1.7 ppm reduce the incidence of dental caries, and that concentrations greater than 1.7 ppm also protect the teeth from cavities, but cause an undesirable black stain (Durfor and Becker, 1964). U.S. Public Health Service (1962, p. 8) states, "When fluoride is naturally present in drinking water, the concentration should not average more than the appropriate upper control limit (0.6 to 1.7 ppm). Presence of fluoride in average concentrations

greater than two times the optimum shall constitute grounds for rejection of the supply." Concentrations higher than the stated limits may cause mottled enamel in teeth, endemic cumulative fluorosis, and skeletal effects.

Nitrate (NO₃)

Nitrate in water is considered a final oxidation produce of nitrogeneous material and may indicate contamination by sewage or other organic matter. U.S. Public Health Service (1962) sets 45 ppm as the upper limit for nitrate. Ingestion of water containing excessive quantities of nitrate may result in infantile methemoglobinemia. If the concentration is sufficiently great, both man and animals can be poisoned by nitrate.

Boron (B)

Boron in small quantities has been found essential for plant growth, but irrigation water containing more than 1 ppm boron is detrimental to navy beans and other boron-sensitive crops.

Dissolved solids

The reported quantity of dissolved solids--the residue on evaporation--consists mainly of the dissolved mineral constituents in the water. It may also contain some organic matter and water of crystallization. Waters with less than 500 ppm of dissolved solids are usually satisfactory for domestic and some industrial uses. Water containing several thousand parts per million dissolved solids are sometimes successfully used for irrigation where practices permit the removal of soluble salts through the application of large volumes of water on well-drained lands, but generally water containing more than about 2,000 ppm is considered to be unsuitable for long-term irrigation under average conditions.

Properties and Characteristics of Water

Temperature

Temperature is an important factor in properly determining the quality of water. This is very evident for such a direct use as an industrial coolant. Temperature is also important, but perhaps not so evident, for its indirect influence upon concentrations of dissolved gases and distribution of chemical solutes in ground water. Normally, the temperature of ground water within 60 feet of the surface approximates the mean annual air temperature and increases 1° F for each 60 to 100 feet of increase in depth.

Hardness

Hardness is the characteristic of water that receives the most attention in industrial and domestic use. It is commonly recognized by the increased quantity of soap required to

produce lather. The use of hard water is also objectionable because it contributes to the formation of scale in boilers, water heaters, radiators, and pipes, with a resultant decrease in rate of heat transfer, possibility of water heater or boiler failure, and decrease of flow.

Hardness is caused almost entirely by compounds of calcium and magnesium. Other constituents--such as iron, manganese, aluminum, barium, strontium, and free acid--also cause hardness, although they usually are not present in quantities large enough to have any appreciable effect.

Generally, bicarbonate and carbonate determine the proportions of "carbonate" hardness of water. Carbonate hardness is the amount of hardness chemically equivalent to the amount of bicarbonate and carbonate in solution. Carbonate hardness is approximately equal to the amount of hardness that is removed from water by boiling and is termed temporary hardness.

Noncarbonate hardness is the difference between the hardness calculated from the total amount of calcium and magnesium in solution and the carbonate hardness. If the carbonate hardness (expressed as calcium carbonate) equals the amount of calcium and magnesium hardness (also expressed as calcium carbonate) there is no noncarbonate hardness. Noncarbonate hardness is about equal to the amount of hardness remaining after water is boiled. The scale formed at high temperatures by the evaporation of water containing noncarbonate hardness commonly is tough, heat resistant, and difficult to remove.

Although many people talk about soft water and hard water, there has been no firm line of demarcation. Water that seems hard to an easterner may seem soft to a westerner. The U.S. Geological Survey has adopted the following classification:

<u>Hardness range</u> <u>(calcium carbonate</u> <u>in ppm)</u>	<u>Hardness description</u>
0-60	Soft
61-120	Moderately hard
121-180	Hard
More than 180	Very hard

For public use, water with hardness of about 200 ppm generally requires softening treatment (Durfor and Becker, 1964).

Sodium-adsorption ratio (SAR)

The term "sodium-adsorption ratio (SAR)" was introduced by the U.S. Salinity Laboratory Staff (1954). It is the ratio expressing the relative activity of sodium ions in exchange reaction with soil and is an index of the sodium or alkali hazard to the soil. Sodium-adsorption ratio is expressed by the equation:

$$SAR = \frac{Na^+}{\sqrt{\frac{Ca^{++}+Mg^{++}}{2}}}$$

where the concentrations of the ions are expressed in milliequivalents per liter (or equivalents per million for most irrigation waters).

Waters are divided into four classes with respect to sodium or alkali hazard: low, medium, high, and very high, depending upon the SAR and specific conductance. Water varies in respect to sodium hazard from that which can be used for irrigation on almost all soils to that which is generally unsatisfactory for irrigation.

Specific conductance (micromhos per centimeter at 25°C)

Specific conductance is a convenient, rapid determination used to estimate the amount of dissolved solids in water. It is a measure of the ability of water to conduct an electrical current. Commonly, the amount of dissolved solids (in parts per million) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from well to well and it may even vary in the same source with changes in the composition of the water (Durfor and Becker, 1964).

Specific conductance of most water in the eastern United States is less than 1,000 micromhos, but in the arid western parts of the country, a specific conductance of more than 1,000 micromhos is common.

Hydrogen-ion concentration (pH)

Hydrogen-ion concentration is expressed in terms of pH units. The values of pH often are used as a measure of the solvent power of water or as an indicator of the chemical behavior certain solutions may have toward rock minerals.

The degree of acidity or alkalinity of water, as indicated by the hydrogen-ion concentration, expressed as pH, is related to the corrosive properties of water and is useful in determining the proper treatment for coagulation that may be necessary at water-treatment plants. A pH of 7.0 indicates that the water is neither acid nor alkaline. Readings progressively lower than 7.0 denote increasing acidity and those progressively higher than 7.0 denote increasing alkalinity. The pH of most natural ground waters ranges between 5.5 and slightly more than 8.

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TABLE 1.--Records of wells and test holes

<u>EXPLANATION</u>		
<p><u>Method drilled</u></p> <p>B, bored or augered C, cable tool D, dug H, hydraulic rotary J, jetted P, air percussion V, driven</p> <p><u>Aquifer</u></p> <p>K3, Upper Cretaceous OC, Fort Union Group FC, Fox Hills Formation QG, Quaternary, Pleistocene TL, Tertiary, Paleocene 3L, outwash 5L, buried glaciofluvial deposits 52, buried-channel deposits</p> <p><u>Water level, in feet below land surface</u></p> <p>F, flows</p> <p><u>Water use</u></p> <p>A, air conditioning H, domestic I, irrigation K, domestic and stock N, industrial P, public supply S, stock U, unused Z, other</p>	<p><u>Type lift</u></p> <p>B, bucket C, centrifugal J, jet M, multiple (turbine) N, none P, piston S, submersible T, turbine Z, other</p> <p><u>Power</u></p> <p>1, hand 3, gasoline engine 4, diesel engine 5, electric motor 6, windmill F, gasoline engine, through 5 horsepower G, gasoline engine, >5 to 20 horsepower S, electric motor, through 1 horsepower T, electric motor, >1 to 5 horsepower</p> <p><u>Specific conductance (micromhos per centimeter at 25°C)</u></p> <p>2, 151-300 3, 301-500 4, 501-1,000 5, 1,001-2,000 6, 2,001-5,000 7, 5,001-10,000 8, 10,001-20,000 9, more than 20,000</p>	<p><u>QW type (analysis available)</u></p> <p>C, complete K, conductance P, partial</p> <p><u>Log available</u></p> <p>D, driller's log, in report E, electric log available G, geologist's log, in report J, gamma-ray log available</p> <p><u>Frequency of water-level measurements</u></p> <p>C, continuous (equipped with a recorder) I, intermittently or irregularly M, monthly N, no measurement, or reported measurement O, original measurement only</p>

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QM TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
<u>MCBRIDE COUNTY</u>																		
1510092402ABA	AFFIL. TRIBES	383	4	--	--	TL OC	153	8-51	U	N	--	--	1933	--	D	--	D	383
1510092414AHD	AFFIL. TRIBES	362	4	--	--	TL OC	155	8-51	U	N	--	--	1950	--	D	--	D	362
15100934010DA	AFFIL. TRIBES	296	4	--	--	TL OC	225	8-51	U	N	--	--	2179	--	D	--	D	296
1510093402ADC	AFFIL. TRIBES	405	--	--	--	--	--	--	U	--	--	--	--	--	D	--	N	405
1510093402CBB	AFFIL. TRIBES	495	--	--	--	--	--	--	U	--	--	--	--	--	D	--	N	495
15100934118AA	AFFIL. TRIBES	405	--	--	--	--	--	--	U	--	--	--	--	--	D	--	N	405
1510088401ABA	A.M. OBERG	180	6	C	1934	TL OC	52	6-66	U	P	1	--	--	--	--	--	--	O
1510088408AAA	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	2118	--	GE	--	N	120
1510088408DAA	C. WELLS	25	48	D	--	QG 31	6	6-66	K	P	1	4	--	K	--	41	O	
1510088409AAB	H. SCHENFISCH	16	48	D	1924	QG 31	2	6-66	U	P	1	4	--	K	--	38	O	
1510088409ABB	H. SCHENFISCH	64	24	B	1924	--	34	--	S	P	S	7	--	K	--	44	N	
1510088411AAA	N. MCGUIRE	196	4	C	1915	TL OC	51	6-66	H	P	6	6	--	K	--	44	O	
1510088412ABB	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	2105	--	GE	--	N	120
1510088412BBA1	P. RAU	20	24	D	1952	QG 31	5	--	K	J	5	4	--	K	--	--	N	
1510088412BBA2	P. RAU	20	36	D	1914	QG 31	8	6-66	U	N	--	--	--	--	--	--	D	
15100884148AD	B.G. BLOWERS	19	24	B	1957	QG 31	8	--	K	S	S	4	--	K	--	--	N	
15100884180AD	R. PERRY	100	4	C	1956	TL OC	--	--	H	J	S	5	--	K	--	44	N	
1510088423DDA	D. SCHENFISCH	20	2	--	--	--	10	--	H	--	--	--	--	--	--	--	N	
1510088424CCC	J. KUJOSON	20	18	--	1964	--	10	--	H	--	--	--	--	--	--	--	N	
1510088424DAA	W. SCHENFISCH	30	18	--	--	--	8	--	H	--	--	--	--	--	--	--	N	
15100884258BA	H. MARKWARDT	14	24	--	--	--	9	--	S	--	--	--	--	--	--	--	N	
15100884258BB1	H. MARKWARDT	35	4	--	--	--	25	--	H	--	--	--	--	--	--	--	N	
15100884258BB2	H. MARKWARDT	280	6	--	--	TL OC	80	--	S	--	--	--	--	--	--	--	N	
1510088425CCD	D. SCHENFISCH	20	30	--	--	--	4	--	H	--	--	--	--	--	--	--	N	
15100884270DD1	D. MCGUIRE	140	5	--	--	--	40	--	S	--	--	--	--	--	--	--	N	
15100884270DD2	D. MCGUIRE	175	6	--	--	--	50	--	H	--	--	--	--	--	--	--	N	
1510088428DAA	L. CHRISTENS	190	4	--	1914	--	145	--	H	--	--	--	--	--	--	--	N	
1510088429AAA	L. PETERSON	80	24	--	1919	--	47	6-66	U	N	--	--	--	--	--	--	N	
1510088429ADA	W. Q. ZIENAN	100	6	C	--	--	--	--	U	P	5	--	--	--	--	--	N	
15100884298BB	U.S.G.S.	80	--	H	1967	--	--	--	U	--	--	--	2115	--	DG	--	N	80
15100884318BC	J. RENSGH	73	4	--	--	--	50	--	K	--	--	--	--	--	--	--	N	
15100884338BA	OMSGARD BROS.	160	4	C	1956	TL OC	--	--	K	P	S	6	--	C	--	44	N	
1510088434AAA	F. ZIENAN	87	12	B	1917	--	80	--	K	P	S	5	--	--	--	43	N	
1510089401DAA	V. ONSTAD	83	4	B	1949	TL OC	59	--	K	S	S	6	--	K	D	44	N	
1510089404ABA	L. PAETZ	122	18	B	1915	TL OC	85	6-66	U	N	--	--	--	--	--	--	O	
1510089404ABD	L. PAETZ	224	5	C	1964	TL OC	136	--	K	S	S	7	--	C	--	45	N	
15100894048BA	D. SCHEMPP	116	14	R	1912	TL OC	--	--	S	P	S	6	--	K	--	45	O	
15100894050CC1	G.B. ANDES	96	18	B	1912	--	69	6-66	S	P	S	6	--	K	--	45	O	
15100894050CC2	G.B. ANDES	80	4	B	1962	TL OC	72	--	H	S	5	6	--	K	--	--	N	
15100894078DB	W.L. NELSON	42	6	--	--	--	30	--	K	--	--	--	--	--	--	--	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE NEAS.	WATER USE	TYPE LIFT	POWER	SPE-CIFIC CON-DUCT ANCE	ALTI-TUDE-OF LSD (FT.)	GM TYPE	LOG AVAIL-ABLE	TEMPER-ATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
151ND09070CD	D. BAARDSON	124	--	B	1919	--	--	--	K	--	--	6	--	K	--	44	N	
151ND09100DC1	W. HANCE	46	24	B	1918	--	20	--	S	P	6	7	--	K	--	41	N	
151ND09100DC2	W. HANCE	60	5	C	1960	--	15	--	K	P	--	6	--	K	--	--	N	
151ND09110CC	R. KNUTSON	46	16	B	1929	--	20	--	K	P	6	6	--	K	--	43	N	
151ND09124DD	W. HANCE	14	72	D	--	--	5	6-66	H	P	1	3	2110	K	--	40	N	
151ND09130AA	H. ANDES	65	18	B	1914	--	27	6-66	H	J	S	6	--	K	--	--	O	
151ND09140DC	J. JENSON	50	5	C	1958	QG 51	20	--	H	J	S	6	--	K	--	--	N	
151ND091888A	L. M. EMLERT	151	5	--	--	--	130	--	S	--	--	--	--	--	--	--	N	
151ND09190CC	L. ERICKSON	110	4	--	1951	--	70	--	K	--	--	--	--	--	D	--	N	
151ND092488A	R. ANDES	227	4	--	--	TL OC	140	--	K	--	--	--	--	--	--	--	N	
151ND09250AA	H. PETERSON	58	24	B	--	--	32	--	H	P	S	6	--	K	--	43	N	
151ND093088B1	E. HAMNER	110	4	B	1932	TL OC	38	6-66	S	P	S	5	--	K	D	43	O	
151ND093088B2	E. HAMNER	98	5	C	1962	TL OC	57	6-66	H	J	S	5	--	K	--	--	O	
151ND093090D	W. H. VORWERK	100	4	B	1917	--	50	--	H	P	S	6	--	K	--	41	N	
151ND09310CA	J. WOKEN	36	18	B	1921	QG 51	7	6-66	H	P	S	5	--	K	--	40	O	
151ND09330DC	E. I. ANERUD	127	4	C	1917	--	110	--	K	S	S	4	--	K	D	--	N	
151ND09344DD	K. STEELE	86	6	--	1901	--	40	--	H	P	1	5	--	K	--	43	N	
151ND09340AA	K. STEELE	40	24	B	1960	--	20	--	S	P	F	3	--	K	--	43	N	
151ND093400D	U. S. G. S.	140	--	H	1966	--	--	--	U	--	--	--	2076	--	GE	--	N	140
151ND09403AB	A. HEDBERG	96	6	C	1924	QG 51	52	--	K	P	T	6	--	K	--	44	N	
151ND09403AA	H. D. S. M. C.	52	--	H	--	--	--	--	U	--	--	--	--	--	D	--	N	52
151ND090588B	R. BRENDLE	154	6	--	--	--	--	--	K	--	--	--	--	--	--	--	N	
151ND09050CB	C. M. JOHNSON	140	4	H	1963	--	105	--	K	S	S	4	--	K	--	--	N	
151ND09060AD1	P. A. MILLEREN	27	18	B	1941	TL OC	24	--	H	P	S	4	--	K	--	--	N	
151ND09060AD2	P. A. MILLEREN	13	18	D	1944	TL OC	11	6-66	S	C	S	5	--	K	--	43	O	
151ND09144CA1	J. O. BARTELSON	18	4	H	1960	TL OC	7	--	H	P	S	5	--	K	--	--	N	
151ND09144CA2	J. O. BARTELSON	18	4	D	1949	TL OC	7	--	S	P	S	5	--	K	--	42	N	
151ND09160AB	C. S. VANHORN	165	3	C	1920	TL OC	150	--	K	P	S	5	--	C	--	--	N	
151ND09200AD1	B. J. WALDOCK	50	24	B	1924	TL	--	--	S	P	S	6	--	K	--	42	N	
151ND09200AD2	B. J. WALDOCK	235	3	H	1954	TL OC	221	--	H	P	S	6	--	K	--	--	N	
151ND092300A	E. MAY	110	5	--	--	QG 51	50	--	H	--	--	--	--	--	--	--	N	
151ND092600D	U. S. G. S.	140	--	H	1964	--	--	--	U	--	--	--	2192	--	GE	--	N	140
151ND09300A	E. E. SHULTZ	325	2	--	--	--	305	--	H	--	--	--	--	--	--	--	N	
151ND09310AA	C. SPITZER	15	34	D	--	--	10	8-50	K	--	--	--	--	--	--	--	O	
151ND09320AC	J. WALDOCK	48	24	--	--	--	30	--	H	--	--	--	--	--	--	--	N	
151ND093200A	J. STARVAS	98	2	--	--	--	10	--	H	--	--	--	--	--	--	--	N	
151ND093300B	A. KOHL S	108	12	B	--	--	103	8-50	K	P	--	--	--	--	--	--	D	
151ND093500A	P. A. ARNSTE	146	6	C	1950	TL OC	118	--	K	P	S	4	--	K	D	--	N	
151ND093600B	H. M. SCHROEDER	112	6	--	1925	QG 51	72	--	K	S	S	4	--	K	--	--	N	
151ND093600A	G. E. SOLOWSON	115	6	C	1942	TL OC	69	6-66	K	S	S	4	--	C	D	44	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	GW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
151N091M0188C	L. ANTON	80	30	B	--	--	60	--	K	--	--	--	--	--	--	--	N	
151N091M0280C1	WOLLENSCHLAGER	126	4	C	1962	TL OC	37	--	S	P	S	6	--	K	--	47	N	
151N091M0280C2	WOLLENSCHLAGER	122	4	C	1965	TL OC	37	--	H	S	S	6	--	K	--	--	N	
151N091M1188B	R.A. BRENDLE	160	4	C	1956	--	--	--	K	P	T	6	--	K	--	45	N	
151N091M26CAA	C.A. LEE	85	4	C	1917	TL OC	40	--	K	J	S	6	--	K	--	--	N	
151N092M03CCC	U.S.G.S.	300	--	H	1967	--	--	--	U	--	--	--	1900	--	GE	--	N	300
151N092M048AB	J.P. HOST	152	4	--	1927	OG 51	145	--	K	P	S	6	--	K	--	46	N	
151N092M06AAD	L.O. ANDERSON	150	4	C	1920	OG 51	135	--	H	P	S	6	--	K	--	46	N	
151N092M0888B	U.S.G.S.	220	--	H	1967	--	--	--	U	--	--	--	1925	--	G	--	N	220
151N092M15ADD	D. LITTLEFIELD	265	4	--	--	--	120	--	S	P	S	7	--	K	--	47	N	
151N092M1588B	M. SAND	65	4	C	1964	OG 51	60	--	H	P	S	6	--	K	--	--	N	
151N092M220DD	U.S.G.S.	240	--	H	1967	--	--	--	U	--	--	--	1899	--	GE	--	N	240
151N092M23CCA	L. LUND SR.	125	4	--	--	TL OC	44	10-66	U	P	--	--	--	--	--	--	O	
151N092M30ABC	L.L. STOUT	26	15	B	1925	OG 31	14	10-66	H	P	I	5	--	K	--	45	O	
151N092M31AAA	U.S.G.S.	60	--	H	1967	--	--	--	U	--	--	--	1968	--	G	--	N	60
151N092M318DD	D.R. HANSON	62	24	B	--	--	51	--	K	--	--	--	--	--	--	--	N	
151N092M33CDC	M. NIVA	44	24	--	--	--	7	--	H	--	--	--	--	--	--	--	N	
151N092M340AA	U.S.G.S.	138	1	H	1966	OG 51	76	9-66	U	N	--	6	1891	C	GE	47	N	200
151N093M030AD	L.E. PENNINGTON	109	4	C	1963	TL OC	84	10-66	S	S	S	7	--	K	--	47	O	
151N093M030BD	L.E. PENNINGTON	30	24	B	1948	TL OC	16	10-66	S	P	S	6	--	K	--	44	O	
151N093M09ACB	C.B. SHOBE	180	4	C	1954	TL OC	160	--	S	P	G	--	--	--	--	--	N	
151N093M090BA	C.B. SHOBE	38	1	V	1960	OG 31	30	--	S	P	F	--	--	--	--	--	N	
151N093M140AB	O.R. MOLDING	50	24	B	--	TL OC	38	--	U	P	I	--	--	--	--	--	N	
151N093M15CDA	P. EVENSON	172	--	C	1962	TL OC	166	10-66	K	S	--	5	--	K	--	50	O	
151N093M16BCD	C.B. SHOBE	150	6	C	1951	TL OC	36	10-66	K	P	S	5	2185	C	--	50	O	
151N093M218BA	C.B. SHOBE	129	4	C	1952	--	69	--	S	P	I	--	--	--	D	--	N	
151N093M220DD	U.S.G.S.	450	--	H	1967	--	--	--	U	--	--	--	1986	--	GE	--	N	450
151N093M238CC	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	1935	--	GE	--	N	120
151N093M280CD	A. BANGPN	56	24	B	1952	TL OC	43	--	H	P	F	4	--	K	--	47	N	
151N093M280DD	A. BANGPN	94	4	C	1951	TL OC	80	--	K	P	S	5	--	K	D	47	N	
151N093M29ADD	C.B. SHOBE	270	4	C	1952	TL OC	253	--	K	P	S	5	--	K	D	48	N	308
151N093M33C8B	G. LARSEN	78	4	--	1952	--	20	--	U	--	--	--	--	--	--	--	N	
151N093M34AAC	E. MENINGER	34	24	--	--	--	24	--	S	--	--	--	--	--	--	--	N	
151N093M3588B	H.S. BANGPN	274	3	C	1950	TL OC	170	--	K	P	S	5	--	K	D	50	N	
152N088M02ADC1	A.C. LYNNE	48	24	D	1906	--	43	--	H	J	S	5	--	K	--	--	N	
152N088M02ADC2	A.C. LYNNE	48	6	D	1960	--	44	--	U	P	I	5	--	K	--	44	N	
152N088M0488B	PLAZA	90	12	H	1959	--	45	4-67	P	S	T	5	--	C	D	45	O	100
152N088M050AD	R. VANECKHOUT	81	4	C	1957	TL OC	34	--	H	S	S	6	--	K	--	--	N	
152N088M06AAC1	W.A. SPLETSTOSER	60	6	C	1951	TL OC	12	6-66	U	N	--	--	--	--	--	--	N	
152N088M06AAC2	W.A. SPLETSTOSER	65	6	C	1936	--	--	--	U	P	I	--	--	--	--	--	O	

ST

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE OF LSD (FT.)	QM TYPE	LOG AVAIL-ABLE	TEMPER-ATURE (F)	FREQUENCY OF WATER-LEVEL MEASURE-MENTS	TOTAL DEPTH
152N088W10DDD	U.S.G.S.	40	--	H	1967	--	--	--	U	--	--	--	2035	--	G	--	N	40
152N088W11BRB	U.S.G.S.	80	--	H	--	--	--	--	U	--	--	--	2076	--	G	--	N	80
152N088W13DCD	B.S.SHAM	20	12	D	1948	--	4	--	U	P	L	5	--	K	--	38	N	
152N088W22AAA	U.S.G.S.	120	--	H	1967	--	--	--	U	--	--	--	2085	--	GE	--	N	120
152N088W23ADA1	E.J.GIESEN	16	24	B	1956	--	6	--	H	J	S	6	--	K	--	--	N	
152N088W23ADA2	E.J.GIESEN	115	4	C	1961	--	40	--	S	P	S	6	--	K	--	--	N	
152N088W23ADA3	E.J.GIESEN	60	18	R	1962	--	10	6-66	U	P	L	7	--	K	--	41	O	
152N088W24ABA	B.S.SHAM	100	6	C	--	TL OC	54	--	S	P	S	6	--	K	--	42	N	
152N088W28BBB	M.A.KREFT	191	5	C	1952	OG 51	--	--	K	P	S	6	--	K	--	44	N	
152N088W32AAA	D.SPLETSTOSER	140	6	C	1940	--	110	--	S	P	S	7	--	K	--	44	N	
152N088W35AAA1	R.E.CHRISTENSON	120	6	C	1920	--	110	--	U	P	S	--	--	--	--	--	N	
152N088W35AAA2	R.E.CHRISTENSON	24	24	B	1912	--	6	6-66	U	P	L	5	--	K	--	44	O	
152N089W01BRB	U.S.G.S.	120	--	--	1966	--	--	--	U	--	--	--	2091	--	GE	--	N	120
152N089W02BBB1	O.BRAAFLAT	150	4	C	1957	TL OC	142	--	H	S	S	5	--	K	--	--	N	
152N089W02BBB2	O.BRAAFLAT	60	18	B	--	TL OC	55	--	S	T	S	5	--	K	--	--	N	
152N089W04ABA	R.SCHNASE	85	24	B	1914	TL OC	72	--	K	P	6	5	--	K	--	--	N	
152N089W05BAC	L.EVENSON	119	4	C	1920	--	89	--	K	P	5	5	--	C	--	45	N	
152N089W06AAD	U.S.G.S.	40	--	H	1966	--	--	--	U	--	--	--	2111	--	G	--	N	40
152N089W06DAD	J.A.HANZAL	90	4	C	1958	TL OC	75	--	K	S	S	5	--	K	--	--	N	
152N089W08CCC1	G.RUUD	125	24	B	1964	TL OC	--	--	H	P	S	5	--	K	--	45	N	
152N089W08CCC2	G.RUUD	110	6	B	1928	TL OC	90	--	S	P	S	5	--	K	--	--	N	
152N089W13COC	C.A.HOLMSTRON	120	4	--	1956	--	41	6-66	K	S	S	6	--	K	--	44	O	
152N089W15CDB	B.BAROSON	125	6	--	1909	TL OC	100	--	U	P	L	6	--	K	--	43	N	
152N089W19ADC	M.WERLINGER	10	--	B	--	OG 31	--	--	S	P	F	5	--	K	--	38	N	
152N089W19BCC	E.AVERY	155	4	C	1960	--	67	--	H	S	S	6	--	K	--	48	N	
152N089W22B8C1	D.L.WENZEL	80	--	B	--	--	--	--	S	P	S	6	--	K	--	43	N	
152N089W22B8C2	D.L.WENZEL	80	4	B	1957	--	--	--	U	P	S	6	--	K	--	--	N	
152N089W23CDB1	R.COLCLOUGH	10	6	V	1946	--	--	--	H	J	S	6	--	K	--	--	N	
152N089W23CDB2	R.COLCLOUGH	12	32	D	--	--	10	6-66	S	P	S	6	--	K	--	39	O	
152N089W23CDB3	R.COLCLOUGH	7	48	D	1964	--	4	6-66	S	P	L	6	--	K	--	42	O	
152N089W25DAA	A.WDESSNER	101	18	B	--	--	59	6-66	U	--	S	6	--	K	--	--	D	
152N089W27ABB	N.D.S.W.C.	52	--	H	--	--	--	--	U	--	--	--	--	--	D	--	N	52
152N089W27C8D	K.NESS	23	42	D	1933	--	11	--	H	P	L	4	--	K	--	41	N	
152N089W29CCC1	S.ESTVOLD	30	24	B	1920	OG 51	16	--	S	P	S	5	--	K	--	41	N	
152N089W29CCC2	S.ESTVOLD	30	24	B	1950	OG 51	16	--	H	J	S	6	--	K	--	--	N	
152N089W29DAD	N.D.S.W.C.	74	--	--	--	--	--	--	U	--	--	--	--	P	D	--	N	74
152N089W30ACA	N.D.S.W.C.	65	--	--	--	--	--	--	U	--	--	--	1949	--	D	--	N	65
152N089W30BCC	N.D.S.W.C.	63	--	--	--	--	--	--	U	--	--	--	1941	--	D	--	N	63
152N089W30CBC	N.D.S.W.C.	105	--	--	--	--	--	--	U	--	--	--	1927	--	D	--	N	105
152N089W30DBA	N.D.S.W.C.	63	--	--	--	--	--	--	U	--	--	--	1933	--	D	--	N	63

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
152N08W3000B	N.D.S.W.C.	73	--	--	--	--	--	--	U	--	--	--	1964	P	D	--	N	73
152N08W3000D	S.ESTVOLD	30	24	B	1953	OG 51	16	--	S	P	S	6	--	K	--	42	N	--
152N08W31AAA	N.D.S.W.C.	52	--	--	--	--	--	--	U	--	--	--	1964	--	D	--	N	52
152N08W31ABA	N.D.S.W.C.	63	--	--	--	--	--	--	U	--	--	--	1940	--	D	--	N	63
152N08W31BAR1	W.L.NELSON	34	24	B	1950	--	19	--	H	P	S	6	--	K	--	--	N	--
152N08W31BAR2	W.L.NELSON	57	4	C	1956	--	19	6-66	U	N	--	--	--	--	--	--	O	--
152N08W31BBB	C.NELSON	30	--	--	--	--	--	--	U	--	--	--	--	P	--	--	N	--
152N08W348BA	S.E.NELSON	30	24	D	1941	OG 51	21	--	K	P	S	5	--	K	--	47	N	--
152N08W3500C	E.A.JENSEN	28	18	B	1963	--	6	6-66	H	P	S	4	--	K	--	41	O	--
152N08W3500D	E.A.JENSEN	90	18	B	1913	--	70	6-66	S	P	S	6	--	C	--	44	O	--
152N09W01CDD	N.HOVDA	45	24	B	1963	--	12	10-65	H	P	S	6	--	K	--	--	O	--
152N09W02CDD	R.BARTELSON	225	4	C	1954	TL OC	140	--	K	P	S	6	--	C	--	45	N	--
152N09W03ABA	U.S.G.S.	140	--	H	1966	--	--	--	U	--	--	--	1956	--	GE	--	N	140
152N09W08ACD	N.D.S.W.C.	105	--	--	--	--	--	--	U	--	--	--	--	P	O	--	N	105
152N09W12A0B	J.HERMANSTAD	80	24	B	--	TL OC	78	--	H	P	6	--	--	--	--	--	N	--
152N09W13B0C	E.EVANS	50	24	--	--	--	42	--	K	--	--	--	--	--	--	--	N	--
152N09W13C0C1	S.HOFF	66	24	B	--	--	60	--	K	S	S	5	--	C	--	47	N	--
152N09W13C0C2	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	2057	--	G	--	N	120
152N09W130AA	O.SKODEN	450	2	C	1921	--	200	--	S	P	6	6	--	K	--	45	N	--
152N09W14C0C	H.GEVING	60	24	B	1945	--	54	--	H	P	S	5	--	K	--	--	N	--
152N09W1400D	N.D.S.W.C.	21	--	--	--	--	--	--	U	--	--	--	--	--	D	--	N	21
152N09W153AA	M.WHONSON EST.	64	24	B	1914	TL OC	57	--	U	P	S	--	--	--	--	--	N	--
152N09W17C0D	C.CLEMENSEN	12	48	D	1940	--	9	--	K	P	S	5	--	K	--	--	N	--
152N09W1700D	F.CLEMENSEN	12	48	D	--	--	9	--	K	P	S	--	--	--	--	--	N	--
152N09W18C0C	U.S.G.S.	79	1	H	1966	OG 51	14	5-66	U	N	--	6	1870	C	EG	46	N	95
152N09W1800D	B.H.DETIENNE	81	24	--	--	--	32	--	K	--	--	--	--	--	--	--	N	--
152N09W1900D	E.I.DANIELSON	80	24	B	1912	--	60	--	H	S	S	5	--	K	--	--	N	--
152N09W20ADC	H.F.DEBERTIN	120	4	C	1957	TL OC	80	--	K	P	B	6	--	K	--	46	N	--
152N09W20ADD	H.F.DEBERTIN	70	18	B	1914	--	64	--	S	P	F	--	--	--	--	--	N	--
152N09W20C0D	P.RITZKE	109	4	C	1946	TL OC	60	--	H	P	S	6	--	K	--	44	N	--
152N09W220AD	D.E.NICHOLS	75	18	B	--	--	56	6-66	H	P	S	5	--	K	--	45	O	--
152N09W23AAD	F.H.HAUBER	45	6	--	1914	TL OC	31	--	H	S	S	5	--	K	--	--	N	--
152N09W24C0D	E.JACOBSON	46	24	B	--	--	16	6-66	H	P	S	6	--	K	--	45	O	--
152N09W2400D	N.D.S.W.C.	63	--	--	--	--	--	--	U	--	--	--	1993	--	D	--	N	63
152N09W25ABD	N.D.S.W.C.	105	--	--	--	--	--	--	U	--	--	--	1986	--	D	--	N	105
152N09W25CCC	SLAUGHTERHOUSE	14	--	--	--	--	--	--	--	--	--	--	--	P	--	--	N	--
152N09W2500C1	N.D.S.W.C.	105	--	--	--	--	--	--	U	--	--	--	1933	--	O	--	N	105
152N09W2500C2	PARSHALL	74	8	--	1962	--	25	--	P	S	U	6	--	C	--	--	N	--
152N09W2500C1	N.D.S.W.C.	105	--	--	--	--	--	--	U	--	--	--	1927	P	D	--	N	105
152N09W2500C2	PARSHALL	77	--	--	--	--	--	--	P	--	--	--	--	P	D	--	N	84

21

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	GW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
152N090W26CDD	N.D.S.W.C.	33	--	--	--	--	--	--	U	--	--	--	1909	P	D	--	N	33
152N090W26DAA	R.PUSE	55	6	C	1963	TL OC	30	--	H	J	S	6	--	K	--	--	N	63
152N090W26DDC	N.D.S.W.C.	21	--	--	--	--	--	--	U	--	--	--	1918	P	D	--	N	63
152N090W27A881	C.O.HOUDA	64	24	B	--	--	53	--	S	P	S	5	--	K	--	45	N	63
152N090W27A882	C.O.HOUDA	64	24	B	1963	TL OC	54	--	K	S	S	5	--	K	--	--	N	63
152N090W27CAA	N.D.S.W.C.	84	--	--	--	--	--	--	U	--	--	--	1905	--	D	--	N	84
152N090W270DD	N.D.S.W.C.	12	--	--	--	--	--	--	U	--	--	--	1909	P	D	--	N	22
152N090W29ADD	N.D.S.W.C.	105	--	--	--	--	--	--	U	--	--	--	--	--	D	--	N	105
152N090W29BCC	E.M.HORNADAY	110	4	B	1940	TL OC	100	--	H	S	S	6	--	K	D	--	N	105
152N090W29DCD	J.KLINE	116	--	--	--	--	60	--	K	--	--	--	--	--	--	--	N	105
152N090W31DCB	M.KURSCHINSKI	16	18	D	1952	--	11	6-66	K	P	1	5	--	K	--	42	O	63
152N090W33AAD	O.A.LOEN	14	5	D	1965	--	--	--	A	P	1	6	--	K	--	44	N	63
152N090W33B8C	N.D.S.W.C.	63	--	--	--	--	--	--	U	--	--	--	--	--	D	--	N	63
152N090W348AA1	O.A.LOEN	46	5	C	1956	--	22	--	H	P	S	5	--	K	--	48	T	63
152N090W348AA2	O.A.LOEN	70	24	B	--	TL OC	14	6-66	S	P	S	7	--	K	--	42	O	63
152N090W348AB	N.D.S.W.C.	63	--	--	--	--	--	--	U	--	--	--	1909	--	D	--	N	63
152N090W35AAD	M.F.OLSON	24	24	D	1916	--	11	--	K	P	5	6	--	K	--	41	N	74
152N090W35BAC	N.D.S.W.C.	74	--	--	--	--	--	--	U	--	--	--	1918	--	D	--	N	74
152N090W35B8D	C.GLASNER	72	24	--	--	--	28	--	S	--	--	--	--	--	--	--	N	63
152N090W36AAA	N.D.S.W.C.	63	--	--	--	--	--	--	U	--	--	--	1932	P	D	--	N	63
152N090W36ABA	N.D.S.W.C.	84	--	--	--	--	--	--	U	--	--	--	1919	--	D	--	N	84
152N090W36ABB	N.D.S.W.C.	105	--	--	--	--	--	--	U	--	--	--	1919	--	D	--	N	105
152N090W36ABC	N.D.S.W.C.	84	--	--	--	--	--	--	U	--	--	--	1950	--	D	--	N	84
152N090W36ADD	N.D.S.W.C.	63	--	--	--	--	--	--	U	--	--	--	1931	--	D	--	N	63
152N090W36DDD	N.D.S.W.C.	63	--	--	--	--	--	--	U	--	--	--	1977	--	D	--	N	63
152N091W0488B1	A.OPPEROEN	115	24	B	--	QG 51	--	--	U	P	--	--	--	--	--	--	N	115
152N091W0488B2	A.OPPEROEN	132	6	--	--	--	90	--	H	--	--	--	--	--	--	--	N	132
152N091W05ADD	A.J.FOX	90	4	--	--	--	85	--	K	--	--	--	--	--	--	--	N	90
152N091W05DBB1	G.TOTLEFSON	132	--	--	--	--	50	--	K	--	--	--	--	--	--	--	N	132
152N091W05DBB2	G.TOTLEFSON	98	4	--	--	--	80	--	K	--	--	--	--	--	--	--	N	98
152N091W08DDD	A.LITTLEFIELD	225	6	--	--	TL OC	90	--	K	P	S	5	--	C	--	--	N	225
152N091W09DDD	B.MAYER	120	4	C	1958	--	90	--	H	J	S	6	--	K	--	--	N	120
152N091W09DCD	M.NAHLE	65	18	--	--	--	40	--	U	--	--	--	--	--	--	--	N	65
152N091W1088B	R.MURRY	108	24	B	1913	--	95	--	K	P	S	5	--	K	--	45	N	108
152N091W13CCD	N.D.S.W.C.	84	--	--	--	--	--	--	U	--	--	--	--	--	D	--	N	84
152N091W158CC	E.LIEN	100	24	--	--	--	80	--	K	--	--	--	--	--	--	--	N	100
152N091W15DDA	M.A.HAUGE	140	4	C	1957	TL OC	90	--	K	P	S	5	--	K	--	45	N	140
152N091W17ADC	O.PHILLIPPI	87	24	--	--	--	80	--	K	--	--	--	--	--	--	--	N	87
152N091W188DC	M.ESTVOLD	104	24	B	1922	TL OC	20	--	K	P	S	5	--	K	--	41	N	104
152N091W190CC	C.A.SCHUELKE	240	6	--	--	TL OC	160	--	K	S	S	5	--	K	--	41	N	240

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LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAM- ETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LEFT	POWER	SPE- CIFIC CON- DUCT ANCE	ALTI- TUDE- OF LSD (FT.)	QM TYPE	LOG AVAIL- ABLE	TEM- PER- ATURE (F)	FREQUENCY OF WATER- LEVEL MEASURE- MENTS	TOTAL DEPTH
152N091W210DD	M.ROGGENBUCK	90	24	B	1927	TL OC	70	--	S	P	6	--	--	--	--	--	N	
152N091W24CDD	T.EVERSON	56	6	C	1950	--	35	--	K	P	S	6	--	K	--	--	N	
152N091W24DCC	L.REISCH	60	18	--	--	--	33	--	H	--	--	--	--	--	--	--	N	
152N091W258BD	M.D.S.W.C.	74	--	--	--	--	--	--	--	--	--	1855	--	--	--	--	N	
152N091W25DBB	G.A.STENERSON	81	4	C	1961	--	21	6-66	U	N	--	--	--	--	D	--	N	74
152N091W26A0D1	G.A.STENERSON	72	24	B	1922	--	47	--	H	P	S	6	--	K	--	--	N	
152N091W26A0D2	G.A.STENERSON	75	4	C	1963	OG 51	35	--	S	P	S	5	--	K	--	46	N	
152N091W29AAA	J.VARLE	348	6	--	--	TL OC	118	--	H	--	--	--	--	--	--	--	N	
152N091W29CCC	B.P.OLSON	290	4	--	1958	TL OC	180	--	H	P	--	6	--	K	--	47	N	
152N091W33ABD	C.VENTSCH	95	4	C	1965	OG 51	50	--	K	P	S	6	--	K	--	46	N	
152N092W01DCC	R.CEYNAR	5	24	D	1947	OG 31	8	--	I	P	S	5	--	K	--	--	N	
152N092W02ACC	J.J.MAYER	7	18	B	1955	--	5	--	S	Z	S	6	--	K	--	--	N	
152N092W02BCC	U.S.G.S.	40	--	H	1967	TL OC	--	--	U	--	--	--	2095	--	GE	--	N	40
152N092W02DD	F.HALVORSON	78	4	--	--	--	50	--	S	--	--	--	--	--	--	--	N	
152N092W11AAA	L.R.HALVORSON	225	3	C	1952	--	50	--	S	P	S	6	--	K	--	44	N	
152N092W14DDD	U.S.G.S.	100	--	H	1967	--	--	--	U	--	--	--	1865	--	GE	--	N	100
152N092W15DCC	L.BROWN	170	4	C	1963	TL OC	110	--	S	P	S	6	--	K	--	--	N	
152N092W17BBB	J.R.BRESLIN	154	4	C	1956	--	96	4-67	S	P	S	5	1990	K	--	--	N	
152N092W19AAA1	NEW TOWN	142	10	C	1951	OG 52	68	4-67	P	M	--	--	--	--	D	--	O	
152N092W19AAA2	NEW TOWN	180	--	--	1952	OG 52	--	--	P	M	U	5	--	K	--	48	H	
152N092W19AAA3	U.S.G.S.	143	1	H	1967	OG 52	55	9-66	N	--	--	5	1896	C	GE	47	I	
152N092W19AAB	U.S.G.S.	158	4	H	1967	OG 52	49	8-67	U	N	--	5	1892	C	GE	--	C	180
152N092W19ABB	H.F.REYNOLDS	106	8	--	--	OG 52	52	10-66	K	S	S	5	--	K	--	--	O	
152N092W20AAD	U.S.G.S.	308	1	H	1966	OG 52	91	5-66	U	N	--	6	1926	C	OF	49	M	325
152N092W20BBA	U.S.G.S.	166	1	H	1966	OG 52	59	9-66	U	--	--	5	1901	C	OF	46	I	240
152N092W20BBB1	NEW TOWN	180	11	H	1957	OG 52	58	9-66	P	N	--	6	--	C	--	48	I	
152N092W20BBB2	U.S.G.S.	168	1	H	1967	OG 52	57	9-66	U	N	--	5	1898	C	GE	47	I	240
152N092W28DDD	M.REYNOLDS	157	4	C	1955	OG 52	90	--	K	P	S	5	--	K	--	46	N	
152N092W29AAA	H.O.NORDBY	150	4	H	1958	OG 52	135	--	H	P	S	5	--	K	--	47	N	
152N092W29DDU	U.S.G.S.	118	1	H	1967	OG 51	47	6-67	U	N	--	6	1877	C	G	45	M	140
152N092W30AAB	G.I.BOTTLESON	185	4	C	1957	TL OC	90	--	H	S	S	6	--	K	--	--	N	
152N092W31CCC	U.S.G.S.	48	1	H	1967	OG 51	23	8-67	U	--	--	6	1969	C	C	48	M	80
152N092W31DAA	D.C.PETERSON	154	3	--	1919	--	109	--	S	P	S	6	--	K	--	48	N	
152N093W01DAA	U.S.G.S.	100	--	H	1967	--	--	--	U	--	--	--	2004	--	GE	--	N	100
152N093W12DDD	W.G.BREHM	339	4	C	1954	OG 51	120	--	H	S	--	5	--	K	--	--	N	
152N093W25DCC	PETERSON BROS.	90	4	C	1963	--	57	--	H	J	S	6	--	K	--	--	N	
152N093W25DDB	PETERSON BROS.	90	4	C	1958	OG 51	57	--	K	S	S	6	--	K	--	--	N	
152N093W26BCC	D.PENNINGTON	1805	1	H	1967	K3 PC	11	--	S	--	--	6	2100	C	--	58	N	
152N093W34DAA	H.A.HENINGER	156	4	C	1963	--	137	--	K	P	T	5	--	K	--	48	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF L.S. (FT.)	QM TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
152N093W35CCD	P.A. BASTING	34	36	D	1916	TL OC	28	--	H	P	1	4	--	K	--	45	N	
152N093W35DD	A.E. WOLDING	120	4	C	1949	TL OC	90	--	S	P	S	6	--	K	--	46	N	
153N088W1C1D	A. LEE	200	7	--	--	--	100	--	S	--	--	--	--	C	--	--	N	
153N088W2MCC	N. NIELSEN	250	4	--	--	--	100	--	K	--	--	--	--	--	--	--	N	
153N093W35CB	A. MEDUNA	200	4	C	1940	TL OC	90	6-66	S	P	S	6	--	K	--	45	O	
153N088W060DD	U.S.G.S.	60	--	H	1966	--	--	--	U	--	--	--	2036	--	GD	--	N	60
153N088W07DCD	S. SJOL	163	3	C	--	--	90	--	K	P	S	6	--	K	--	44	N	
153N088W11ADA	M. WOLD	75	30	B	--	--	60	--	K	P	S	5	--	K	--	44	N	
153N088W13CD	V. OLSEN	135	4	--	--	--	50	--	K	--	--	--	--	--	--	--	N	
153N088W13DD	C. DEUTSCH	73	4	--	--	--	15	--	K	--	--	--	--	--	--	--	N	
153N088W15DD	U.S.G.S.	60	--	H	1967	--	--	--	U	--	--	--	2071	--	OG	--	N	60
153N088W17CC	M. OLSON	60	24	--	--	--	20	--	K	--	--	--	--	--	--	--	N	
153N088W20CB	L. OLSON	50	24	B	1940	TL OC	36	--	K	J	S	5	--	K	--	43	N	
153N088W21AAA	A. JULSON	68	24	--	--	--	12	--	H	--	--	--	--	--	--	--	N	
153N088W22AAA	R. HAGA	25	36	D	--	OG 51	15	--	K	P	S	5	--	K	--	43	N	
153N088W22BBB	A. KOK	50	24	--	--	--	33	--	K	--	--	--	--	--	--	--	N	
153N088W23DD	U.S.G.S.	100	--	H	1966	--	--	--	U	--	--	--	2089	--	IG	--	N	100
153N088W25CC	M. NIELSEN	80	6	--	--	--	60	--	S	--	--	--	--	--	--	--	N	
153N088W27CD	R. WHEELING	100	6	C	1958	TL OC	70	--	S	P	S	6	--	K	--	42	N	
153N088W29CAA	C. SANDSTROM	52	4	--	--	TL OC	30	--	K	--	--	--	--	--	--	--	N	
153N088W30ADD	A. JOHNSON	30	28	--	--	TL OC	22	--	K	--	--	--	--	--	--	--	N	
153N088W30DC	O. REUM	53	4	C	1966	TL OC	45	--	K	S	S	5	--	K	D	44	N	
153N088W32CC	H. KROHN	400	6	--	--	TL OC	175	--	S	--	--	--	--	--	--	--	N	
153N088W35CCA	PLAZA	86	12	H	--	--	38	4-67	P	S	T	--	--	--	--	--	O	
153N088W35CD	PLAZA	80	12	--	1955	--	39	4-67	P	S	T	5	--	C	--	45	O	
153N088W06DCB	C. SEVERANCE	52	4	C	1945	--	--	--	K	P	S	7	--	K	--	--	N	
153N088W13CC	C. BRGSTRUM	20	18	B	1927	--	--	--	H	P	S	4	--	K	--	--	N	
153N088W14AAA1	F. CLARK	115	24	B	1949	TL OC	107	--	H	S	S	6	--	K	--	--	N	
153N088W14AAA2	F. CLARK	104	24	B	1951	TL OC	94	--	S	S	S	6	--	K	--	--	N	
153N088W16DD	N.D.G.S.	74	--	B	1966	OG 51	7	7-66	U	N	--	--	--	--	G	--	N	74
153N088W21CC	U.S.G.S.	60	--	H	1967	--	--	--	U	--	--	--	2264	--	OG	--	N	60
153N088W24CD	W. EDWARDS	275	4	C	1962	TL OC	245	--	K	P	S	6	--	K	--	--	N	
153N088W25DD	A. AMUNDSON	110	24	B	1904	TL OC	--	--	K	P	S	6	--	K	--	45	N	
153N088W26CC	R. PATTEN	300	6	C	1914	--	270	--	K	P	L	--	--	--	--	--	N	
153N088W31CD	U.S.G.S.	180	--	H	1968	--	--	--	U	--	--	--	1904	--	GE	--	N	180
153N088W31DAD	C. PAPPEL	18	24	B	1930	--	--	--	K	P	S	5	--	C	--	--	N	
153N088W31DDA	R. PATTFN	95	6	C	1943	TL OC	68	--	K	J	S	6	--	K	D	--	N	
153N088W35DD	N.D.G.S.	34	--	--	1966	--	--	--	U	N	--	--	--	--	G	--	N	34
153N088W05DD	M. LANITTO	80	18	B	--	TL OC	65	--	K	P	L	5	--	K	--	44	N	
153N088W07CC	U.S.G.S.	260	--	H	--	--	--	--	U	--	--	--	2191	--	GE	--	N	260

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE OF LSD (FT.)	QM TYPE	LOG AVAIL-ABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
154N088W04R8B	L. RINGOEN	85	24	B	--	--	40	--	K	P	S	6	--	K	--	44	N	
154N088W05D0D	G. AAS	40	24	--	--	--	35	--	K	--	--	--	--	--	--	--	N	
154N088W07C8C	H. TRULSON	22	18	D	1951	--	16	--	K	J	S	5	--	K	--	44	N	
154N088W07C8C	H. TRULSON	264	4	--	--	TL OC	80	--	S	--	--	--	--	--	--	--	N	
154N088W09BAA	C. KNUSTSON	130	24	--	--	--	80	--	K	--	--	--	--	--	--	--	N	
154N088W11R8C	F. JOHNSON	185	4	C	--	TL OC	80	--	K	S	--	6	--	K	--	43	N	
154N088W11D0C	G. JOHNSON	92	24	--	--	--	75	--	K	--	--	--	--	--	--	--	N	
154N088W14C8C	V. JOHNSON	149	4	--	--	--	90	--	K	--	--	--	--	--	--	--	N	
154N088W15C8B	F. PEASE	145	4	C	--	--	127	--	K	P	S	7	--	K	--	44	N	
154N088W18C8B	G. STIND	128	4	C	1963	--	90	--	K	S	S	5	--	K	--	43	N	
154N088W20ADD	E. THUNSMELLE	220	4	C	1963	TL OC	150	--	H	S	S	6	--	K	--	45	N	
154N088W21C8C	H. THUNSMELLE	60	4	--	--	--	45	--	H	--	--	--	--	--	--	--	N	
154N088W22C8C	O. OSNESS	24	24	--	--	--	15	--	H	--	--	--	--	--	--	--	N	
154N088W25D0D	L. SWANSON	170	4	--	--	--	88	8-67	U	P	--	--	--	--	--	--	D	
154N088W25D0D	L. SWANSON	180	4	--	--	--	120	--	S	--	--	--	--	--	--	--	N	
154N088W29C8C	W. ASHLEY	115	24	B	--	--	90	8-67	U	P	--	--	--	--	--	--	D	
154N088W32ABA	C. OLSON	65	24	B	--	--	35	--	S	P	S	5	--	K	--	43	N	
154N089W02DDA1	J. MJEN	36	24	B	1950	--	31	--	H	P	S	--	--	--	--	--	N	
154N089W02DDA2	J. MJEN	25	48	D	--	--	14	10-65	S	P	S	5	--	K	--	--	D	
154N089W08B8B	E. HAHN	115	24	B	1941	--	100	--	K	P	S	6	--	K	--	--	N	
154N089W14C0D	J. EDWARDS	28	24	B	1916	--	--	--	S	P	S	4	--	K	--	45	N	
154N089W14D0C	U.S.G.S.	40	--	H	1966	--	--	--	U	--	--	--	2050	--	IG	--	N	40
154N089W15C0D	U.S.G.S.	100	--	--	1966	--	--	--	U	--	--	--	2096	--	GE	--	N	100
154N089W15D0D	U.S.G.S.	58	1	H	1967	--	15	8-67	U	--	--	6	2000	C	G	46	M	80
154N089W19C0D	L. MORST	65	24	B	1919	OG 31	59	--	S	P	S	6	--	K	--	45	N	
154N089W24DAD1	R. GROTTE	254	6	--	1964	TL OC	80	--	H	P	S	6	--	K	--	--	N	
154N089W24DAD2	R. GROTTE	65	24	B	1912	--	--	--	S	P	S	6	--	K	--	44	N	
154N089W28B8C	H. MOESSNER	107	4	C	1963	TL OC	67	--	H	P	S	6	--	K	--	--	N	
154N089W30D0D	A. KULLAND	132	6	C	1956	--	107	--	S	P	S	7	--	C	--	45	N	
154N089W35D8R	O. HALLINGSTAD	91	24	B	1918	--	--	--	H	P	S	6	--	K	--	--	N	
154N090W03AAA1	N. JOHNSON	100	24	B	1917	--	98	--	S	P	S	6	--	K	--	44	N	
154N090W03AAA2	N. JOHNSON	50	24	B	1954	--	--	--	H	P	1	--	--	--	--	--	N	
154N090W03AAA3	N. JOHNSON	145	4	C	1967	--	95	--	K	S	S	6	--	K	--	45	N	
154N090W04D0D	H. KJSETH	82	24	B	1941	--	64	--	S	P	S	--	--	--	--	--	N	
154N090W06B8D1	W. WHITMORE	177	3	C	1935	--	161	6-67	U	P	S	7	--	K	--	44	O	
154N090W06B8D2	W. WHITMORE	30	24	B	1955	OG 31	25	--	K	P	S	6	--	K	--	44	N	
154N090W06B8D3	W. WHITMORE	207	4	C	1967	--	160	--	S	P	S	7	--	K	--	46	N	
154N090W06C8C1	W. WHITMORE	217	4	C	1961	--	--	--	S	P	F	7	--	C	D	45	N	
154N090W12C8D	C. NEHRA	60	18	B	--	--	30	--	H	P	S	5	--	K	--	--	N	
154N090W14C8C1	G. JOHNSON	30	18	B	1943	--	13	10-65	S	P	F	--	--	K	--	--	O	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATFR LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE-OF LSD (FT.)	QW TYPE	LOG AVAIL-ABLE	TEMPER-ATURE (F)	FREQUENCY OF WATFR-LEVEL MEASUREMENTS	TOTAL DEPTH
154N093W25AAA	N.D.G.S.	124	--	--	1966	--	--	--	U	--	--	--	--	--	G	--	N	124
154N093W34ADA	R.FOLLIS	80	24	B	--	--	--	--	K	P	S	5	--	K	--	45	N	
154N094W038BA	U.S.G.S.	53	1	H	1967	--	11	8-67	U	N	--	--	1938	GE	--	N		
154N094W040DD	E.KRIEGER	104	4	C	1958	TL OC	35	--	K	P	S	6	--	C	--	N		
154N094W07ABR	A.BARSTAD	377	4	--	1965	QG 51	210	--	S	P	6	--	--	--	--	N		
154N094W09BCC	A.BARSTAD	365	4	--	1965	TL OC	300	--	K	S	S	--	--	--	--	N		
154N094W10CDB	A.HILLING	20	36	--	--	--	17	--	K	--	--	--	--	--	--	N		
155N088W02ADD	U.S.G.S.	119	1	H	1968	--	36	7-68	U	N	--	6	2103	C	GE	--	O	200
155N088W03AAA1	A.HOWELL	225	4	C	1914	TL OC	100	--	K	P	S	5	--	K	--	44	N	
155N088W03AAA2	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	2182	GE	--	N	120	
155N088W06ABA	G.ROLF	50	4	--	1958	--	--	--	S	P	S	--	--	--	--	N		
155N088W06DDO	U.S.G.S.	163	1	H	1966	QG 51	133	8-66	U	--	--	--	2191	GE	--	N	200	
155N088W07AAD1	G.ROLF	100	4	--	1959	--	--	--	H	S	S	5	--	K	--	N		
155N088W07AAD2	G.ROLF	45	4	--	1959	--	--	--	S	P	S	6	--	K	--	44	N	
155N088W07DDO	U.S.G.S.	220	--	H	--	--	--	--	U	--	--	--	2123	GE	--	N	220	
155N088W11AAB	O.ENGEL	100	4	--	1966	--	--	--	H	J	S	6	--	--	--	N		
155N088W14CCC	U.S.G.S.	100	--	H	1967	--	--	--	U	--	--	--	2117	GE	--	N	100	
155N088W15ABR	U.S.G.S.	240	--	H	1968	--	--	--	U	--	--	--	2104	GE	--	N	240	
155N088W15CCB	E.BREDAHL	50	36	B	1942	QG 51	31	--	K	J	S	5	--	K	--	N		
155N088W26CCC	U.S.G.S.	300	--	H	1966	--	--	--	U	--	--	--	2077	GE	--	N	300	
155N088W27DCO	H.ANDERSON	156	4	C	1965	QG 51	55	--	K	S	S	6	--	K	--	44	N	
155N088W29DD1	I.SESSING	135	4	--	1958	QG 51	--	--	H	S	S	--	--	--	--	N		
155N088W29DD2	I.SESSING	150	24	B	1920	TL OC	60	--	S	P	S	6	--	K	--	N		
155N088W30ADA	U.S.G.S.	140	--	H	1966	--	--	--	U	--	--	--	2050	GE	--	N	140	
155N088W30DAA	H.RINGEON	12	36	D	--	QG 31	--	--	U	S	S	--	--	--	--	N		
155N088W31AAA	L.OYNES	141	3	C	1949	QG 51	50	--	K	S	S	6	--	K	D	--	N	
155N089W018CC1	R.NESS & SONS	32	36	D	1930	--	25	--	H	J	S	5	--	K	--	N		
155N089W018CC2	R.NESS & SONS	31	36	D	1916	--	--	--	S	P	S	6	--	K	--	44	N	
155N089W030DD	G.SWENSHUD	50	36	B	1935	QG 51	35	--	K	P	S	3	--	K	--	48	N	
155N089W05ADD	D.VESY	145	24	B	1932	QG 51	96	8-65	K	S	S	6	--	K	--	N	D	
155N089W05BAD1	R.VESEY	329	4	C	1963	TL OC	50	--	K	S	S	6	--	C	--	45	N	
155N089W05BAD2	R.VESEY	110	30	B	1940	--	73	8-65	U	P	1	--	--	--	--	N	O	
155N089W098AA1	K.VESEY	279	4	C	1964	TL OC	50	--	S	S	S	6	--	K	--	44	N	
155N089W098AA2	K.VESEY	70	24	B	--	--	55	--	S	P	S	6	--	K	--	N		
155N089W11AAB	P.JONES	12	36	P	1955	--	8	--	H	J	S	6	--	K	--	N		
155N089W14CCC1	R.MELLER	175	4	--	1957	QG 51	90	--	K	J	S	6	--	K	--	N		
155N089W14CCC2	R.MELLER	40	24	D	1910	--	2	8-65	U	--	--	--	--	--	--	N	O	
155N089W218BB	R.JONES	40	--	B	--	--	17	9-66	H	J	S	4	--	K	--	N		
155N089W228BB	U.S.G.S.	160	--	H	1967	--	--	--	U	--	--	--	2015	GE	--	N		
155N089W23DDA	G.AAS	100	4	--	--	--	--	--	K	P	S	6	--	K	--	46	N	160

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF L.S.D. (FT.)	GW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
155N091M1D00	A. RUGSTAD	196	4	--	--	TLDC	100	--	K	P	S	6	--	K	--	44	N	
155N091M1Z00B	A. KURTERUD	20	36	B	--	--	12	--	K	P	S	4	--	K	--	45	N	
155N091M13CA	D. ARNDUR	27	24	C	--	--	10	--	K	--	--	--	--	--	--	--	N	
155N091M1588B	J. HARSTAD	50	18	B	--	TLDC	27	7-67	S	J	S	6	--	K	--	45	O	
155N091M188A	K. JOHNSON	90	18	B	--	--	51	7-67	U	N	--	--	--	--	--	--	O	
155N091M21ACA	H. JOHNSON	124	24	B	--	--	104	7-67	K	P	S	6	--	K	--	43	O	
155N091M23DDB	H. ARUNDSON	16	36	D	--	--	14	--	K	--	--	--	--	--	--	--	N	
155N091M2588B1	ENGE BROS	14	48	D	--	--	10	--	S	P	L	5	--	K	--	--	N	
155N091M2588B2	ENGE BROS	173	4	C	1966	--	80	--	H	S	S	6	--	K	--	45	N	
155N091M2588B3	ENGE BROS	280	3	H	--	--	100	--	S	P	S	6	--	K	--	44	N	
155N091M26DCB	R. CRAFT	18	24	--	--	--	12	--	K	--	--	--	--	--	--	--	N	
155N091M278AC	S. CRAFT	135	4	--	1966	--	110	--	H	--	--	--	--	--	--	--	N	
155N091M288AA	H. NYMRA	70	18	B	1910	--	60	--	S	P	6	--	--	--	--	--	N	
155N091M31D0D	D. HILL	135	24	--	--	--	85	--	S	--	--	--	--	--	--	--	N	
155N092M0180C	M. THOMPSON	145	3	C	--	--	70	--	S	P	S	6	--	K	--	44	N	
155N092M0180D	J. THOMPSON	160	--	C	--	--	--	--	S	P	S	6	--	C	--	48	N	
155N092M024DA	L. PIEPKORN	59	18	B	--	--	10	--	K	P	S	5	--	K	--	43	N	
155N092M04CBB	R. SIMONSON	134	3	C	--	--	49	6-67	S	P	S	6	--	K	--	44	O	
155N092M09AAA	E. TABBERT	72	24	B	--	--	30	--	S	--	--	--	--	--	--	--	N	
155N092M098CA	S. SORENSON	108	24	B	--	--	80	--	S	--	--	--	--	--	--	--	N	
155N092M140AA1	J. ANDERSONS	40	24	B	1928	--	35	--	K	P	S	6	--	K	--	44	N	
155N092M140AA2	J. ANDERSON	221	4	C	1956	--	194	7-67	S	S	S	6	--	K	--	--	O	
155N092M17AAA	H. LUND	57	24	B	--	--	37	--	S	P	S	6	--	K	--	42	N	
155N092M188BA	G. GRAHAM	47	4	--	--	--	34	--	S	--	--	--	--	--	--	--	N	
155N092M18CDD	J. CVANCARA	63	4	C	1960	--	40	--	K	P	S	4	--	K	--	44	N	
155N092M210AD1	C. PANZER	156	18	B	--	--	112	--	S	S	S	6	--	K	--	44	N	
155N092M210AD2	C. PANZER	60	18	B	--	--	56	--	H	P	L	5	--	K	--	43	N	
155N092M23CC	U.S.G.S.	180	--	H	1967	--	--	--	U	--	--	2274	--	GE	--	--	N	180
155N092M248BC	BAKKE BROS	192	4	--	--	--	152	--	K	--	--	--	--	--	--	--	N	
155N092M270AD	H. STROEBECK	160	5	C	1908	--	125	--	K	P	S	5	--	K	--	44	N	
155N092M33DA	R. OGDEN	230	4	--	--	--	175	--	S	--	--	--	--	--	--	--	N	
155N092M34D0D	R. OGDEN	84	18	B	--	--	77	7-67	K	S	S	5	--	K	--	43	O	
155N093M05AAD	L. INGERBRETSON	320	4	C	1923	--	160	--	K	S	S	6	--	K	--	44	N	
155N093M05ADA	L. ENGBRETSON	320	--	--	--	--	--	--	K	S	S	6	--	C	--	49	N	
155N093M058DD	N.D.G.S.	69	--	--	1966	--	60	8-66	U	--	--	--	--	G	--	--	O	69
155N093M06DCC	H. REHAK	144	4	C	1964	--	85	--	K	S	S	6	--	K	--	44	N	
155N093M098DC	J. PROCHASKA	89	18	B	1965	--	47	--	K	--	S	6	--	K	--	43	N	
155N093M108AA	G.N.RY. ET AL	210	--	--	--	--	--	--	U	--	--	2395	--	G	--	--	N	210
155N093M1088B	U.S.G.S.	60	--	H	1966	--	--	--	U	--	--	2416	--	DC	--	--	N	60
155N093M1288A	C. SORENSON	428	2	C	--	--	300	--	K	P	S	5	--	K	--	44	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	OWN TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
155N093M13AAA	U.S.G.S.	223	4	H	1967	TL OC	121	6-67	U	--	--	5	2365	C	GE	--	N	340
155N093M15AAA	J.CVANCARA	175	3	C	1959	--	90	--	S	--	S	6	--	K	--	44	N	
155N093M17ADD	V.BURES	90	3	B	--	--	50	--	K	--	S	6	--	K	--	42	N	
155N093M21DAD	T.DOBROVOLNY	290	2	C	1943	--	200	--	K	P	S	6	--	K	--	--	N	
155N093M22DCA	L.VACHAL	170	18	--	1930	--	160	--	K	--	--	--	--	--	--	--	N	
155N093M23AAA	L.STETTNER	215	4	C	1964	--	151	7-67	K	S	S	4	--	C	D	48	D	
155N093M25ABA	G.LAPICA	91	24	B	1941	TL OC	70	--	K	S	S	5	--	K	--	--	42	N
155N093M27BDD	L.CVANCARA	214	--	--	1964	--	184	--	K	--	--	5	--	K	--	--	N	
155N093M28BBB	R.DOBROVOLNY	35	18	B	1964	--	31	--	K	S	S	5	--	K	--	44	N	
155N093M30ABD	C.SPATNY	97	24	B	--	--	75	--	K	P	6	5	--	K	--	43	N	
155N093M32DDD	F.CVANCARA	275	3	--	1962	--	175	--	K	--	--	5	--	K	--	--	N	
155N094M05BBB	U.S.G.S.	80	--	H	1966	--	--	--	U	--	--	--	2232	--	DG	--	N	80
155N094M05BDB	M.MEGLAND	23	18	--	1961	--	6	10-65	K	P	3	4	--	C	--	48	O	
155N094M05CBA	M.MEGLAND	76	24	B	1911	TL OC	51	10-65	S	P	S	6	--	K	--	45	O	
155N094M05DDB	R.JOHNSON	15	24	B	1956	QG 31	4	10-65	H	J	S	4	--	K	--	--	D	
155N094M06DAA	M.NESVIK	47	--	B	--	QG 51	11	10-65	S	P	1	5	--	K	--	44	O	
155N094M07BAB	M.NESVIK	30	24	B	1945	--	9	10-65	K	--	--	4	--	K	--	47	O	
155N094M08BDC	V.THOMPSON	35	18	--	--	--	30	--	H	--	--	--	--	--	--	--	N	
155N094M14DAD1	D.REHAK	325	6	C	1943	TL OC	135	--	K	P	5	6	--	K	--	--	N	
155N094M14DAD2	D.REHAK	145	24	B	1930	TL OC	135	--	U	P	6	--	--	--	--	--	N	
155N094M15DCA1	C.SLEMIN	16	24	D	1950	QG 31	11	--	H	J	S	6	--	K	--	--	N	
155N094M15DCA2	C.SLEMIN	14	36	D	1942	QG 31	10	--	S	P	S	6	--	K	--	46	N	
155N094M31DAD	U.S.G.S.	60	--	H	1968	--	--	--	U	--	--	--	2005	--	DG	--	N	
155N094M32BCB	U.S.G.S.	80	--	H	1966	--	--	--	U	--	--	--	2025	--	GE	--	N	60
156N088M05DCA	D.SVENNINGSON	410	4	C	1962	TL OC	130	--	K	P	S	6	--	K	--	44	N	
156N088M08DAA	C.HALGRIMSON	445	3	C	1955	TL OC	100	--	S	P	S	6	--	K	--	43	N	
156N088M12ABA	R.GRANT	100	4	--	--	--	38	--	K	S	S	5	--	K	--	44	N	
156N088M12BDA1	E.EVENSVOLD	101	4	C	1958	--	--	--	H	S	S	5	--	C	--	50	N	
156N088M12BDA2	E.EVENSVOLD	60	4	C	1966	--	45	--	S	S	S	5	--	K	--	47	N	
156N088M12DCB	TAGUS	130	6	C	--	--	60	--	P	P	5	5	--	C	--	48	N	
156N088M19BCB	C.WIRTZ	20	4	C	1963	--	12	--	H	J	S	4	--	K	--	44	N	
156N088M21ABD	R.MOEN	80	24	B	1926	--	60	--	H	P	--	5	--	K	--	45	N	
156N088M24DAA	B.KILEME	200	4	C	--	--	125	--	K	P	S	6	--	K	--	44	N	
156N088M31BCB	J.LEE	64	4	C	--	--	56	--	H	P	S	5	--	K	--	--	N	
156N088M35CDB	H.HUNTINGTON	18	24	D	1936	--	15	--	H	P	1	6	--	K	--	42	N	
156N089M01AAD1	G.KNUTSON	18	12	D	1962	QG 31	16	--	H	J	S	4	--	K	--	--	N	
156N089M01AAD2	G.KNUTSON	12	48	D	1910	QG 31	7	--	S	P	S	--	--	--	--	--	N	
156N089M01DAB	R.LINDBERG	485	3	--	--	TL OC	--	--	S	P	S	6	--	K	--	45	N	
156N089M02CCD1	G.OLSON	180	4	C	1961	QG 51	70	--	S	S	S	--	--	--	--	--	N	
156N089M02CCD2	G.OLSON	35	24	B	1935	QG 51	12	--	S	P	S	6	--	K	--	44	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QM TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH	
156N089W02CCD3	G. DLSON	20	24	B	1964	QG 51	6	--	K	J	S	5	--	K	--	--	--	N	300
156N089W06AAB	U.S.G.S.	179	1	H	1967	--	2	8-67	U	N	--	6	2138	C	G	46	N		
156N089W10BB1	F. BIERE EST.	40	24	B	1941	--	--	--	S	P	S	4	--	K	--	46	N		
156N089W10BB2	F. BIERE EST.	21	48	D	1956	--	--	--	H	J	S	6	--	K	--	46	N		
156N089W10BB3	F. BIERE EST.	18	24	D	1917	--	--	--	S	P	S	5	--	K	--	46	N		
156N089W13BB 1	G. ALVSTAD	220	4	--	1964	--	100	--	S	--	--	--	--	--	--	--	--	N	
156N089W13BB 2	G. ALVSTAD	200	4	C	--	--	--	--	S	S	S	5	--	K	--	47	N		
156N089W13CBC 1	E. GORSETH	214	4	C	1964	--	88	7-68	H	S	S	5	--	K	--	49	N		
156N089W13CBC 2	E. GORSETH	226	4	C	1963	TL OC	--	--	K	S	S	5	--	K	--	--	N		
156N089W14AC	BLAISDELL	230	--	C	1967	--	--	--	H	S	S	5	--	C	--	--	N		
156N089W14BBB	L. ROCK EST.	190	4	--	1950	TL OC	--	--	K	S	S	--	--	--	--	--	N		
156N089W14DAB	F. ROCK	241	4	C	1965	TL OC	--	--	S	P	F	--	--	--	--	--	N		
156N089W19CCA1	J. TANK	222	4	C	1962	QG 51	110	--	K	S	S	6	--	C	D	48	N		
156N089W19CCA2	J. TANK	16	48	D	--	--	--	--	H	P	6	--	--	--	--	--	N		
156N089W20AAA1	C. S. IGLOH	55	24	B	1950	--	40	--	K	P	S	5	--	K	--	44	N		
156N089W20AAA2	C. S. IGLOH	19	36	D	--	--	14	--	S	P	1	--	--	--	--	--	N		
156N089W20DCA	L. JONES	355	2	--	1956	TL OC	155	--	H	P	S	6	--	K	--	46	N		
156N089W23DDB1	J. BIERE	50	4	C	--	--	--	--	S	P	S	--	--	--	--	--	N		
156N089W24DAA	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	2180	--	DG	--	N	120	
156N089W25ADD1	P. LEE, JR.	14	4	V	1957	--	--	--	H	S	S	4	--	K	--	--	N		
156N089W25ADD2	P. LEE, JR.	18	4	V	--	--	--	--	K	P	S	--	--	--	--	--	N		
156N089W24BCB	A. MOORE	345	4	--	1956	TL OC	90	--	K	P	S	6	--	C	--	48	N		
156N090W1ADB	M. KNUTSON	68	24	--	1962	QG 51	20	--	K	P	S	6	--	K	--	46	N		
156N090W02DCD	G. KUAMME	100	3	C	1929	--	18	--	S	P	S	5	--	K	--	46	N		
156N090W03BRA	U.S.G.S.	180	--	H	1968	--	--	--	U	--	--	--	2268	--	GE	--	N	180	
156N090W03BDC	E. WALHAUG	88	4	C	1965	QG 51	36	--	K	J	S	6	--	K	D	46	N		
156N090W04ABB	U.S.G.S.	66	1	H	1967	QG 51	37	6-67	U	--	--	4	2225	C	GE	46	N	140	
156N090W04BAB	U.S.G.S.	140	--	H	1968	--	--	--	U	--	--	--	2320	--	GE	--	N		
156N090W08CCA1	E. NYBERG	40	24	B	1958	--	12	--	H	Z	S	--	--	--	--	--	N		
156N090W09DD	M. HALVERSON	112	6	C	1965	TL OC	35	--	S	S	S	6	--	C	--	--	N		
156N090W10DDC	H. GRINDLDS	50	24	D	--	--	30	--	S	P	S	5	--	K	--	44	N		
156N090W12CCD	R. GRINDLDS	30	24	D	--	--	12	--	K	P	S	6	--	K	--	46	N		
156N090W14CBB	A. HOLLEK IM	200	--	--	--	TL OC	--	--	S	P	S	6	--	K	--	46	N		
156N090W15AAB1	D. DUNHAM	30	24	--	--	--	13	--	H	S	S	--	--	--	--	--	N		
156N090W15AAB2	C. RHODES	32	18	D	1968	--	9	7-68	H	P	S	5	--	K	--	--	N		
156N090W15AAC	PALERMO	35	4	C	--	--	22	7-68	P	P	1	5	--	--	Lo	--	N		
156N090W15BBB	U.S.G.S.	100	--	H	1967	--	--	--	U	--	--	--	2176	--	GE	--	N	100	
156N090W19DAC	D. NYMUS	157	4	C	1959	--	--	--	S	P	S	6	--	K	D	45	N		
156N090W19DD	U.S.G.S.	180	--	H	1966	--	--	--	U	--	--	--	2161	--	GE	--	N	180	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF L.S.D (FT.)	QW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
156N09W21DAB	G. RAINOAM	120	4	C	1963	--	75	--	K	J	S	6	--	K	--	44	N	120
156N09W268BC	U.S.G.S.	120	--	H	1967	--	--	--	U	--	--	--	2155	--	GE	--	N	120
156N09W338BA	M. BINGEN	312	4	C	1938	TL OC	100	--	K	P	S	6	--	K	--	44	N	260
156N091W02CCC	U.S.G.S.	214	1	H	1967	QG 51	35	6-67	U	N	--	6	2185	C	G	45	M	260
156N091W03CBB	U.S.G.S.	240	--	H	1967	--	--	--	U	N	--	--	2220	--	GE	--	N	260
156N091W04CBC	U.S.G.S.	230	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W04CCC	U.S.G.S.	160	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W05AAA	U.S.G.S.	90	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W05CBB	U.S.G.S.	220	--	H	1957	--	--	--	U	--	--	--	2240	--	GE	--	N	220
156N091W05DAA	U.S.G.S.	196	1	H	1967	QG 52	22	6-67	U	--	--	6	2180	C	G	46	M	420
156N091W06ADD	R. HADDEN	49	24	B	--	QG 51	33	7-52	U	P	1	--	--	--	--	--	O	--
156N091W06CDD	DRURY & DAVIK	34	--	D	1952	--	25	7-52	S	P	S	--	--	--	--	--	O	--
156N091W07BAA	B. HEMSTAD	40	--	R	--	--	26	8-52	K	P	F	--	--	--	--	--	O	--
156N091W08DAA	#. RUDDOLPH	46	24	B	--	--	33	7-52	K	P	--	--	--	--	--	--	O	--
156N091W09BBB	U.S.G.S.	180	--	H	1967	--	--	--	U	--	--	--	2260	--	GE	--	N	180
156N091W09CCA	B. INGEBRITSON	65	24	B	--	--	27	7-52	K	P	6	--	--	--	--	--	O	--
156N091W09DAD	U.S.G.S.	220	--	H	1967	--	--	--	U	--	--	--	2292	--	GE	--	N	220
156N091W10BBB	U.S.G.S.	128	1	H	1966	QG 51	57	8-66	U	--	--	5	2303	C	GE	45	M	360
156N091W10CCC	T. SCHJERVHEIM	60	24	B	1915	QG 51	23	7-52	S	P	S	--	--	--	--	--	O	--
156N091W11CDC	U.S.G.S.	140	--	H	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W13BAA	U.S.G.S.	140	--	H	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W14AAA	U.S.G.S.	284	--	H	1957	--	--	--	U	--	--	--	2197	--	GE	--	N	284
156N091W16ACB	U.S.G.S.	90	--	H	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W16BBB	U.S.G.S.	140	--	H	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W16CCA	U.S.G.S.	250	--	H	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W17BCC	S. JAHN	40	24	B	1940	--	18	8-52	K	C	6	--	--	--	--	--	O	--
156N091W18DAA	A. HASSEN	16	48	D	--	--	10	8-52	U	C	6	--	--	--	--	--	O	--
156N091W19AAA	U.S.G.S.	120	--	H	1967	--	--	--	U	--	--	--	2317	--	GE	--	N	120
156N091W20DDD	U.S.G.S.	70	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W21CBA1	STANLEY NO.1	180	5	--	1915	TL OC	98	--	P	--	--	--	--	--	--	--	N	--
156N091W21CBA2	STANLEY NO.2	200	8	--	1947	TL OC	127	11-48	P	--	--	--	--	P	D	--	O	--
156N091W21CCA1	U.S.G.S.	70	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W21CCA2	U.S.G.S.	60	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W21CDD	R. EDWARDS	48	24	B	1924	--	--	--	H	--	--	--	--	P	--	--	N	--
156N091W21DCB1	C. KRESSENG	50	24	B	1922	QG 51	--	--	H	--	--	--	--	--	--	--	N	--
156N091W21DCB2	L. BACKER	20	24	B	1949	--	15	--	H	P	1	--	--	P	--	--	N	--
156N091W22DCD	U.S.G.S.	40	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W22DDC	U.S.G.S.	20	--	--	1952	--	--	--	U	--	--	--	--	C	DG	--	N	--
156N091W22DDD1	U.S.G.S.	30	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--
156N091W22DDD2	U.S.G.S.	50	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	--

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSO (FT.)	QW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
156N091W23BAB	A. NELSON	60	24	B	1933	--	36	7-52	K	P	3	--	--	--	--	--	O	
156N091W23CCD	U.S.G.S.	80	--	H	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W25BCC	J. FITZPATRICK	100	--	H	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W25BCC	J. FITZPATRICK	230	3	H	1952	TL OC	140	--	D	P	3	--	--	P	--	--	N	
156N091W26ABB1	W. NELSON	95	18	B	1930	--	75	7-52	S	P	5	--	--	--	--	--	O	
156N091W26ABB2	W. NELSON	23	24	D	--	--	14	7-52	H	P	1	--	--	--	--	--	O	
156N091W26BBB	F. CORRIGAN	54	24	B	--	--	40	7-52	U	C	1	--	--	--	--	--	O	
156N091W26DAA1	R. STALNECKER	205	3	--	1948	TL OC	94	7-52	S	P	5	--	--	--	--	--	O	
156N091W26DAA2	R. STALNECKER	100	24	R	1917	--	57	7-52	H	--	--	--	--	--	--	--	O	
156N091W27BBB	U.S.G.S.	280	--	H	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W27BCC	U.S.G.S.	60	--	H	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W27BCD	A. PETERSON	40	24	D	1948	--	27	7-52	H	P	1	--	--	--	OG	--	N	
156N091W27CBB	U.S.G.S.	90	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W27CCC	U.S.G.S.	60	--	H	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W27CCC	U.S.G.S.	40	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W28ABA	STANLEY	190	8	--	1949	--	95	--	U	H	U	--	--	P	D	--	N	
156N091W28ARB	J. SMITH	26	36	D	1928	--	14	9-52	K	P	1	--	--	--	--	--	O	
156N091W28BAC1	STANLEY	185	--	--	1953	--	85	--	P	H	U	6	--	C	D	45	N	
156N091W28BAC2	U.S.G.S.	350	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W28CCC	U.S.G.S.	350	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W28DDA	M. KINCANON	26	24	D	1925	--	15	7-52	H	P	5	--	--	--	--	--	O	
156N091W29ABB	E. JELLESED	100	36	D	1902	--	56	7-52	K	P	6	--	--	--	--	--	O	
156N091W29BAA	A. JOHNSON	52	36	--	1902	OG 51	32	7-52	K	P	5	--	--	--	--	--	O	
156N091W29BBB	U.S.G.S.	350	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W29CCD	D. HOLM	70	30	B	--	--	37	7-52	U	--	--	--	--	--	--	--	O	
156N091W31C8C	J. KR. ENANDER	53	20	B	1947	--	33	7-52	K	P	5	--	--	--	--	--	O	
156N091W32BAD	U.S.G.S.	80	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W32BDA1	U.S.G.S.	70	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W32BDA2	U.S.G.S.	20	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W33AAA	U.S.G.S.	68	24	B	--	--	21	7-52	U	--	--	--	--	--	--	--	O	
156N091W33ACA	U.S.G.S.	20	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W33ACC	STANLEY	25	86	--	1964	--	9	5-66	P	M	U	6	--	C	--	40	O	
156N091W33BAD	U.S.G.S.	60	--	H	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W33BDA1	W. NELSON	11	20	D	--	OG 31	4	8-52	U	P	--	--	2157	C	--	--	O	
156N091W33B8C	U.S.G.S.	30	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W33B8D	U.S.G.S.	20	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W33BDA2	U.S.G.S.	50	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W33CAB	U.S.G.S.	80	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W33DAD	U.S.G.S.	140	--	--	1952	--	--	--	U	--	--	--	--	--	OG	--	N	
156N091W34AAA	J. JACOB	120	18	B	1913	--	97	7-52	K	P	5	--	--	--	--	--	O	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
156N091W3488B	U.S.G.S.	20	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	
156N091W34C8B	U.S.G.S.	50	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	
156N091W34C8C	H.HAGEN	16	36	D	1930	QG 31	4	7-52	S	P	5	--	--	--	--	--	O	
156N092W05AAA	U.S.G.S.	160	--	H	1967	--	--	--	U	--	--	--	2358	--	GE	--	N	160
156N092W09ABB	H.FARNHART	74	24	B	--	--	51	8-52	U	--	--	--	--	--	--	--	O	
156N092W10DCC	J.MORNE	175	24	B	1925	TL OC	99	7-52	S	--	--	--	--	--	--	--	O	
156N092W11DCC	C.JUMA, SR.	67	24	B	--	--	39	7-52	U	--	--	--	--	--	--	--	O	
156N092W12B8B	SULLIVAN ET. AL.	62	24	B	--	--	42	8-62	S	--	--	--	--	--	--	--	O	
156N092W14ABA	C.JUMA, SR.	35	24	D	--	--	33	7-52	H	--	--	--	--	--	--	--	O	
156N092W16ANB	A.MORNE	20	24	B	--	--	18	7-52	H	--	--	--	--	--	--	--	O	
156N092W19ABA	U.S.G.S.	80	--	H	1966	--	--	--	U	--	--	--	2290	--	DG	--	N	80
156N092W20BCC	J.MEIERS	100	36	B	1920	--	98	8-52	U	--	--	--	--	--	--	--	O	
156N092W20DDD	U.S.G.S.	102	--	H	1952	--	--	--	U	--	--	--	--	--	--	--	N	
156N092W22CCC	U.S.G.S.	100	--	--	1952	--	--	--	U	--	--	--	--	--	--	--	N	
156N092W23CCC	U.S.G.S.	130	--	--	1952	--	--	--	U	--	--	--	--	--	--	--	N	
156N092W230DD	U.S.G.S.	160	--	--	1952	--	--	--	U	--	--	--	--	P	DG	--	N	
156N092W24C8B	U.S.G.S.	172	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	
156N092W240DD	U.S.G.S.	160	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	
156N092W25AAA	D.ERLANDER	27	--	D	--	QG 31	17	7-52	K	--	--	--	--	--	--	--	O	
156N092W26ACA	U.S.G.S.	70	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	
156N092W26ADD	U.S.G.S.	135	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	
156N092W26DAA	A.SEVERSON	64	24	B	1919	--	12	7-52	U	--	--	--	--	--	--	--	O	
156N092W35DDC	S.JAHA	90	20	B	--	--	39	7-52	S	--	--	--	--	--	--	--	O	
156N092W35DDD	S.JAHA	45	18	B	--	--	28	7-67	U	N	--	--	--	--	--	--	O	
156N092W360DD	U.S.G.S.	200	--	H	1967	--	--	--	U	--	--	--	2328	--	GE	--	N	200
156N093W0188B	O.H.HAGEN	309	2	C	1952	--	276	--	K	P	S	6	--	K	--	46	N	
156N093W03ADC	M.MEIERS	12	48	D	--	--	8	--	K	--	--	--	--	--	--	--	N	
156N093W06DCC	J.J.BELTK	141	6	C	--	TL OC	131	--	K	S	S	6	--	K	--	45	N	
156N093W06DCD	U.S.G.S.	80	--	H	1968	--	--	--	U	--	--	--	2263	--	GE	--	N	80
156N093W08C8A	M.CHAMELY	128	6	--	--	QG 52	50	--	K	P	--	--	--	--	--	--	N	
156N093W10AAA	M.MEIERS	240	3	--	--	--	40	--	K	--	--	6	--	C	--	49	N	
156N093W1088B	G.N.RY. ET AL	210	--	--	--	--	--	--	U	--	--	--	2295	--	G	--	N	210
156N093W10C8A	R.REIRSGARD	150	3	--	--	--	40	--	K	P	--	--	--	--	--	--	N	
156N093W10DCA	M.MEIERS	130	18	--	--	--	40	--	K	P	--	--	--	--	--	--	N	
156N093W11AAA	U.S.G.S.	180	--	H	1967	--	--	--	U	--	--	--	--	--	GE	--	N	180
156N093W13CDD	E.EVANS	200	3	--	--	--	15	--	K	P	S	5	--	C	--	45	N	
156N093W14CCC	U.S.G.S.	60	--	H	1966	--	--	--	U	--	--	--	2299	--	DG	--	N	60
156N093W14CCC	G.N.RY. ET AL	165	--	--	--	--	--	--	U	--	--	--	2300	--	G	--	N	165
156N093W160AA	A.MALVORSON	30	24	--	--	--	24	--	K	--	--	--	--	--	--	--	N	
156N093W17DCD	J.SHOLA	105	5	C	1958	--	70	--	H	S	S	4	--	K	--	46	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAM-ETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPE-CIFIC CON-DUCT ANCE	ALTI-TUDE-OF L50 (FT.)	QH TYPE	LOG AVAIL-ABLE	TEMP-ER-ATURE (F)	FREQUENCY OF WATER-LEVEL MEAS-UREMENTS	TOTAL DEPTH
154N093M1888B	K.MELAND	158	3	C	1952	--	--	--	K	S	S	6	--	K	--	46	N	
154N093M24CDC	R.BARSTAD	30	24	B	1964	--	14	--	H	J	S	5	--	K	--	45	N	
154N093M2588B	G.N.RY.ET AL	145	--	--	--	--	--	--	U	--	--	--	2240	G	--	--	N	145
154N093M2688B	R.BARSTAD	24	24	--	--	QG 31	12	--	S	--	--	--	--	--	--	--	N	
154N093M27ADD	W.TEXEL	10	8	--	--	--	4	6-67	U	P	1	3	--	K	--	37	O	
154N093M27CCC	I.C.REYNOLDS	23	18	--	--	--	17	--	H	--	--	--	--	--	--	--	N	
154N093M31BDC	R.QUAMMEN	235	4	C	1963	TL OC	190	--	K	S	S	6	--	K	--	46	N	
154N093M3288B	G.N.RY.ET AL	90	--	--	--	--	--	--	U	--	--	--	2365	G	--	--	N	90
154N093M34AAA	L.TEXEL	26	24	--	--	QG 51	16	--	K	S	--	--	--	--	--	--	N	
154N093M34DCB	N.SKABO	150	5	C	1959	TL OC	90	--	H	S	S	6	--	K	--	45	N	
154N093M34DDA	E.SANDERSON	30	1	--	--	--	22	--	H	--	--	--	--	--	--	--	N	
154N094M03AA	G.N.RY.ET AL	210	--	--	--	--	--	--	U	--	--	--	2120	G	--	--	N	210
154N094M05CCB	G.N.RY.ET AL	225	--	--	--	--	--	--	U	--	--	--	2365	G	--	--	N	225
154N094M10BBA	G.N.RY.ET AL	210	--	--	--	--	--	--	U	--	--	--	2260	G	--	--	N	210
154N094M12AAA	G.N.RY.ET AL	210	--	--	--	--	--	--	U	--	--	--	2260	G	--	--	N	210
154N094M12BAC	E.J.JOHNSON	9	42	D	--	--	4	10-65	U	P	1	--	--	--	--	--	O	
154N094M12DDO	G.N.RY.ET AL	210	--	--	--	--	--	--	U	--	--	--	2195	G	--	--	N	210
154N094M16CAD	W.HANSON	125	4	H	1962	TL OC	40	--	K	J	S	6	--	K	--	45	N	40
154N094M16DBA	U.S.G.S.	58	1	H	1966	QG 51	16	8-66	U	N	--	6	2090	C	G	47	N	80
154N094M19DDO	G.N.RY.ET AL	210	--	--	--	--	--	--	U	--	--	--	2332	G	--	--	N	210
154N094M2088B	D.JOYCE	28	36	D	--	--	18	6-67	H	J	S	4	--	K	--	45	O	
154N094M24ADD	G.N.RY.ET AL	210	--	--	--	--	--	--	U	--	--	--	2215	G	--	--	N	210
154N094M24CBB	U.S.G.S.	40	--	H	1968	--	--	--	U	--	--	--	2165	GE	--	--	N	40
154N094M24CBD	U.S.G.S.	179	1	H	1968	QG 52	99	7-68	U	N	--	6	2173	C	GE	47	O	220
154N094M24ABC	T.WATSON	48	18	B	1949	--	17	10-65	H	J	S	6	--	K	--	--	O	
154N094M29BCD	N.DAHL	101	24	--	--	TL OC	36	--	K	--	--	--	--	--	--	--	N	
154N094M30DBA	D.S.HANSEN	52	24	B	1946	TL OC	29	--	K	P	S	5	--	K	--	--	N	
154N094M31AAA	J.HANSON	80	--	B	--	TL OC	65	--	S	P	6	5	--	K	--	45	N	
157N088M05ADA	J.J.FLAHERTY	30	20	D	--	--	12	--	K	P	S	5	--	K	--	39	N	
157N088M0688D1	L.J.GOETTLE	14	36	D	1938	QG 31	8	--	H	P	1	4	--	K	--	38	N	
157N088M0688D2	L.J.GOETTLE	34	24	B	1937	--	18	7-66	H	J	S	6	--	K	--	--	O	
157N088M0688D3	L.J.GOETTLE	182	7	C	1950	QG 51	150	--	S	P	S	6	--	C	--	43	N	
157N088M0688D8	L.J.GOETTLE	180	3	J	1940	QG 51	80	--	U	P	6	--	--	--	--	--	N	
157N088M09CBC1	A.L.CHARNITZKI	18	24	B	--	--	6	--	H	P	6	6	--	K	--	45	N	
157N088M09CBC2	A.L.CHARNITZKI	279	4	C	1927	TL OC	100	--	S	P	6	--	--	--	--	--	N	
157N088M10CAB	O.A.GANDRUD	300	5	C	1954	--	200	--	S	P	S	6	--	K	--	--	N	
157N088M1188D	O.A.GANDRUD	8	1	V	--	QG 31	--	--	K	P	S	5	--	K	--	39	N	
157N088M13CDD	B.T.ALYSTAD	5	48	D	1961	--	0	7-66	U	N	--	4	--	K	--	58	O	
157N088M14DDO	B.T.ALYSTAD	20	48	D	1951	--	9	7-66	K	J	S	6	--	C	--	47	O	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE OF L.S.D (FT.)	QW TYPE	LOG AVAIL-ABLE	TEMPER-ATURE (F)	FREQUENCY OF WATER-LEVEL MEASURE-MENTS	TOTAL DEPTH
157N08W17ADA	D.G.SCHAEFER	325	4	C	1965	TL OC	140	--	K	S	S	6	--	K	--	--	N	
157N08W20ADC	L.L.ANDERSON	24	24	B	1963	QG 51	8	7-66	K	J	S	6	--	K	--	--	D	
157N08W21CAA	L.L.ANDERSON	24	24	B	1961	QG 51	8	--	S	P	F	--	--	--	--	--	N	
157N08W23ACB	G.ALVSTAD	447	4	--	1962	--	200	--	K	S	S	6	--	K	--	--	N	
157N08W24CAB	C.G.ALVSTAD	9	48	D	1963	QG 31	5	--	U	P	I	--	--	--	--	--	N	
157N08W27DBB	T.R.STAVE	420	4	--	--	--	170	--	K	--	--	--	--	--	--	--	N	
157N08W33ABC1	A.E.STAVE, SR.	28	48	D	1936	QG 51	10	--	K	P	S	5	--	K	--	40	N	
157N08W33ABC2	A.E.STAVE, SR.	16	24	B	1961	QG 51	10	--	U	P	S	--	--	--	--	--	N	
157N08W34BCC	A.V.KJELLBERG	317	2	C	1939	TL OC	67	--	S	P	S	6	--	K	--	43	N	
157N08W35ADA	D.A.ALVSTAD	403	4	C	1960	TL OC	200	--	S	S	S	6	--	K	--	--	N	
157N08W36BBB	U.S.G.S.	340	--	H	1966	--	--	--	U	--	--	--	2342	--	GE	--	N	340
157N08W03DDC	L.J.GOETTLE	16	24	B	1957	QG 31	8	--	S	P	6	4	--	K	--	40	N	
157N08W05BAB	I.KNUFSON	352	4	--	1957	TL OC	100	--	S	P	S	5	--	K	--	42	N	
157N08W05BCB	L.ANDERSON	380	4	--	--	TL OC	200	--	S	--	--	--	--	--	--	--	N	
157N08W08CCC	H.D.JOHNSON	140	24	B	1920	TL OC	--	--	K	P	S	5	--	K	--	43	N	
157N08W18DDD	V.D.HALVORSON	103	24	B	--	--	96	--	K	P	S	5	--	K	--	42	N	
157N08W20ACC	HAUGEN BROS.	93	5	C	1961	--	60	--	K	S	S	6	--	K	--	--	N	
157N08W20ADC	U.S.G.S.	141	1	H	1966	QG 51	14	8-66	U	N	--	6	2172	C	G	45	N	200
157N08W24ACD	C.C.GUSTAFSON	16	48	D	1951	QG 51	5	7-66	U	P	I	6	--	K	--	39	O	
157N08W24DBR	C.C.GUSTAFSON	9	48	D	1936	QG 51	4	7-66	K	J	S	4	--	K	--	--	O	
157N08W26CDA	E.ANDERSEN	18	48	D	1934	QG 51	4	--	H	P	I	4	--	K	--	--	N	
157N08W30DCB	M.A.HALVORSON	82	4	C	1959	TL OC	25	--	K	S	S	5	--	K	D	42	N	
157N08W31CDA	C.D.HANSON	90	18	B	1923	--	70	--	S	S	S	5	--	K	--	43	N	
157N08W31CDB	C.D.HANSON	14	36	D	1902	QG 31	10	--	U	N	--	--	--	--	--	--	N	
157N08W32BCD	B.RUGLAND	133	2	C	1934	TL OC	35	--	K	P	S	5	--	K	--	43	N	
157N09W038BD	I.J.MAHLUN	32	24	--	1961	QG 51	20	--	K	P	S	3	--	K	--	40	N	
157N09W048CD	R.METTINGER	126	3	C	1932	TL OC	90	--	K	P	S	6	--	K	--	--	N	
157N09W118BD	H.D.JOHNSON	180	4	C	1944	--	110	--	S	P	S	6	--	K	--	43	N	
157N09W12DAC	A.JOHNSON	25	18	B	1950	--	5	--	U	N	--	--	--	--	--	--	N	
157N09W12DDC	A.JOHNSON	197	6	--	1929	--	40	--	K	P	S	5	--	K	--	42	N	
157N09W14CAD	H.HALVORSON	70	4	C	1959	TL OC	30	--	S	P	S	5	--	K	D	43	N	
157N09W14CDA	H.HALVORSON	20	24	B	1928	QG 51	10	--	H	P	I	4	--	K	--	44	N	
157N09W158BB	U.S.G.S.	38	1	H	1966	QG 51	26	8-66	U	--	--	--	2270	--	D	--	N	80
157N09W15DAA	R.G.BALL	65	24	B	1928	--	34	11-66	S	P	I	6	--	C	--	42	D	
157N09W15DAD	R.G.BALL	30	36	D	--	--	--	--	S	P	S	5	--	K	--	--	N	
157N09W19ADA	T.NEETHER	37	30	D	1950	--	15	--	K	P	S	5	--	K	--	43	N	
157N09W21CCA	L.NEETHER	28	--	B	--	QG 51	14	--	K	P	I	4	--	K	--	44	N	
157N09W22DDA	U.S.G.S.	40	--	H	1968	--	--	--	U	N	--	--	2200	--	DG	--	N	40
157N09W26BAB	A.N.JOHNSON	21	48	D	1936	QG 31	11	11-66	K	C	S	5	--	K	--	44	O	
157N09W26DDD	S.KING	18	48	--	--	--	14	--	K	--	--	--	--	--	--	--	N	

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LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	OH TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
157N090W31CDC	B. MITCHELL	75	24	B	1933	--	60	--	K	P	S	5	--	K	--	43	N	
157N090W3388B	U.S.G.S.	80	--	H	1957	--	--	--	U	--	--	--	2227	--	DG	--	N	80
157N090W34DCD1	L. HAGEN	130	4	C	--	--	70	--	H	S	S	6	--	C	--	43	N	
157N090W34DCD2	L. HAGEN	220	4	C	--	TL OC	110	--	S	P	S	6	--	K	--	--	N	
157N091W048AB	L. JOHNSON	213	--	--	--	TL OC	--	--	H	N	--	--	--	--	--	--	N	
157N091W11C8B	G. VAAGE	263	4	C	1949	TL OC	--	--	K	P	S	6	--	C	--	--	N	
157N091W110DD	U.S.G.S.	140	--	H	1956	--	--	--	U	--	--	--	2320	--	GE	--	N	160
157N091W12CCC	A. ARNESON	20	36	O	1954	QG 51	12	--	K	S	S	5	--	K	--	45	N	
157N091W15AAD	J. JOHNSON	162	2	--	1942	TL OC	100	--	S	P	S	6	--	K	--	43	N	
157N091W180DD	N. KUSTER	145	3	C	1957	TL OC	80	--	K	P	S	--	--	--	--	--	N	
157N091W230DD	RUDDOLPH BROS.	46	24	B	1916	--	20	--	S	P	S	6	--	K	--	43	N	
157N091W26C8B	C. NELSON	100	24	B	1918	--	90	--	K	P	S	6	--	K	--	44	N	
157N091W31DCC1	B. HOLLINGER	404	4	C	1956	TL OC	100	--	H	P	S	6	--	C	--	48	N	
157N091W31DCC2	B. HOLLINGER	95	24	B	1912	--	90	--	S	P	S	7	--	K	--	44	N	
157N091W358AA	U.S.G.S.	50	--	--	1952	--	--	--	U	--	--	--	--	--	DG	--	N	
157N091W360DD	U.S.G.S.	187	1	H	1966	QG 51	42	8-66	U	--	--	6	2200	C	GE	48	N	200
157N092W0388A	O. ENERSON	78	3	C	1915	TL OC	70	--	K	P	S	5	--	K	--	--	N	
157N092W040AA	L. ENERSON	240	2	C	1914	TL OC	--	--	K	P	S	6	--	K	--	43	N	
157N092W058AA	U.S.G.S.	120	--	H	1968	--	--	--	U	--	--	--	2210	--	GE	--	N	120
157N092W058BB	U.S.G.S.	120	--	H	1968	--	--	--	U	--	--	--	2213	--	GE	--	N	120
157N092W058DA	C. COLBENSON	90	3	C	1910	TL OC	60	--	K	P	S	4	--	K	--	--	N	
157N092W07CCA	C. ERIE	135	3	--	1945	--	117	--	H	S	S	5	--	K	--	--	N	
157N092W098CC	S. BAKKE	90	3	C	1914	--	60	--	K	P	S	6	--	C	--	44	N	
157N092W108CB	D. AUNE	46	4	C	1964	TL OC	28	--	K	S	S	--	--	--	--	--	N	
157N092W130DC	F. CROWDER	62	18	B	1946	--	47	--	S	P	S	5	--	K	--	--	N	
157N092W130DD1	F. CROWDER	161	4	C	1962	TL OC	118	--	H	S	T	6	--	K	--	--	N	
157N092W130DD2	F. CROWDER	121	4	C	1959	TL OC	50	--	--	--	--	--	--	--	--	--	N	
157N092W14AAA	F. CROWDER	315	4	C	1961	TL OC	252	--	S	P	F	--	--	--	--	--	N	
157N092W160DD1	U.S.G.S.	50	1	H	1966	QG 51	9	7-66	U	--	--	--	2204	--	GE	--	N	65
157N092W160DD2	U.S.G.S.	360	--	H	1966	--	--	--	U	--	--	--	2204	--	GE	--	N	360
157N092W17CCA	D. ROISE	175	3	--	1914	TL OC	155	--	K	--	--	--	--	--	--	--	N	
157N092W188DC	H. MOLLET	134	4	C	1930	--	--	--	K	P	S	5	--	K	--	43	N	
157N092W18DAB	U.S.G.S.	80	--	H	1968	--	--	--	U	--	--	--	2326	--	DG	--	N	80
157N092W19ABB	A. ERIC	14	24	D	1935	--	12	--	K	J	S	6	--	K	--	--	N	
157N092W25C8C	J. FARMART	59	4	C	1965	--	F	--	K	--	--	5	--	K	--	64	N	
157N092W270AD	V. PAPPA	230	4	C	1963	TL OC	200	--	K	S	S	6	--	K	--	--	N	
157N092W29ADD	N. MOPKINS	259	4	C	1961	TL OC	210	--	K	S	S	6	--	K	--	45	N	
157N092W32DCC	G. N. RY. ET AL	210	--	--	--	--	--	--	U	--	--	--	2300	--	G	--	N	
157N092W33ADA	D. FARMART	195	4	C	1963	TL OC	125	--	K	S	S	6	--	C	--	45	N	
157N093W0188B	U.S.G.S.	100	--	H	1967	--	--	--	U	--	--	--	2245	--	GE	--	N	100

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
157N094W25DBA	U.S.G.S.	60	--	H	1966	--	--	--	U	--	--	--	2090	--	GE	--	N	60
157N094W26DAA	G.N.RY. ET AL	90	--	--	--	--	--	--	U	--	--	--	2110	--	G	--	N	90
157N094W26DAD	E.H.DANNEWITZ	153	5	C	--	TL 0C	136	--	U	N	--	--	--	--	--	--	N	
157N094W29BCC	S.S.OLSON	146	6	C	1964	--	66	--	K	S	S	5	--	C	--	47	N	
157N094W32BCB	L.MEYER	35	24	B	1944	--	25	--	K	P	--	4	--	K	--	44	N	
157N094W34ADD	R.IVERSON	202	5	C	--	--	15	--	H	J	S	--	--	--	D	--	N	
157N094W36BCC	H.RICE	23	--	V	--	--	--	--	H	S	S	4	--	C	--	--	N	
158N088W02BBA	H.S.JACOBSEN	125	3	C	1960	QG 51	7	--	H	J	S	6	--	K	--	45	N	
158N088W02CCC	D.JOHNSON	320	2	--	--	--	70	--	K	--	--	--	--	--	--	--	N	
158N088W03AAA	D.C.ERICKSON	150	4	C	1960	--	14	--	P	N	--	6	--	K	--	46	N	
158N088W06CA	C.ERICKSON	250	3	--	--	--	200	--	S	--	--	--	--	--	--	--	N	
158N088W09CB	A.WILLOCK	250	2	--	--	--	160	--	K	--	--	--	--	--	--	--	N	
158N088W11RDD	P.WILLOCK	250	2	--	--	--	130	--	S	--	--	--	--	--	--	--	N	
158N088W13ADD	C.GREGOTRE	160	3	--	--	TL 0C	100	--	K	--	--	--	--	--	--	--	N	
158N088W1488B1	L.J.ERICKSON	160	3	C	1918	TL 0C	--	--	U	P	S	6	--	K	--	46	N	
158N088W1488B2	L.J.ERICKSON	10	24	D	1910	--	6	--	U	J	S	4	--	K	--	41	N	
158N088W17ABA	U.S.G.S.	260	--	H	1966	--	--	--	U	--	--	--	2260	--	GE	--	N	260
158N088W17ADD	I.J.IVERSON	260	4	C	1928	--	230	--	K	P	S	5	--	C	--	--	N	
158N088W18CCA	N.ELDEVIK	290	7	--	--	--	200	--	K	--	--	--	--	--	--	--	N	
158N088W18CCB	N.ELDEVIK	24	24	--	--	--	10	--	S	--	--	--	--	--	--	--	N	
158N088W21BAA	S.L.OLSON	70	4	C	--	--	90	--	K	J	S	6	--	K	--	--	N	
158N088W21CDD	L.SMITH	300	3	--	--	--	252	--	S	--	--	--	--	--	--	--	N	
158N088W24CDD	W.H.COONS	235	4	C	1963	QG 52	155	--	K	S	S	6	--	K	--	--	N	
158N088W27AAC	D.L.PULLEN	550	2	C	1916	TL 0C	100	--	S	P	T	6	--	K	--	44	N	
158N088W29AB	S.L.OLSON	300	--	--	1961	--	150	--	S	S	S	6	--	K	--	46	N	
158N088W32DUC	W.CHAFER	12	--	D	--	--	6	--	K	--	--	--	--	--	--	--	N	
158N088W32DDD	U.S.G.S.	300	--	H	1967	--	--	--	U	--	--	--	2239	--	GE	--	N	300
158N088W33CAA	C.C.CHARNETZKI	132	--	C	1962	--	25	--	K	S	S	4	--	K	--	--	N	
158N088W34BDC1	H.M.RASMUSSEN	18	24	B	1964	QG 31	15	--	H	J	S	5	--	K	--	42	N	
158N088W34BDC2	H.M.RASMUSSEN	242	4	C	1952	--	--	--	S	P	S	--	--	--	--	--	N	
158N089W01AAA1	D.COONS	14	24	D	--	--	8	--	H	J	S	4	--	K	--	44	N	
158N089W01AAA2	D.COONS	240	4	C	--	--	125	--	S	P	S	6	--	K	--	43	N	
158N089W02ADD	A.SANDE	118	--	C	1966	--	30	--	K	S	S	5	--	K	--	42	N	
158N089W0488D1	S.VODGE	216	3	--	--	--	150	--	S	--	--	--	--	--	--	--	N	
158N089W0488D2	S.VODGE	30	48	--	--	--	10	--	H	--	--	--	--	--	--	--	N	
158N089W04CCD1	C.KRUEGER	218	4	--	--	--	100	--	S	--	--	--	--	--	--	--	N	
158N089W04CCD2	C.KRUEGER	16	36	D	--	--	8	--	H	--	--	--	--	--	--	--	N	
158N089W06DDD1	A.ANDERSON	20	36	--	--	--	6	--	K	C	--	--	--	--	--	--	N	
158N089W06DDD2	A.ANDERSON	16	24	--	--	--	2	--	I	--	--	--	--	--	--	--	N	
158N089W07DDA	F.HAUGEN	--	4	--	--	--	--	--	S	P	F	6	--	K	--	43	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE OF LSD (FT.)	QM TYPE	LOG AVAIL-ABLE	TEMPER-ATURE (F)	FREQUENCY OF WATER-LEVEL MEASURE-MENTS	TOTAL DEPTH
158N089W10ADD	J.LINDQUIST	17	36	D	--	--	6	8-67	S	B	--	--	--	--	--	--	O	
158N089W128BB	R.KING	36	36	D	1926	--	18	--	S	P	S	6	--	K	--	44	N	
158N089W140DA	J.GUINN	22	24	D	--	--	8	--	K	J	S	5	--	K	--	43	N	
158N089W17CDA1	W.JOHNSON	53	24	B	1920	--	18	7-68	K	P	S	6	2310	C	--	--	O	
158N089W17CDA2	W.JOHNSON	50	24	B	1913	--	15	--	K	P	S	6	--	K	--	44	N	
158N089W19AAA1	U.S.G.S.	220	--	H	1968	--	--	--	U	N	--	--	2315	--	GE	--	N	220
158N089W19AAA2	U.S.G.S.	80	--	H	1968	--	--	--	U	--	--	--	2315	--	OG	--	N	80
158N089W22CCC	U.S.G.S.	280	--	H	1967	--	--	--	U	--	--	--	2308	--	GE	--	N	280
158N089W24CCC	N.MELNIG	25	24	--	--	--	10	--	K	--	--	--	--	--	--	--	N	
158N089W26AAA	R.ELDEVIK	12	24	B	--	--	9	--	K	P	F	4	--	C	--	43	N	
158N089W28ADD	O.HANSON	90	12	B	--	--	45	--	K	J	S	4	--	K	--	43	N	
158N089W30DCC1	H.LUNDT	60	24	B	--	--	25	--	H	J	S	6	--	K	--	44	N	
158N089W30DCC2	H.LUNDT	165	4	--	--	TL OC	90	--	S	P	S	6	--	K	--	43	N	
158N089W35BAC	L.JOHNSON	25	24	B	--	--	12	--	H	P	L	5	--	K	--	43	N	
158N090W01AAA	O.ANDERSON	54	24	B	1945	--	13	7-65	S	P	S	--	--	--	--	--	O	
158N090W01AAC	O.M.ANDERSON	138	4	--	1962	--	--	--	K	P	G	--	--	--	--	--	N	
158N090W01BAC	O.HAUGEN	426	3	--	--	TL OC	165	--	K	S	S	5	--	C	--	44	N	
158N090W028BB	O.M.ANDERSON	14	42	D	1962	--	7	--	S	P	L	--	--	--	--	--	N	
158N090W04BAC	M.BRYANT	110	4	C	1959	--	50	--	K	P	S	5	--	K	--	--	N	
158N090W108BB	H.BRYANT	70	--	--	--	--	F	--	S	--	--	--	--	--	--	--	N	
158N090W12DDD	U.S.G.S.	340	--	H	1966	--	--	--	U	--	--	--	2270	--	GE	--	N	340
158N090W13CAA	S.REID	241	4	--	--	--	150	--	K	--	--	--	--	D	--	--	N	
158N090W178BA	U.S.G.S.	94	1	H	1967	--	29	9-66	U	N	--	6	2240	C	GE	46	M	120
158N090W218BB	K.MADER	17	24	D	1960	--	8	--	K	J	S	4	--	K	--	42	N	
158N090W22AAA	J.BONSTAD	160	3	--	--	--	30	--	K	--	--	--	--	--	--	--	N	
158N090W22ACC	J.DORAN	212	3	--	--	--	18	--	K	P	S	5	--	K	--	43	N	
158N090W23DCD	A.NELSON	208	2	--	--	TL OC	150	--	S	--	--	--	--	--	--	--	N	
158N090W24DCD	H.OLAF	221	3	C	--	--	190	--	K	P	S	5	--	K	--	43	N	
158N090W29CC	U.S.G.S.	200	--	H	1968	--	--	--	U	--	--	--	2318	--	GE	--	N	200
158N090W32A8B	E.JOHNSON	12	24	B	--	--	9	--	K	P	S	4	--	K	--	43	N	
158N091W05C	U.S.B.S.F.W.	145	4	C	1959	--	--	--	S	P	6	5	--	K	D	47	N	
158N091W08BB	U.S.B.S.F.W.	162	4	C	1961	--	--	--	S	P	6	4	--	K	D	47	N	
158N091W10AAD	A.ANDERSON	140	3	--	1910	TL OC	110	--	K	P	S	5	--	K	--	43	N	
158N091W11CCC	A.WESTBY	38	24	--	--	--	28	--	K	--	--	--	--	--	--	--	N	
158N091W12AAD	H.ROGNE	20	24	B	--	--	15	--	K	J	S	4	--	K	--	42	N	
158N091W14CCC	M.NICKELSEN	40	24	B	--	--	30	--	K	J	S	6	--	K	--	42	N	
158N091W19DCD	R.LUMBLY	169	4	--	--	--	140	--	K	P	S	5	--	K	--	41	N	
158N091W19DDD	U.S.G.S.	160	--	H	1967	--	--	--	U	--	--	--	2359	--	GE	--	N	160
158N091W20CCC	W.ERICKSON	140	4	--	--	--	120	--	K	--	--	--	--	--	--	--	N	
158N091W218CC	J.KRAUSHAUG	14	--	D	1960	OG 31	8	6-67	K	N	--	--	--	--	--	--	O	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QM TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
158N091W21CCD	H. JACKSON	96	4	--	--	--	90	--	K	--	--	--	--	--	--	--	N	
158N091W228BD	H. ERICKSON	20	30	--	--	--	8	--	H	--	--	--	--	--	--	--	N	
158N091W24DDC	L. JOHNSON	218	4	C	--	--	150	--	K	--	--	--	--	--	--	--	N	
158N091W20CCB	E. W. SPOONER	23	24	B	1957	OG 31	8	--	K	J	S	6	2328	K	--	41	N	206
158N091W27ADD	U.S.G.S.	206	--	H	1967	--	--	--	U	--	--	--	2328	--	GE	--	N	
158N091W27CAR	A. AFSETH	201	3	C	1965	TL OC	140	--	K	S	S	6	--	--	--	--	N	
158N091W30ADD	R. E. REYNOLDS	160	3	--	--	--	120	--	K	--	--	--	--	--	--	--	N	
158N091W31AAD	L. ELEFTSON	320	2	--	--	--	150	--	K	--	--	6	--	C	--	47	N	140
158N091W348BB	U.S.G.S.	140	--	H	1966	--	--	--	U	--	--	--	2332	--	GE	--	N	
158N091W35DDA	B. THORVIG	40	24	--	--	--	25	--	H	--	--	--	--	--	--	--	N	
158N092W02CBC	D. SORENSON	160	4	H	1914	--	100	--	K	P	S	--	--	--	--	--	N	
158N092W05AAA	H. SORENSON	160	6	--	--	--	80	--	H	P	S	5	--	K	--	43	N	
158N092W13CBC	E. FODTH	24	30	D	--	--	19	--	K	J	S	6	--	K	--	--	N	
158N092W170CC	A. MOEN	64	4	C	1939	TL OC	--	--	H	P	S	6	--	K	--	43	N	
158N092W20CBB	J. PAULSON	100	4	H	1924	--	8	--	K	P	S	4	--	C	--	44	N	
158N092W218AA	A. COLBENSON	120	4	H	1964	--	--	--	K	S	S	4	--	K	--	--	N	
158N092W24DCD	L. PYAN	172	2	--	1918	--	132	--	S	P	S	5	--	K	--	43	N	
158N092W25CCG	C. SOLGJELD	30	48	D	1914	--	15	--	H	J	S	5	--	K	--	--	N	
158N092W26ABA	W. PAULSON	180	3	H	1944	--	150	--	K	P	S	6	--	--	--	--	N	140
158N092W29AAA	U.S.G.S.	140	--	H	1967	--	--	--	U	--	--	--	2223	--	GE	--	N	
158N092W29CCB	U.S.G.S.	70	--	H	1966	--	--	--	U	--	--	--	2230	--	GE	--	N	70
158N092W310CC	U.S.G.S.	120	--	H	1968	--	--	--	U	--	--	--	2212	--	GE	--	N	120
158N092W33DAD	HOVLAND BROS.	50	24	--	1939	TL OC	30	--	K	P	S	6	--	K	--	43	N	
158N093W01ADD	G. HEGSTAD	36	--	D	--	--	18	--	K	P	I	6	--	--	--	45	N	
158N093W02AAD	D. HEGSTAD	80	--	--	--	--	70	--	K	--	--	--	--	--	--	--	N	
158N093W02CCG	U.S.G.S.	140	--	H	1967	--	--	--	U	--	--	--	2302	--	GE	--	N	140
158N093W038BC	J. NELSON	120	6	--	--	--	110	--	K	--	--	--	--	--	--	--	N	
158N093W04AAB	C. HOLMAN	45	4	C	1956	OG 51	30	--	H	J	S	6	--	K	--	44	N	
158N093W07ABD	U.S.G.S.	50	--	H	1966	--	--	--	U	--	--	--	2235	--	GE	--	N	50
158N093W07BDB	H. JORGENSON	60	6	--	--	--	40	--	H	--	--	--	--	--	--	--	N	
158N093W08AAA	G. N. RY. ET AL	116	--	--	--	--	--	--	U	--	--	--	2330	--	G	--	N	116
158N093W11CCD	N. TRONDSON	130	3	--	--	--	80	--	K	--	--	--	--	--	--	--	N	
158N093W12AAA	H. SEM	120	5	--	--	--	80	--	S	P	S	6	--	K	--	45	N	
158N093W13CCD	N. TANDE	165	6	--	--	--	128	--	H	--	--	--	--	--	--	--	N	
158N093W14CBC	D. BUNESS	80	4	--	--	--	70	--	K	--	--	--	--	--	D	--	N	
158N093W168BB	U.S.G.S.	140	--	H	1966	--	--	--	U	--	--	--	2354	--	GE	--	N	140
158N093W21DDC	C. ENGET	100	5	--	--	TL OC	96	--	K	--	--	--	--	--	--	--	N	
158N093W22CCA	T. ALBERTSON	165	3	--	--	--	155	--	K	--	--	--	--	--	--	--	N	
158N093W22CCD	T. ALBERTSON	132	4	C	1966	TL OC	122	--	H	S	S	5	--	C	D	45	N	
158N093W240BA	E. ERICKSON	133	3	C	--	TL OC	40	6-67	C	P	6	5	--	K	--	44	N	0

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE REAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF L.S.D (FT.)	QM TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
158N093W25ACB	H. JOHNSON	30	36	B	--	--	26	--	K	P	S	5	--	K	--	45	N	60
158N093W26AAA	U.S.G.S.	60	--	H	1967	--	--	--	U	--	--	--	2310	--	DG	--	N	105
158N093W2788A	G.N.RY. ET AL	105	--	--	--	--	--	--	U	--	--	--	2430	--	G	--	N	86
158N093W278DC	E. ALBERTSON	365	5	C	1927	TL OC	295	--	S	P	S	6	--	K	--	43	N	86
158N093W2888B	G.N.RY. ET AL	86	--	--	--	--	--	--	U	--	--	--	2375	--	G	--	N	86
158N093W298AA	J.N. HOLLET	273	3	C	1942	TL OC	254	--	K	P	S	6	--	K	--	45	N	80
158N093W3088B	U.S.G.S.	80	--	H	1966	--	--	--	U	--	--	--	2270	--	DG	--	N	80
158N093W340DD	H. ROSECRANS	212	3	C	1946	TL OC	182	--	K	P	S	5	--	K	--	43	N	80
158N094W050DD	J. HANSON	150	6	C	--	TL OC	130	--	K	P	S	6	--	K	--	45	N	80
158N094W06CDD	A.O. BLIKRE	92	12	C	1920	QG 51	62	6-66	K	P	S	6	--	K	--	44	O	80
158N094W09CCB	H. RICE	154	4	--	--	--	120	--	K	--	--	--	--	--	--	--	N	225
158N094W1088D	NORSTEBY BROS.	22	24	--	--	--	6	--	K	--	--	--	--	--	--	--	N	180
158N094W10CCA1	A.L. TORGERSON	18	24	D	1940	QG 31	13	6-66	S	J	S	6	--	K	--	40	O	100
158N094W10CCA2	A.L. TORGERSON	18	18	D	1954	QG 31	15	--	H	P	S	4	--	K	--	--	N	100
158N094W1188B	G.N.RY. ET AL	225	--	--	--	--	--	--	U	--	--	--	2415	--	G	--	N	100
158N094W11CCC	U.S.G.S.	180	--	H	1966	--	--	--	U	--	--	--	2434	--	GE	--	N	100
158N094W11DCA	H. JOHNSON	18	18	--	--	--	15	--	H	--	--	--	--	--	--	--	N	100
158N094W1688B	U.S.G.S.	58	1	H	1966	QG 51	23	9-66	U	N	--	4	2305	C	GE	47	N	100
158N094W188CB	C. HANSON	100	7	--	--	--	75	--	K	--	--	--	--	--	--	--	N	100
158N094W18DAA	J. RICE	13	24	--	--	QG 31	5	--	H	--	--	--	--	--	--	--	N	100
158N094W19ADD1	D. FOSSAA	23	--	D	1927	--	18	--	H	J	S	4	--	K	--	--	N	160
158N094W19ADD2	D. FOSSAA	26	--	B	1918	--	20	--	S	P	6	5	--	K	--	44	N	160
158N094W20DDO	H. FROSTAD	68	24	--	--	--	53	--	H	--	--	--	--	--	--	--	N	160
158N094W21BAD1	P. SKAAR	75	6	C	1958	--	45	--	H	J	S	5	--	K	--	--	N	160
158N094W21BAD2	P. SKAAR	20	21	C	1963	--	14	--	S	P	1	4	--	K	--	39	N	160
158N094W21CDD	U.S.G.S.	160	--	H	1966	--	--	--	U	--	--	--	2305	--	GE	--	N	160
158N094W22CCC	E. LEE	38	22	--	--	--	28	--	K	--	--	--	--	--	--	--	N	160
158N094W23CCC	C. RICE	200	5	C	1933	--	100	--	U	P	6	--	--	--	--	--	N	160
158N094W24AAA	G.N.RY. ET AL	210	--	--	--	--	--	--	U	--	--	--	2375	--	G	--	N	160
158N094W298AA	A. BOKN	85	16	B	1933	QG 51	70	--	K	P	S	4	--	K	--	44	N	160
158N094W298AB	A. BOKN	87	4	C	1964	--	62	--	H	J	S	4	--	K	--	--	N	160
158N094W29CCC	G. STENBAK	130	6	--	--	QG 51	28	--	S	--	--	--	--	--	--	--	N	160
158N094W3088B	U.S.G.S.	80	--	H	1967	--	--	--	U	--	--	--	2360	--	DG	--	N	160
158N094W32ADD	R. HULBERG	30	18	--	--	--	25	--	H	--	--	--	--	--	--	--	N	160
158N094W32BCC	O.E. KNOSHHAUG	90	4	C	1933	--	85	--	S	P	S	6	--	K	--	44	N	160
158N094W33BCD	I. LOCKEN	58	4	--	--	TL OC	14	--	H	--	--	--	--	--	--	--	N	160
158N094W330DD	H. TANDE	138	6	C	1949	--	60	--	H	P	S	5	--	K	--	--	N	160
158N094W358AC	H. RICE	75	24	B	1939	--	69	--	U	P	S	--	--	--	--	--	N	160

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	OWN TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH	
BURKE COUNTY																			
159N09W02DAB	R. ANDERSON	23	24	B	1940	OG 31	--	--	H	P	S	6	--	K	--	43	N		
159N09W04BCC	U.S.G.S.	170	1	H	1966	OG 51	82	9-66	U	--	--	4	2298	C	GE	45	N	240	
159N09W060DD	J. STAAL	70	24	B	1952	--	--	--	K	P	S	4	--	K	--	45	N		
159N09W10AAA1	W. EGGER	40	24	B	1940	OG 51	15	--	S	P	1	6	--	K	--	47	N		
159N09W10AAA2	W. EGGER	40	24	B	1940	OG 51	12	--	S	P	1	--	--	--	--	47	N		
159N09W10AAA3	W. EGGER	40	24	B	1959	OG 51	17	--	H	P	1	5	--	K	--	47	N		
159N09W1888B1	O. KALLBERG	37	24	B	1961	OG 51	16	7-65	K	P	S	6	--	K	--	47	O		
159N09W1888B2	O. KALLBERG	40	24	B	1955	OG 51	--	--	S	P	S	6	--	K	--	44	N		
159N09W260DD	G. CAROLINE	240	3	C	1917	TL OC	--	--	K	P	5	6	--	C	--	44	N		
159N09W2788C	R. ECKERT	27	24	D	--	--	10	--	S	N	--	--	--	--	--	--	N		
159N09W28CDD1	L. RENNER	30	24	B	1947	OG 51	23	--	K	K	--	6	--	K	--	42	N		
159N09W28CDD2	L. RENNER	39	24	B	1962	OG 51	22	7-65	S	P	1	7	--	K	--	42	O		
159N09W29CCC	U.S.G.S.	160	--	H	1966	--	--	--	U	--	--	--	2300	--	GE	--	N	160	
159N09W33CAD	R. ECKERT	72	4	--	1961	--	23	7-65	K	--	S	5	--	K	--	44	O		
159N09W35DDD	U.S.G.S.	260	--	H	1966	--	--	--	U	--	--	--	2298	--	GE	--	N	260	
159N09W35DDD	U.S.G.S.	260	--	H	1966	--	--	--	U	--	--	--	2298	--	GE	--	N	260	
159N091W02DAA1	J. ECKERT	90	24	B	1943	TL OC	--	--	S	P	5	6	--	K	--	45	N		
159N091W02DAA2	J. ECKERT	30	24	B	1945	OG 31	25	--	H	S	5	5	--	K	--	44	N		
159N091W07ADC	U.S.G.S.F.W.	175	4	H	1961	TL OC	15	--	S	P	6	6	--	K	--	46	N		
159N091W12BAA	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	2290	--	GE	--	N	120	
159N091W1488C	A. LINDBERG	76	24	B	1951	--	40	--	K	P	S	6	--	C	--	44	N		
159N091W23CBA1	M. LINDBERG	88	24	B	--	TL OC	86	7-65	S	P	S	6	--	K	--	44	O		
159N091W23CBA2	M. LINDBERG	12	--	--	--	OG 31	--	--	H	--	--	5	--	K	--	46	N		
159N091W25AAA	O. LINDBERG	163	4	--	1950	TL OC	50	--	S	P	S	6	--	K	--	43	N		
159N091W300DD	U.S.G.S.	220	--	H	1966	--	--	--	U	--	--	--	2345	--	GF	--	N	220	
159N091W33BAA	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	2282	--	GE	--	N	120	
159N091W34BCA	U.S.G.S.	259	--	H	1968	OG 52	14	8-68	U	--	--	5	2250	C	GE	--	O	400	
159N091W35B8C	J. VAAGE	94	24	--	1932	TL OC	--	--	K	P	S	6	--	K	--	44	N		
159N092W01C0C1	S. EDWARDS	90	--	C	--	--	--	--	S	P	S	5	--	K	--	44	N		
159N092W01C0C2	S. EDWARDS	90	4	C	1960	TL OC	--	--	H	J	S	5	--	K	--	44	N		
159N092W04CCB	E. NIELSEN	60	16	B	1912	--	50	--	K	S	S	6	--	K	--	43	N		
159N092W08AAA	G. VAN BERKOH	77	12	B	--	--	64	6-66	U	P	1	--	--	--	--	44	O		
159N092W08DC0	A. VAN BERKOH	110	6	C	1913	--	80	--	K	S	S	5	--	K	--	44	N		
159N092W17ADA	U.S.G.S.	120	--	H	1967	--	--	--	U	--	--	--	2335	--	GE	--	N	120	
159N092W17ADD	U.S.G.S.	40	--	H	1967	--	F	7-67	U	--	--	4	2271	C	DG	46	O	40	
159N092W18ABB	C. BERGAARD	180	6	--	--	--	140	--	U	--	--	--	--	--	--	--	N		
159N092W24AAA	U.S.G.S.	140	--	H	1966	--	--	--	U	--	--	--	2350	--	DG	--	N	140	
159N092W31AAD	M. HEGSTAD	50	4	--	1924	--	22	--	K	J	S	5	--	K	--	46	N		
159N092W31BCB1	J. ANDERSON	80	4	C	1935	--	6	--	S	P	S	5	--	K	--	42	N		

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPE-CIFIC CON-DUCT ANCE	ALTI-TUDE-OF LSD (FT.)	GW TYPE	LOG AVAIL-ABLE	TEM-PE-RATURE (F)	FREQUENCY OF WATER-LEVEL MEASURE-MENTS	TOTAL DEPTH
159N092W318C82	J. ANDERSON	65	4	H	1951	--	F	7-66	S	N	--	5	--	K	--	43	O	
159N092W318C83	J. ANDERSON	65	4	C	1954	--	10	--	U	P	--	5	--	K	--	43	N	
159N092W318C84	J. ANDERSON	80	4	C	1962	--	6	--	H	S	--	5	--	K	--	--	N	
159N092W32A88	U.S.G.S.	90	--	H	1966	--	--	--	U	--	--	--	2280	--	GE	--	--	90
159N092W33A40	K. HEGSTAD	168	6	C	1913	--	13	--	K	P	S	4	--	K	--	--	N	
159N092W34A88	R. ANDERSON	180	4	C	1962	--	50	--	K	S	S	4	--	C	D	47	N	
159N093W02DCD1	O. ENGET	42	6	B	--	OG 31	34	--	S	P	6	5	--	K	--	43	N	
159N093W02DCD2	O. ENGET	42	6	C	1965	OG 31	35	--	H	J	S	5	--	K	--	--	N	
159N093W12ADA	W. SUMMERS	141	3	--	--	--	40	--	K	--	--	--	--	--	--	--	N	
159N093W12CCC	U.S.G.S.	140	--	H	1967	--	--	--	U	--	--	--	2330	--	GE	--	N	140
159N093W12CDD	U.S.G.S.	220	--	H	1966	--	--	--	U	--	--	--	2356	--	GE	--	N	220
159N093W12DA	J. SKALICKY	86	4	--	--	--	--	--	K	P	S	5	--	C	--	48	N	
159N093W12DAD	J. SKALICKY	130	6	C	1914	--	91	--	K	P	S	5	--	K	--	42	N	
159N093W21CCC	G.N. RY. ET AL	180	--	--	--	--	--	--	U	--	--	--	2215	--	G	--	N	180
159N093W22BCC1	M. POWELL	40	6	C	--	--	28	--	S	J	S	5	--	K	--	42	N	
159N093W22BCC2	M. POWELL	40	21	B	1964	OG 31	33	6-66	S	J	S	5	--	K	--	--	N	
159N093W22BCC3	M. POWELL	11	3	V	1946	OG 31	--	--	H	P	S	4	--	K	--	--	N	
159N093W23DCC	G. SLOTSVE	100	4	C	1934	TL OC	20	--	S	P	S	5	--	K	--	43	N	
159N093W23DCD	G. SLOTSVE	120	4	H	1964	TL OC	--	--	H	P	S	5	--	K	--	--	N	
159N093W25CDA	POWERS LAKE	103	--	--	--	--	--	--	P	--	--	--	--	C	--	47	N	
159N093W25DDB	C. SJERKNES	140	4	--	1908	OG 51	--	--	K	P	S	5	--	K	--	44	N	
159N093W26DDD	POWERS LAKE	103	10	C	1948	OG 31	13	--	P	M	T	--	--	P	--	--	N	
159N093W28BAA	U.S.G.S.	140	--	H	1967	--	--	--	U	--	--	--	2200	--	GF	--	N	140
159N093W29B88	U.S.G.S.	140	--	H	1966	--	--	--	U	--	--	--	2261	--	GE	--	N	140
159N093W32DAD	A. JORGENSEN	135	3	C	--	--	119	--	K	P	S	6	--	K	--	--	N	
159N093W33AAA	A. HOLMAN	50	5	C	1962	OG 51	36	6-66	K	J	S	6	--	K	D	--	N	
159N093W34BAA	U.S.G.S.	68	1	H	1967	OG 31	13	8-67	U	N	--	5	2303	C	GE	46	N	160
159N093W35AAA	POWERS LAKE	101	8	C	1959	--	13	--	P	M	T	5	--	P	--	46	N	
159N093W35BCA	C. BREIDING	60	4	C	1962	--	40	--	K	P	S	5	--	K	--	43	N	
159N093W36AAA	U.S.G.S.	78	1	H	1966	OG 31	51	8-66	U	--	--	5	2258	K	GF	--	N	120
159N094W01C8B1	J. MELBERG	210	4	H	1957	TL OC	--	--	K	P	S	6	--	K	--	44	N	
159N094W01C8B2	J. MELBERG	50	30	B	1922	OG 31	--	--	H	P	1	6	--	K	--	44	N	
159N094W02CCC	O. OLSON	30	24	D	--	OG 31	22	--	K	P	S	5	--	K	--	43	N	
159N094W05AAA	U.S.G.S.	140	--	H	1966	--	--	--	U	--	--	--	2350	--	GE	--	N	140
159N094W08BAA	M. PETERSON	22	36	D	1930	--	18	--	K	P	S	5	--	K	--	--	N	
159N094W10BCB	E. CARLSON	214	4	C	1917	TL OC	55	--	S	P	S	6	--	K	--	44	N	
159N094W11CCD1	M. FARSTAD	65	24	B	--	TL OC	37	--	S	P	S	--	--	--	--	--	N	
159N094W11CCD2	M. FARSTAD	66	4	H	1953	TL OC	35	--	H	J	S	6	--	K	--	--	N	
159N094W12BCC1	R. BLOOMQUIST	112	4	C	1909	TL OC	--	--	S	P	S	6	--	K	--	45	N	
159N094W12BCC2	R. BLOOMQUIST	32	48	D	1940	OG 51	20	--	H	P	S	6	--	K	--	44	N	
159N094W12CDD	R. BLOOMQUIST	34	24	B	1958	OG 31	21	--	S	S	S	--	--	--	--	--	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	OW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
159N094W1388B1	W.RYSTEDT	175	3	H	194C	TL OC	50	--	K	J	5	6	--	K	--	--	N	
159N094W1388B2	W.RYSTEDT	28	48	D	--	OG 31	20	--	H	J	S	3	--	--	--	--	N	
159N094W20DB8	J.MDMBERG	14	36	B	1959	OG 31	12	--	K	J	S	5	--	K	--	--	N	
159N094W20DD0	J.MDMBERG	46	24	B	1963	--	29	--	H	J	5	5	--	K	--	--	N	
159N094W2188B	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	2200	--	GF	--	N	120
159N094W23CD	BATTLEVIEW	17	--	V	1930	--	10	--	H	P	1	5	--	C	--	--	N	
159N094W23DDC	U.S.G.S.	40	1	H	1966	OG 51	12	7-66	U	--	--	4	2195	C	GE	44	M	110
159N094W2488B	G.N.RY.ET AL	232	--	--	--	--	--	--	U	--	--	--	2275	--	G	--	N	232
159N094W24DD0	G.POWELL	22	24	R	1964	TL OC	10	--	H	J	5	4	--	K	--	45	N	
159N094W248C	R.SETTERLUND	30	24	B	--	--	14	--	S	--	--	5	--	P	--	--	N	
159N094W3488B	G.N.RY.ET AL	210	--	--	--	--	--	--	U	--	--	--	2350	--	G	--	N	210
159N094W34CCC	U.S.G.S.	200	--	H	1967	--	--	--	U	--	--	--	2420	--	GE	--	N	200
160N09W018CC	G.N.RY.ET AL	165	--	--	--	--	--	--	U	--	--	--	2010	--	G	--	N	165
160N09W01DDC	M.GRANLUND	28	36	D	1900	--	--	--	K	P	S	6	2032	K	--	44	N	
160N09W0388B	G.N.RY.ET AL	180	--	--	--	--	--	--	U	--	--	--	2040	--	G	--	N	180
160N09W05DAD1	C.ALBERTSON	160	3	H	--	TL OC	F	--	S	P	S	6	2077	K	--	45	N	
160N09W05DAD2	C.ALBERTSON	160	3	H	1930	TL OC	F	--	H	C	S	6	2077	K	--	--	N	
160N09W06A8A1	JACOBSON BROS.	60	3	H	--	TL OC	F	--	S	N	--	--	--	--	--	--	N	
160N09W06A8A2	JACOBSON BROS.	21	4	C	--	--	1	7-65	K	P	S	6	2050	K	--	44	O	
160N09W07DD0	U.S.G.S.	90	--	H	1966	--	--	--	U	--	--	--	2025	--	GE	--	N	90
160N09W09AAA	C.HEGLAND	185	5	--	--	--	--	--	H	P	1	--	2062	--	--	--	N	
160N09W10ADA1	G.EKBERG	65	4	--	1951	TL OC	9	--	K	S	S	6	2052	K	--	46	N	
160N09W10ADA2	G.EKBERG	19	36	D	--	--	2	7-65	U	P	S	--	2052	--	--	--	O	
160N09W1088B1	E.ALBERTSON	220	4	--	1957	TL OC	30	--	H	P	S	5	2062	K	--	--	N	
160N09W1088B2	E.ALBERTSON	210	4	--	1914	TL OC	--	--	S	P	S	5	2062	K	--	44	N	
160N09W10DD1	U.S.G.S.	80	--	H	1966	OG 51	F	8-66	U	--	--	6	2171	C	GE	44	O	80
160N09W10DD2	G.N.RY.ET AL	190	--	--	--	--	--	--	U	--	--	--	2070	--	G	--	N	190
160N09W11A8B	G.N.RY.ET AL	75	--	--	--	--	--	--	U	--	--	--	2053	--	G	--	N	75
160N09W11C8A	A.HEDLIN	86	4	C	1959	OG 51	--	--	K	P	S	5	2062	K	--	44	N	
160N09W128CC	G.N.RY.ET AL	75	--	--	--	--	--	--	U	--	--	--	2059	--	G	--	N	75
160N09W138CC	G.N.RY.ET AL	75	--	--	--	--	--	--	U	--	--	--	2064	--	G	--	N	75
160N09W13CCD	E.CHRISTIANSON	217	4	--	--	TL OC	--	--	H	P	S	5	2075	K	--	46	N	
160N09W14C8C	G.N.RY.ET AL	75	--	--	--	--	--	--	U	--	--	--	2100	--	G	--	N	75
160N09W14DD0	G.N.RY.ET AL	135	--	--	--	--	--	--	U	--	--	--	2085	--	GJ	--	N	135
160N09W15DD0	G.N.RY.ET AL	75	--	--	--	--	--	--	U	--	--	--	2100	--	G	--	N	75
160N09W17DD0	G.N.RY.ET AL	180	--	--	--	--	--	--	U	--	--	--	2150	--	GJ	--	N	180
160N09W18ADB	R.SORLIE	63	4	C	1933	TL OC	--	--	H	P	S	6	2170	K	--	48	N	
160N09W218DD	G.N.RY.ET AL	135	--	--	--	--	--	--	U	--	--	--	2173	--	G	--	N	135
160N09W21DD0	I.MCGREW	38	24	B	1948	TL OC	--	--	U	--	--	--	2200	K	--	45	O	
160N09W21DD0	G.N.RY.ET AL	135	--	--	--	--	--	--	U	--	--	--	2170	--	G	--	N	135
160N09W22CCD	G.N.RY.ET AL	135	--	--	--	--	--	--	U	--	--	--	2170	--	G	--	N	135

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USC	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE OF LSD (FT.)	OW TYPE	LOG AVAIL-ABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
140N090W220DA	W. JOHNSON	65	4	C	1958	TL OC	8	--	H	J	S	6	2140	K	--	--	N	
140N090W238DA	C. L. INDOQUIST	--	6	--	--	TL OC	F	--	H	C	S	6	2110	K	--	--	N	
140N090W23CCC	G. N. RY. ET AL	105	--	--	--	--	--	--	U	--	--	--	2135	--	G	--	N	105
140N090W24DDA	G. N. RY. ET AL	120	--	--	--	--	--	--	U	--	--	--	2085	--	GJ	--	N	120
140N090W25ABB	L. CHRISTIANSON	40	30	D	1946	--	30	--	K	P	S	6	2115	--	--	44	N	
140N090W25ADD	G. N. RY. ET AL	172	--	--	--	--	--	--	U	--	--	--	2126	--	GJ	--	N	172
140N090W258BB	G. N. RY. ET AL	140	--	--	--	--	--	--	U	--	--	--	2118	--	G	--	N	140
140N090W250DD	G. N. RY. ET AL	135	--	--	--	--	--	--	U	--	--	--	2135	--	G	--	N	135
140N090W26BCC	G. N. RY. ET AL	165	--	--	--	--	--	--	U	--	--	--	2160	--	GJ	--	N	165
140N090W260DD	G. N. RY. ET AL	195	--	--	--	--	--	--	U	--	--	--	2145	--	GJ	--	N	195
140N090W36BCC	G. N. RY. ET AL	150	--	--	--	--	--	--	U	--	--	--	2180	--	G	--	N	150
140N091W058DB	V. GODEJAHN	160	3	C	1935	TL OC	140	--	K	P	S	5	--	K	--	45	N	
140N091W070BC	C. GLEAVE	365	4	C	1962	--	100	--	K	P	S	6	--	K	--	45	N	
140N091W088BB	C. ERICKSON	285	4	C	--	--	--	--	K	P	S	6	--	K	--	45	N	
140N091W09CCD	J. GLEAVE	32	18	B	1938	--	6	7-65	S	P	S	6	--	K	--	45	D	
140N091W13ACD1	U. S. G. S.	229	1	H	1966	OG 52	21	7-66	U	--	--	5	2240	C	GE	48	M	360
140N091W13ACD2	U. S. G. S.	328	1	H	1966	OG 52	24	7-66	U	--	--	5	2240	C	GE	45	M	360
140N091W248BA	U. S. G. S.	40	--	H	1966	OG 51	--	--	U	--	--	--	2233	--	GE	--	N	60
140N091W24CBB	U. S. G. S.	460	--	H	1966	--	--	--	U	--	--	--	2265	--	GE	--	N	460
140N091W258CB	W. STEWART	100	4	C	1950	TL OC	50	--	K	P	S	4	--	K	--	45	N	
140N091W358CA	U. S. B. S. F. W.	289	2	H	1939	--	40	3-67	U	N	--	--	--	--	--	--	O	
140N091W358CB	U. S. B. S. F. W.	321	4	C	1959	OG 51	165	--	H	S	S	5	--	K	D	--	N	
140N092W07CCC	U. S. G. S.	200	--	H	1968	--	--	--	U	--	--	--	2425	--	GE	--	N	200
140N092W090DA	R. CLARK	78	4	C	--	--	19	--	K	P	S	5	--	K	--	43	N	
140N092W10ADC	K. LUCY	88	4	--	1962	--	25	--	S	S	S	6	--	K	--	--	N	
140N092W138BB	A. JOHNSON	160	4	C	--	--	--	--	K	P	S	5	--	K	--	--	N	
140N092W178AB	U. S. G. S.	120	--	H	1967	--	--	--	U	--	--	--	--	--	GE	--	N	120
140N092W200DD	U. S. G. S.	120	--	H	1967	--	--	--	U	--	--	--	2346	--	GE	--	N	120
140N092W218CB1	C. WEINMANN	120	4	C	--	--	50	--	S	P	S	6	--	K	--	44	N	
140N092W218CB2	C. WEINMANN	30	18	D	1935	--	28	--	H	J	S	6	--	K	--	47	N	
140N092W290DA	D. ENGEL	85	12	B	1943	--	40	--	K	J	S	4	--	K	--	--	N	
140N092W35ADA	U. S. G. S.	120	--	H	1966	--	--	--	U	--	--	--	2395	--	GF	--	N	120
140N093W02AAA	M. KLEVENBERG	16	36	D	--	--	4	8-67	H	N	1	5	--	K	--	--	O	
140N093W10CCB	A. SKALICKY	38	10	B	--	--	26	--	K	P	1	4	--	C	--	42	N	
140N093W12CAA	R. TITUS	95	4	C	--	OG 51	73	--	K	P	S	4	--	K	--	42	N	
140N093W130DD	S. KILSTAD	120	4	H	1961	--	60	--	S	P	S	6	--	K	--	42	N	
140N093W140DC	U. S. G. S.	200	--	H	1966	--	--	--	U	--	--	--	2385	--	GE	--	N	200
140N093W21ACD1	E. GRUBB	167	6	C	1961	OG 51	97	--	S	P	S	6	--	K	--	42	N	
140N093W21ACD2	E. GRUBB	40	36	B	1958	--	20	--	S	S	S	6	--	K	--	--	N	
140N093W21ACD3	E. GRUBB	40	36	B	1958	--	25	--	H	S	S	6	--	K	--	--	N	

LOCAL WELL NUMER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE OPILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	JFL- CIFIC CON- DUCT ANCE	ALTI- TUDE- OF LSD (FT.)	QM TYPE	LOG AVAIL- ABLE	TEM- PER- ATURE (F)	FREQUENCY OF WATER- LEVEL MEASURE- MENTS	TOTAL DEPTH
160N093W22AAA1	E. PIXLEY	40	4	C	--	--	20	--	K	P	S	7	--	K	--	44	N	
160N093W22AAA2	E. PIXLEY	140	3	C	--	OG 51	110	--	S	P	--	6	--	K	--	43	N	
160N093W23ACA	C. SWANSON	150	4	C	--	--	85	--	K	P	S	5	--	K	--	42	N	
160N093W23BCB	A. SKALICKY	140	4	C	--	TL OC	85	--	K	J	S	6	--	K	--	43	N	
160N093W290CD1	P. TITUS	80	15	B	--	OG 51	40	--	H	P	I	5	--	K	--	41	N	
160N093W290CD2	P. TITUS	135	4	C	1918	OG 51	100	--	S	P	S	5	--	K	--	43	N	
160N093W290CD3	P. TITUS	205	4	C	1958	TL OC	100	--	H	J	S	5	--	K	--	43	N	
160N093W31AAA	E. NELSON	101	4	C	--	TL OC	70	--	S	P	S	5	--	K	--	43	N	
160N093W330CD1	N. GRUBB	37	18	D	1920	OG 51	14	--	H	J	S	4	--	K	--	43	N	
160N093W330CD2	N. GRUBB	130	3	C	1942	OG 51	80	--	S	P	S	6	--	K	--	43	N	
160N093W358AC	R. SKALICKY	92	5	--	--	OG 51	40	--	K	P	S	4	--	K	--	44	N	
160N094W07DD	U.S.G.S.	68	--	H	1966	OG 51	49	9-66	U	N	--	5	2267	C	GF	47	N	200
160N094W128BD	R. GOODMAN	180	4	C	1958	OG 51	30	--	S	P	--	--	--	--	--	47	N	
160N094W13DBA	R. GOODMAN	180	4	C	1960	TL OC	30	--	K	S	S	6	--	K	--	47	N	
160N094W158CC1	L. GROTE	237	5	H	--	TL OC	80	--	K	P	S	6	--	K	--	47	N	
160N094W158CC2	L. GROTE	40	21	B	--	--	30	--	H	J	S	6	--	K	--	47	N	
160N094W18BAB	E. BARMONEN	55	26	B	1964	OG 51	12	--	K	J	S	5	--	K	--	47	N	
160N094W20CCC	U.S.G.S.	80	--	H	1966	--	--	--	U	--	--	2118	--	GE	--	47	N	80
160N094W23CAD	A. MARUSKY	28	24	B	1958	--	8	--	K	P	S	5	--	K	--	48	N	
160N094W25CB1	A. MELBERG	50	24	B	1964	OG 51	--	--	H	P	S	6	--	K	--	48	N	
160N094W25CB2	A. MELBERG	100	--	B	1928	TL OC	--	--	S	P	S	6	--	K	--	45	N	
160N094W26CDD1	A. OLSON	150	6	C	1925	TL OC	70	--	S	P	S	--	--	--	--	45	N	
160N094W26CDD2	A. OLSON	40	24	B	1934	OG 51	20	--	H	J	S	--	--	--	--	45	N	
160N094W26CDD3	A. OLSON	30	24	B	1934	OG 51	20	--	H	J	S	--	--	--	--	45	N	
160N094W27CCD	K. SATHRE	124	4	C	1947	TL OC	40	--	S	P	S	6	--	K	--	45	N	
160N094W28DDC	A. FREDRICKSON	126	3	C	1943	OG 51	--	--	S	P	S	5	--	K	--	44	N	
160N094W29BBB	A. THOMPSON	112	4	--	1950	OG 51	--	--	S	P	S	5	--	P	--	44	N	
160N094W29CCC	F. FREDRICKSON	101	--	--	--	OG 51	41	--	K	P	S	--	--	--	--	44	N	
160N094W30ADA1	OVERLEE BROS.	134	4	C	1963	TL OC	40	--	K	J	S	4	--	K	--	44	N	
160N094W30ADA2	OVERLEE BROS.	80	24	B	1939	OG 51	60	--	H	P	S	--	--	--	--	44	N	
160N094W31ADD	WOLD BROS.	130	8	C	1962	TL OC	50	--	H	S	S	--	--	D	--	44	N	100
160N094W34BBB	U.S.G.S.	100	--	H	1967	--	--	--	U	--	--	2393	--	GE	--	44	N	
160N094W35AAA	A. ESSEN	30	24	D	--	--	--	--	H	P	6	--	--	--	--	44	N	
161N089W01CDC	P. KELLY	130	3	--	--	--	40	--	K	--	--	--	--	--	--	44	N	
161N089W0288C	J. KOCH	20	36	D	--	--	18	--	H	--	--	--	--	--	--	44	N	
161N089W0388B	R. AUFFORTH	85	--	--	--	--	--	--	S	P	6	6	--	K	--	41	N	
161N089W0330C	C. SWENSON	94	4	H	--	TL OC	40	7-46	S	P	6	6	1933	C	--	41	N	0
161N089W04AAA1	N.D.S.W.C.	22	--	--	--	--	--	--	U	--	--	--	--	D	--	41	N	
161N089W04AAA2	N.D.S.W.C.	60	--	--	1952	--	--	--	U	--	--	1946	--	D	--	41	N	
161N089W048C	P. THOMPSON	92	4	H	--	TL OC	21	7-46	U	P	--	6	1955	P	--	41	N	0

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF L.S.D (FT.)	OW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
161N089W04CCC	N.D.S.W.C	50	--	--	1952	--	--	--	U	--	--	--	1962	--	D	--	N	
161N089W04DDD	G.N.RY.ET AL	153	--	--	--	--	--	--	U	--	--	--	1950	--	G	--	N	153
161N089W05AAD	N.D.S.W.C	600	--	--	1952	--	--	--	U	--	--	--	1956	--	D	--	N	
161N089W05AC 1	BOMBELLS	710	--	H	--	TL OC	110	--	P	T	5	6	1957	C	D	50	W	
161N089W05AC 2	BOMBELLS	227	8	--	--	TL OC	220	--	P	T	5	6	1957	P	--	--	N	
161N089W05ACD	BOMBELLS	45	--	--	1967	--	--	--	P	--	--	6	--	C	--	46	N	
161N089W05ADC	BOMBELLS	101	--	--	1961	TL OC	--	--	P	--	--	6	--	C	--	--	N	
161N089W05BBA	N.D.S.W.C.	40	--	--	1952	--	--	--	U	--	--	--	1957	--	D	--	N	
161N089W05BCC	N.D.S.W.C.	21	--	--	--	--	--	--	U	--	--	--	1955	--	D	--	N	
161N089W05CAD1	N.D.S.W.C.	21	--	--	--	--	--	--	U	--	--	--	1945	--	D	--	N	
161N089W05CAD2	N.D.S.W.C.	17	--	--	--	--	--	--	U	--	--	--	1940	--	D	--	N	
161N089W05CB	U.S.G.S.	65	5	H	--	--	3	8-47	U	N	--	--	1945	--	D	--	N	
161N089W05CB1	N.D.S.W.C.	67	--	--	--	--	--	--	U	--	--	--	1948	--	D	--	N	
161N089W05CB2	N.D.S.W.C.	21	--	--	--	--	--	--	U	--	--	--	1955	--	D	--	N	
161N089W05COA1	N.D.S.W.C.	17	--	--	--	--	--	--	U	--	--	--	1953	--	D	--	N	
161N089W05COA2	N.D.S.W.C.	17	--	--	--	--	--	--	U	--	--	--	1950	--	D	--	N	
161N089W05OAB	U.S.G.S.	100	--	--	--	TL OC	--	--	U	--	--	--	--	P	D	--	N	
161N089W05DD 1	A.CHRISTIANSON	97	4	H	--	--	25	7-46	K	--	5	6	1958	C	--	--	N	
161N089W05DD 2	A.CHRISTIANSON	80	5	H	--	TL OC	26	9-45	U	N	--	6	1958	P	--	--	N	
161N089W05DDA	A.CHRISTIANSON	133	4	C	1944	TL OC	32	--	S	P	5	6	--	K	--	45	N	
161N089W06BBB	U.S.G.S.	40	--	H	1968	--	--	--	U	--	--	--	1960	--	DG	--	N	40
161N089W06CC	H.ROSS	58	6	H	--	TL OC	22	7-46	U	P	--	6	1962	P	--	--	N	
161N089W06CCD	H.ROSS	51	6	--	--	--	22	--	K	J	5	6	--	K	--	--	N	
161N089W06DA	C.MASTRUD	70	--	H	--	--	--	--	S	P	--	5	1956	C	--	--	N	
161N089W06DA1	N.D.S.W.C.	17	--	--	--	--	--	--	U	--	--	--	1961	--	D	--	N	
161N089W06DAA2	N.D.S.W.C.	12	--	--	--	--	--	--	U	--	--	--	1965	--	D	--	N	
161N089W06BA	J.COCH	100	5	H	--	TL OC	25	7-46	U	P	--	6	1960	P	--	--	N	
161N089W06CB	A.FISHER	102	5	H	--	TL OC	29	7-46	U	P	6	6	1964	C	--	--	N	
161N089W06CC	G.N.RY.ET AL	180	--	--	--	--	--	--	U	--	--	--	1960	--	G	--	N	
161N089W06BB 1	R.WIPER	--	6	H	--	--	24	7-46	S	P	3	6	1959	P	--	--	N	180
161N089W09BB 2	R.WIPER	190	4	H	--	--	--	--	S	P	1	6	1960	C	--	--	N	
161N089W09CC	N.D.S.W.C.	115	--	--	1952	--	--	--	U	--	--	--	1961	--	D	--	N	
161N089W09CDD	G.N.RY.ET AL	165	--	--	--	--	--	--	U	--	--	--	1955	--	C	--	N	
161N089W10DD	L.PETERSON	273	3	H	--	TL OC	130	7-46	S	P	6	5	1955	P	--	--	N	
161N089W11AAA	L.CHRISTIANSON	134	4	C	1965	--	79	--	H	P	5	6	--	K	--	45	N	
161N089W11DAA	N.D.S.W.C.	327	--	--	1952	--	--	--	U	--	--	--	1940	--	D	--	N	
161N089W12BB	C.BRYAN	112	2	H	--	--	--	--	U	P	--	5	1941	P	--	--	N	
161N089W13CC	M.QUANBECK	170	6	H	--	TL OC	118	8-46	S	P	6	6	1957	P	--	--	N	
161N089W14AAA	B.ORMISTON	120	6	--	--	--	60	--	S	--	--	6	--	P	--	--	N	
161N089W14DAA	P.JORDY	285	4	H	--	TL OC	100	7-46	S	P	3	6	1957	P	--	--	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	GW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
161N089W140DD	N.D.S.W.C.	140	--	--	1952	--	--	--	U	--	--	--	1958	--	D	--	N	
161N089W15CCD	J.BERG	160	6	H	--	TL OC	110	--	H	P	5	6	--	K	--	44	N	
161N089W1688B	N.D.S.W.C.	295	--	--	1952	--	--	--	U	--	--	--	1965	--	D	--	N	
161N089W168CB	N.D.S.W.C.	180	--	--	1952	--	--	--	U	--	--	--	1950	--	D	--	N	
161N089W168CC	N.D.S.W.C.	300	--	--	1952	--	--	--	U	--	--	--	1960	--	D	--	N	
161N089W168CB	N.D.S.W.C.	120	--	--	1952	--	--	--	U	--	--	--	1968	--	D	--	N	
161N089W16CCC	N.D.S.W.C.	100	--	--	1952	--	--	--	U	--	--	--	1971	--	D	--	N	
161N089W19DA	J.OLSON	180	--	H	--	--	31	7-66	K	P	5	5	1977	P	--	--	O	
161N089W19DAA	J.OLSON	90	6	--	--	TL OC	20	--	H	--	--	--	--	--	--	--	N	
161N089W20AA	T.JACOBSON	96	5	H	--	TL OC	27	9-45	U	P	--	6	1970	P	--	--	O	
161N089W20ADD	N.D.S.W.C.	80	--	--	1952	--	--	--	U	--	--	--	1972	--	D	--	N	
161N089W21BA	T.JACOBSON	150	--	H	--	TL OC	48	7-66	S	P	6	6	1972	P	--	--	O	
161N089W21BBA	T.JACOBSON	100	4	--	--	--	90	--	H	--	--	--	--	--	--	--	N	
161N089W21DA	F.HAENHOUSE	100	5	H	--	TL OC	41	7-66	S	P	6	5	1975	C	--	--	O	
161N089W23AA	T.BYSTEDT	180	4	H	--	TL OC	70	8-66	S	P	6	6	1961	P	--	--	O	
161N089W24CB	H.OLSON	180	6	--	--	TL OC	105	8-66	S	P	6	6	1963	P	--	--	O	
161N089W24DD	R.HANSEN	600	3	H	--	--	120	7-66	U	P	6	6	1955	P	--	--	O	
161N089W24DDA1	R.HANSEN	360	4	H	1920	TL OC	180	--	Z	P	6	6	--	K	--	--	N	
161N089W24DDA2	R.HANSEN	220	5	H	1963	TL OC	180	--	H	S	5	6	--	K	--	--	N	
161N089W25BC	C.NELSON	274	4	--	--	TL OC	130	7-66	S	P	6	6	1966	P	--	--	O	
161N089W26CCA1	C.CARLSON	20	48	D	--	--	8	--	H	P	5	5	--	K	--	45	N	
161N089W26CCA2	C.CARLSON	265	2	H	1920	TL OC	165	--	H	P	6	6	--	K	--	--	N	
161N089W26DD	HANSEN BROS.	237	3	--	--	TL OC	157	--	H	--	--	6	--	C	--	--	N	
161N089W27BB	L.BERG	136	10	H	--	TL OC	41	7-66	U	P	6	6	1972	P	--	--	O	
161N089W2788B	U.S.G.S.	100	--	II	1966	--	--	--	U	--	--	--	1974	--	GE	--	N	100
161N089W28AA	A.ECKSTROM	--	3	H	--	--	120	8-66	S	P	3	6	1971	P	--	--	O	
161N089W28AAA	A.ECKSTROM	100	4	--	--	TL OC	60	--	H	--	--	--	--	--	--	--	N	
161N089W280DD	A.CHRISTIANSON	22	18	D	--	--	10	8-65	U	P	1	--	1982	--	--	--	N	
161N089W308DA1	A.SAGNESS	40	36	B	1948	--	14	9-66	H	P	5	6	--	K	--	44	O	
161N089W308DA2	A.SAGNESS	185	2	C	1962	--	32	--	K	P	5	6	--	K	D	46	N	
161N089W33AAA	G.N.RY.ET AL	105	--	--	--	--	--	--	U	--	--	--	1944	--	G	--	N	105
161N089W3388B	I.SAGNESS	24	48	D	--	--	20	--	K	--	--	--	--	--	--	--	N	
161N089W33DAD	F.BORGESON	19	18	B	1950	--	11	9-66	H	P	1	6	--	K	--	46	O	
161N089W34DAA	W.HMELS	304	3	J	1945	--	70	--	H	P	5	6	--	K	--	--	N	
161N089W358AB	T.ERICKSON	18	48	H	--	--	12	--	H	--	--	--	--	--	--	--	N	
161N089W36DD	U.S.G.S.	315	4	H	--	TL OC	5	8-47	U	N	--	--	1963	--	D	--	O	
161N09W07PAA	L.PETERSON	80	8	B	--	--	12	--	S	P	5	6	--	K	--	42	N	
161N09W0188B	U.S.G.S.	60	--	H	1968	--	--	--	U	--	--	--	1955	--	DG	--	N	60
161N09W030DD1	C.MELBY	187	6	H	--	TL OC	50	9-45	K	P	6	6	1956	P	--	--	O	
161N09W030DD2	C.MELBY	65	6	--	1912	--	7	6-67	K	P	5	6	--	K	--	43	O	
161N09W088CB	G.N.RY.ET AL	185	--	--	--	--	--	--	U	--	--	--	1962	--	G	--	N	165

9K

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FY.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	OW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
161N09W1188B	G.N.RY. ET AL	45	--	--	--	--	--	--	U	--	--	--	1980	--	G	--	N	45
161N09W11CD	A. HEISY	89	5	H	--	TL OC	11	7-46	U	P	--	6	1960	C	--	--	O	
161N09W12AB	D.F. FISHER	--	4	H	--	--	10	7-46	S	P	6	6	1961	P	--	--	O	
161N09W13DD	U.S.G.S.	540	--	H	1967	QG 52	--	--	U	--	--	--	1970	--	GF	--	N	540
161N09W14DA	M. ULRICH	48	4	H	--	--	15	7-46	K	P	6	6	1966	P	--	--	O	
161N09W15DC	J. KELLY	--	4	H	--	--	27	7-46	--	P	--	5	1977	P	--	--	O	
161N09W17AA	E. CARLSON	52	6	H	--	TL OC	--	-34	K	N	--	6	1966	P	--	--	N	
161N09W17CD	M. JEPSEN	312	3	H	--	TL OC	70	7-46	K	P	3	5	2013	P	--	--	O	
161N09W19DD 1	C. JEPSEN	82	5	H	--	TL OC	22	7-46	S	P	6	5	2048	P	--	--	O	
161N09W19DD 2	M. JEPSON	125	3	H	--	--	--	--	P	P	3	6	2045	P	--	--	N	
161N09W19DD	M. JEPSEN	176	4	C	1967	TL OC	70	--	H	S	S	6	--	C	--	45	N	
161N09W20DC	M. RUHNKE	130	--	H	--	TL OC	115	7-46	K	P	5	6	2040	P	--	--	O	
161N09W22ABA	E. WAHLUND	49	18	B	--	--	21	7-67	U	P	1	--	1990	--	--	--	O	
161N09W2288B	G.N.RY. ET AL	165	--	--	--	--	--	--	U	--	--	--	1990	--	G	--	N	165
161N09W22ZDC	L. LUNDIN	40	4	H	--	--	32	7-46	S	P	6	6	2023	P	--	--	O	
161N09W2388B	G. SKREDSVID	24	36	D	--	--	18	--	H	P	1	7	--	K	--	42	N	
161N09W2388	M. HAROLDSON	200	3	H	--	TL OC	40	7-46	K	P	5	6	1999	P	--	--	O	
161N09W24AA	S. ROSS	63	4	H	--	--	18	7-46	K	P	5	6	1976	P	--	--	O	
161N09W24AAA	R. ROSS	100	5	C	1964	OG 51	--	--	H	S	5	5	--	K	--	45	N	
161N09W258CB	G.N.RY. ET AL	105	--	--	--	--	--	--	U	--	--	--	1980	--	G	--	N	105
161N09W268A	C. LINSTROM	190	5	H	--	TL OC	31	7-46	K	P	5	6	2002	P	--	--	O	
161N09W2688A	C. LINSTROM	120	3	--	--	TL OC	30	--	H	J	5	6	--	K	--	42	N	
161N09W288B	L. LUNDIN	170	4	H	--	TL OC	40	7-46	K	P	--	6	2031	P	--	--	O	
161N09W288A	G. DPSETH	165	4	H	--	TL OC	35	7-46	K	P	6	6	2033	P	--	--	O	
161N09W30DA	S. OLSON	34	6	H	--	--	19	5-47	U	P	6	5	--	P	--	--	O	
161N09W32CDD	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	2080	--	GF	--	N	120
161N09W34CCC	G.N.RY. ET AL	120	--	--	--	--	--	--	U	--	--	--	1956	--	G	--	N	
161N09W35CCD	E. OLSON	80	4	--	1957	--	--	--	S	P	5	6	--	K	--	44	N	
161N09W35CD	E. OLSON	72	3	H	--	--	26	7-46	K	P	6	5	2048	P	--	--	O	
161N091W01CCC	G.N.RY. ET AL	105	--	--	--	--	--	--	U	--	--	--	1965	--	G	--	N	105
161N091W02AA	U.S.G.S.	95	4	H	--	--	17	7-47	U	N	--	--	1957	--	O	--	N	
161N091W038A	J. BAILLIFF	120	5	H	--	--	--	--	U	P	1	7	1954	P	--	--	N	
161N091W05CB	A. MC EVERS	60	5	H	--	TL OC	--	--	S	P	3	6	2003	P	--	--	N	
161N091W07DC	A. CREST	209	5	--	--	--	49	6-46	S	--	--	6	--	P	--	--	N	
161N091W07DCD1	A. CREST	18	20	D	1902	--	15	--	H	P	1	5	--	K	--	41	N	
161N091W07DCD2	A. CREST	209	4	C	1946	TL OC	49	--	S	P	5	5	2072	P	--	44	C	
161N091W08DC	H. HERMANSEN	165	3	H	--	--	--	--	S	P	6	6	2070	P	--	--	N	
161N091W09AA	P. WEINMANN	59	3	H	--	--	--	--	U	P	--	4	1985	C	--	--	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QM TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
161N091W1000	C.GULLICKSON	180	2	H	--	--	20	6-46	S	P	5	6	2017	P	--	--	O	
161N091W1000C	G.GULLICKSON	100	5	H	--	TL OC	14	--	H	--	--	--	--	--	--	--	N	
161N091W12CC	A.KISTLER	90	4	H	--	TL OC	3	6-46	U	P	--	6	1995	P	--	--	O	
161N091W138AA1	A.KISTLER	119	3	C	1919	TL OC	13	6-46	K	P	S	6	1996	P	--	43	O	
161N091W138AA2	A.KISTLER	22	8	B	1925	OG 31	18	--	H	P	S	6	--	K	--	--	N	
161N091W138BB	G.N.RY. ET AL	165	--	--	--	--	--	--	U	--	--	--	2095	--	G	--	N	165
161N091W148A	J.THIES	165	4	H	--	TL OC	15	6-46	K	P	5	6	2016	P	--	--	O	
161N091W148B	J.THIES	190	--	--	--	TL OC	7	--	H	--	--	--	--	--	--	--	N	
161N091W14DC	B.ANDERSON	190	4	H	--	TL OC	55	6-46	K	P	--	6	2043	P	--	--	O	
161N091W14DCC	B.ANDERSON	159	4	C	1959	TL OC	50	7-66	K	J	S	6	--	K	--	--	O	
161N091W15DDA	E.GULLICKSON	200	3	C	1928	TL OC	15	--	H	P	S	6	--	K	--	44	N	
161N091W17AA	G.BRYAN	235	3	H	--	TL OC	--	--	--	P	6	5	2073	P	--	--	N	
161N091W17CC	C.BUTGERITE	104	5	H	--	TL OC	--	--	--	P	--	6	2118	P	--	--	N	
161N091W19BAD	G.BRYAN	185	4	C	--	--	F	--	K	--	--	--	--	--	--	--	N	
161N091W20CBC	F.HANSON	142	4	C	1945	TL OC	10	--	K	P	S	6	--	K	--	43	N	
161N091W218A	A.CHREST	75	3	H	--	TL OC	--	--	S	P	1	6	2098	P	--	--	N	
161N091W250AA1	J.DIGMAN	110	4	C	1941	--	5	--	K	P	1	5	--	K	--	44	N	
161N091W250AA2	J.DIGMAN	151	4	C	1963	TL OC	5	--	K	S	S	6	--	K	--	45	N	
161N091W250CC	C.BUTGEREIT	200	3	--	--	--	40	--	K	--	--	--	--	--	--	--	N	
161N091W26ADC	E.CHREST	260	3	C	1951	TL OC	F	--	K	P	S	5	--	K	--	44	N	
161N091W28DAA	D.CHRISTIANSON	260	4	C	--	TL OC	100	--	K	--	--	--	--	--	--	--	N	
161N091W33ACC	M.KRISTIANSON	180	4	C	1920	--	100	--	K	P	S	5	--	K	--	42	N	
161N091W348BB	M.MARTINSON	140	3	--	--	TL OC	120	--	K	--	--	--	--	--	--	--	N	
161N091W348BD	D.BEARD	160	3	C	--	--	150	--	K	P	S	5	--	K	--	44	N	
161N092W101CCC	M.SERNSEN	40	24	B	1930	--	6	--	H	--	S	6	--	K	--	42	N	
161N092W102BAA	J.NESS	73	30	B	--	--	39	6-67	U	P	--	--	--	--	--	--	O	
161N092W103BBB	L.BAKKEN	54	12	B	--	--	32	--	K	P	S	6	--	K	--	42	N	
161N092W103DD	E.ADELHEID	125	--	H	--	--	35	9-45	K	P	6	6	2073	P	--	--	O	
161N092W1098CA	C.EGGEN	28	36	D	--	--	11	6-67	K	P	S	4	--	K	--	42	O	
161N092W10CCA1	J.GRIFFITH	85	3	C	1950	OG 51	F	--	S	N	--	5	--	K	--	45	N	
161N092W10CCA2	J.GRIFFITH	35	36	B	1958	--	21	--	H	J	S	5	--	K	--	42	N	
161N092W12CB	P.WEINMANN	165	5	H	--	--	23	6-46	K	P	6	6	2087	P	--	--	O	
161N092W12DCD1	M.BEARD	44	18	B	--	--	9	8-65	H	P	S	--	2087	--	--	--	M	
161N092W12DCD2	M.BEARD	53	4	C	1952	TL OC	--	--	H	P	S	6	--	K	--	44	N	
161N092W13DD	R.OWINGS	220	5	H	--	--	--	--	S	P	5	6	2159	P	--	--	N	
161N092W148A	J.STEEN	125	5	H	--	--	30	6-46	S	P	6	6	2113	P	--	--	O	
161N092W188AA	N.EGGEN	27	30	D	--	--	7	--	H	J	S	5	--	K	--	41	N	
161N092W250DD	W.SMITH	14	36	D	1963	--	6	--	H	J	S	4	--	K	--	42	N	
161N092W35CAC	J.SMITH	242	4	C	1950	TL OC	150	--	K	S	S	5	--	K	O	--	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAM-ETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPE-CIFIC CON-DUCT ANCE	ALTI-TUDE-OF LSD (FT.)	OW TYPE	LOG AVAIL-ABLE	TEM-PERATURE (F)	FREQUENCY OF WATER-LEVEL MEASURE-MENTS	TOTAL DEPTH
161N092W35CCC	U.S.G.S.	38	1	H	1967	OG 51	13	6-67	U	--	--	3	2400	C	DG	--	N	200
161N093W33AAB	L.DAS	208	4	--	1964	--	130	--	K	S	5	5	--	K	--	--	N	
161N093W10CCC	C.HOLTER	80	1.8	B	--	--	35	--	K	--	--	--	--	--	--	--	N	
161N093W0588A	A.YOUNG	132	3	--	1929	--	125	--	K	P	1	5	--	K	--	42	N	
161N093W05CCA	I.WATTERUD	40	24	B	1962	OG 51	0	--	H	P	1	5	--	K	--	--	N	
161N093W060AD	I.WATTERUD	288	3	--	1935	--	266	--	S	P	S	6	--	K	--	42	N	
161N093W10CDC	U.S.G.S.	260	--	H	1968	--	--	--	U	--	--	--	2435	--	GE	--	N	260
161N093W11CDD	A.MOGA	85	22	B	--	--	45	--	K	--	--	--	--	--	--	--	N	
161N093W1388C	W.MILLER	220	6	C	1921	TL OC	180	--	S	P	S	6	--	K	--	42	N	
161N093W13DAC	G.MARTINSON	11	24	B	--	--	5	--	S	--	--	--	--	--	--	--	N	
161N093W14DAD	N.HOFF	15	8	B	1956	OG 31	13	--	H	J	S	4	--	K	--	--	N	
161N093W17DDC	M.DLSON	150	4	C	1950	TL OC	110	--	S	P	S	6	--	K	--	41	N	
161N093W218AA	U.S.G.S.	260	--	H	1968	--	--	--	U	--	--	--	2410	--	GE	--	N	260
161N093W22ABB	V.HOFF	25	42	D	1954	OG 31	15	--	K	P	S	4	--	K	--	44	N	
161N093W23CDC	N.HOFF	160	4	C	1962	TL OC	125	--	S	P	S	6	--	K	--	43	N	
161N093W24ABC	F.VELO	264	4	C	1961	TL OC	154	6-66	K	P	S	5	--	--	--	43	O	
161N093W24CAD	O.OAS	85	12	B	1935	--	40	--	K	J	S	4	--	K	--	--	N	
161N093W26ADB	A.WESTERNESS	90	18	B	--	--	30	--	K	--	--	--	--	--	--	--	N	
161N093W31BAB	F.HASS, JR.	187	4	--	--	--	150	--	S	--	--	--	--	--	--	--	N	
161N093W35DAD	C.WESTERNESS	130	4	C	1961	--	110	--	K	P	S	5	--	K	--	--	N	
161N094M02AAA	D.WATTERUD	264	4	C	1961	--	239	--	H	P	S	6	--	K	D	45	N	
161N094M03CCD	N.IVERSON	34	8	B	--	--	11	6-67	U	P	1	--	--	--	--	--	O	
161N094M04AAA	H.BURAU	355	4	C	1964	--	255	--	K	--	S	6	--	K	--	44	N	
161N094M05DBB	M.PRIBE	30	27	--	--	--	15	--	K	--	--	--	--	--	--	--	N	
161N094M06AAA	S.BRODAD	325	4	C	1949	--	313	--	K	P	S	6	--	K	--	--	N	
161N094M09AAA	O.ANDERSON	23	36	B	--	--	9	6-67	U	N	--	--	--	--	--	--	O	
161N094M10BAC1	E.THINGVOLD	63	48	--	--	--	3	6-67	S	P	3	--	--	--	--	--	O	
161N094M10BAC2	E.THINGVOLD	63	8	B	--	--	5	6-67	U	P	1	--	--	--	--	--	O	
161N094M10DA	SERLIE BROS.	278	--	--	--	TL OC	218	--	S	--	--	--	--	--	--	--	N	
161N094M130CD	D.DLSON	29	12	B	--	--	8	6-67	S	P	1	6	--	K	--	42	O	
161N094M18ACA1	L.GILBERTSON	12	48	D	1966	--	6	--	K	S	S	4	--	K	--	42	N	
161N094M18ACA2	L.GILBERTSON	75	12	B	--	--	40	--	H	J	S	6	--	K	--	43	N	
161N094M20CBB	E.RUNNING	286	6	C	1964	TL OC	196	--	K	S	S	7	--	K	--	45	N	
161N094M228B	C.ROMHOLDT	50	24	B	--	--	15	--	S	--	--	--	--	--	--	--	N	
161N094M23DBC	J.ORMISTON	18	36	D	--	--	7	--	K	--	--	--	--	--	--	--	N	
161N094M26BDD	R.O.NEIL	22	18	B	1954	--	11	6-67	H	--	S	4	--	K	--	42	O	
161N094M318BB	R.HOLTE	320	4	--	--	--	200	--	K	--	--	--	--	--	--	--	N	
162N088M03CCC1	J.DURICK	225	2	--	1941	--	--	--	H	P	S	6	--	K	--	--	N	
162N088M03CCC2	J.DURICK	200	2	--	1941	--	50	7-46	S	P	S	6	--	P	--	43	O	
162N088M04CB	F.STEFFAN	250	5	H	--	--	35	7-46	S	P	3	6	1876	P	--	--	O	

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LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSO (FT.)	GW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
162N08W09BA 1	J. STEFFEN	350	4	H	--	--	--	7-46	S	P	3	6	1882	P	--	--	O	
162N08W09BA 2	J. STEFFEN	130	2	H	--	--	50	7-46	P	P	6	6	1875	P	--	--	O	
162N08W11CD	I. NELSON	375	4	H	--	--	50	7-46	S	P	6	6	1865	P	--	--	O	
162N08W17BB	F. STEFFEN	260	4	H	--	TL OC	60	9-45	K	P	6	6	1899	P	--	--	O	
162N08W258BB	P. WADE	468	2	H	--	--	66	8-65	U	N	--	--	1874	--	--	--	M	
162N08W25CBC	M. WADE	470	3	C	1913	--	--	--	--	--	--	--	--	--	--	--	--	
162N08W25CC	M. WADE	600	4	--	--	TL OC	90	9-45	K	P	5	6	1865	K	--	44	O	
162N08W26AA	H. MC DIARMID	347	3	H	--	TL OC	78	7-46	K	P	6	6	1874	P	--	--	O	
162N08W260CC	W. CART	315	3	--	--	OG 51	60	--	K	--	--	5	--	P	--	--	N	
162N08W27AAA	V. MADSEN	527	4	C	1930	TL OC	160	--	K	P	5	6	1874	P	--	44	N	
162N08W31ADD	H. DURWARD	248	6	C	1910	TL OC	45	7-46	H	P	5	6	1927	P	--	45	O	
162N08W31C0C	N. D. S. W. C.	303	--	--	1952	--	--	--	U	--	--	--	1900	--	D	--	N	
162N08W31DDC	F. BRYAN, JR.	281	4	C	1964	--	80	--	K	P	5	6	--	K	--	45	N	
162N08W34AAA	U. S. G. S.	240	--	H	1966	--	--	--	U	--	--	--	1886	--	GF	--	N	240
162N08W340C	L. BROOKS	320	2	H	--	--	41	7-46	S	P	6	6	1899	C	--	--	O	
162N08W36CC	A. LAWSON	308	3	H	--	TL OC	70	7-46	S	P	6	6	1882	C	--	--	O	
162N08W36AD	S. OWENS	182	2	H	--	--	100	7-46	K	P	6	6	1921	C	--	--	O	
162N08W38BB	U. S. G. S.	218	1	H	1966	OG 51	88	8-66	U	--	--	6	1918	C	GF	45	M	280
162N08W38CD	S. OWEN ET. AL.	160	2	H	--	--	--	--	U	P	--	6	1924	P	--	--	N	
162N08W48BB	N. D. S. W. C.	284	--	--	1950	--	--	--	U	--	--	--	1911	--	D	--	N	
162N08W55AA	N. SMITH	378	2	H	--	TL OC	90	9-45	K	P	6	6	1916	P	--	--	O	
162N08W55DAD	G. CRON	394	3	C	--	--	71	8-65	U	N	--	--	1912	--	--	--	M	
162N08W56AD	F. S. IVERLING	196	6	H	--	TL OC	10	7-46	K	P	6	6	1932	P	--	--	O	
162N08W78BB	B. NELBY	225	2	C	1910	--	40	--	K	P	5	6	--	K	--	--	N	
162N08W78CD	M. LEE	150	2	H	--	--	--	--	S	P	6	6	1940	P	--	--	N	
162N08W8AAA	N. D. S. W. C.	430	--	--	1950	--	--	--	U	--	--	--	1907	--	D	--	N	
162N08W80DD	E. PETERSON	460	6	H	--	TL OC	52	7-46	S	P	6	6	1928	P	--	--	O	
162N08W99AB	A. HASS	265	3	H	--	--	70	7-46	S	P	6	6	1913	P	--	--	O	
162N08W118BB	F. TOWN	25	48	O	--	--	7	8-65	U	P	1	--	--	--	--	--	O	
162N08W138C	F. SIEMERS	279	2	O	--	TL OC	60	7-46	K	P	3	6	1913	P	--	--	O	
162N08W13CC	U. S. G. S.	250	5	H	--	--	17	7-46	U	N	--	--	1910	--	D	--	O	
162N08W14AAA	F. REDNER	224	4	C	1965	TL OC	90	--	H	S	5	6	--	K	--	--	N	
162N08W158C	C. NIPER	280	2	H	--	TL OC	60	7-46	S	P	6	6	1921	P	--	--	O	
162N08W168BC	N. D. S. W. C.	218	--	--	1950	--	--	--	U	--	--	--	1920	--	D	--	N	
162N08W17AAA	G. CRON	9	42	O	--	--	3	6-66	H	P	1	4	--	K	--	42	O	
162N08W18AD	M. BRYAN	200	4	H	--	--	61	7-46	S	P	6	6	1931	C	--	--	O	
162N08W21A0D	L. KLEIN	90	3	--	--	--	38	--	S	--	--	--	--	--	--	--	N	
162N08W218BB	N. D. S. W. C.	170	--	--	1950	--	--	--	U	--	--	--	1935	--	D	--	N	
162N08W218CC	M. HANSON	76	4	C	--	TL OC	56	7-46	K	P	6	6	--	K	--	--	O	
162N08W22AD	A. REDNER	120	3	H	--	--	30	7-46	S	P	3	6	1915	P	--	--	O	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPE-CIFIC CON-DUCT ANCE	ALTI-TUDE- OF LSD (FT.)	QM TYPE	LOG AVAIL- ABLE	TEM- PER- ATURE (F)	FREQUENCY OF WATER- LEVEL MEASURE- MENTS	TOTAL DEPTH
162N089W22ADA	A. REDMER	95	4	C	---	---	27	---	S	---	---	---	---	---	---	---	N	
162N089W23DD	M. AUFFORTH	150	4	H	---	---	50	9-45	S	P	6	6	1912	P	---	---	O	
162N089W23DDD	M. AUFFORTH	365	4	---	---	---	40	---	S	---	---	---	---	---	---	---	N	
162N089W24CCC	M. AUFFORTH	10	30	---	---	---	3	---	H	---	---	---	---	---	---	---	N	
162N089W24DAA	J. REDMER	300	4	C	---	TL OC	---	---	K	P	S	6	---	K	---	45	N	
162N089W25AAA	U.S.G.S.	160	---	H	1967	---	---	---	U	---	---	---	1925	---	GE	---	N	160
162N089W25AB	J. AUFFORTH	35	30	---	---	---	25	---	S	---	---	---	---	---	---	---	N	
162N089W27CCD	E. KLEIN	295	---	C	1965	TL OC	75	---	H	S	5	6	---	K	---	---	N	
162N089W28BC	J. KOCH	160	4	H	---	---	30	7-46	S	P	3	6	1940	P	---	---	O	
162N089W28DD	U.S.G.S.	145	5	H	---	---	4	7-47	U	N	---	---	1941	---	D	---	O	
162N089W29AAA	N.D.S.W.C.	230	---	---	1950	---	---	---	U	---	---	---	1940	---	D	---	N	
162N089W29CC	J. KOCH	100	2	H	---	TL OC	---	---	U	P	---	6	1951	P	---	---	O	
162N089W30DC	J. KOCH	150	5	H	---	TL OC	18	7-46	S	P	6	6	1957	P	---	---	O	
162N089W31DA	A. OLSON	270	3	H	---	TL OC	22	7-46	K	P	6	6	1957	C	---	---	O	
162N089W33BBB	N.D.S.W.C.	80	---	---	1950	---	---	---	U	---	---	---	1949	---	D	---	N	
162N089W33CCC	T. PETERSON	68	6	---	---	---	58	---	H	---	---	5	---	P	---	---	N	
162N089W34ABR	G. HAMS	100	4	C	1909	---	56	7-46	K	P	5	6	---	K	---	42	O	
162N089W34CC	A. BOLLSMAYER	83	3	H	---	---	10	7-46	S	P	5	6	1947	P	---	---	O	
162N089W34CCC	R. AUFFORTH	18	3	---	1890	---	10	7-46	K	P	5	6	1947	K	---	43	O	
162N089W35BBB1	C. WILKES	22	48	V	---	---	20	---	H	P	6	5	---	K	---	42	N	
162N089W35BBB2	C. WILKES	79	4	C	1962	---	45	---	S	P	S	6	---	K	---	43	N	
162N089W35BBB3	C. WILKES	22	18	B	1952	---	7	6-66	U	N	---	---	---	---	---	---	O	
162N089W35CCC	N.D.S.W.C.	90	---	---	1952	---	---	---	U	---	---	---	1937	---	D	---	N	
162N089W35DDD	N.D.S.W.C.	120	---	---	1952	---	---	---	U	---	---	---	1933	---	D	---	N	
162N090W1AAB	U.S.G.S.	24	3	H	---	---	7	9-49	U	N	---	9	1932	P	D	---	O	
162N090W1ADA	U.S.B.R.	24	3	H	---	---	10	9-49	U	N	---	8	1935	P	D	---	O	
162N090W1ADD	U.S.G.S.	26	3	H	---	---	10	1-50	U	N	---	6	1934	P	D	---	O	
162N090W1BAA	U.S.G.S.	26	3	H	---	---	8	1-50	U	N	---	7	1938	P	D	---	O	
162N090W1BAB	U.S.B.R.	22	3	H	---	---	12	9-49	U	N	---	7	1939	P	D	---	O	
162N090W1BCC	U.S.G.S.	22	1	H	---	---	12	9-49	U	N	---	4	1938	P	D	---	O	
162N090W1DAD	U.S.B.R.	24	3	H	---	---	11	9-49	U	N	---	8	1934	P	D	---	O	
162N090W1DBB	U.S.G.S.	12	1	H	---	---	10	9-49	U	N	---	4	1929	P	D	---	O	
162N090W1DCC	U.S.G.S.	24	1	H	---	---	9	10-49	U	N	---	5	1938	P	D	---	O	
162N090W1DDD	U.S.G.S.	16	1	H	---	---	11	9-49	U	N	---	7	1941	P	D	---	O	
162N090W2AAD	U.S.B.R.	23	3	H	---	---	---	---	U	N	---	---	1933	---	D	---	N	
162N090W2ABA	U.S.B.R.	22	1	H	---	---	8	9-49	U	N	---	4	1917	P	D	---	O	
162N090W2ACC	U.S.G.S.	24	3	H	---	---	15	11-49	U	N	---	6	1937	P	D	---	O	
162N090W2BAA	U.S.G.S.	26	3	H	---	---	---	---	U	N	---	---	1937	---	D	---	N	
162N090W2BAB	U.S.B.R.	24	3	H	---	---	13	9-49	U	N	---	7	1942	P	D	---	O	
162N090W2CBB	U.S.G.S.	24	1	H	---	---	12	8-49	U	N	---	7	1946	P	D	---	O	

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LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE-OF LSD (FT.)	OW TYPE	LOG AVAIL-ABLE	TEMPER-ATURE (F)	FREQUENCY OF WATER-LEVEL MEASURE-MENTS	TOTAL DEPTH
162N090W02CC8	U.S.B.R.	23	1	H	--	--	2	9-49	U	N	--	7	1945	P	D	--	0	
162N090W02CDC	U.S.G.R.	20	1	H	--	--	10	7-49	U	N	--	7	1944	P	D	--	0	
162N090W02DAD	U.S.B.R.	23	1	H	--	--	24	7-49	U	N	--	7	1941	P	D	--	0	
162N090W02DCC	U.S.G.S.	23	1	H	--	--	16	8-49	U	N	--	7	1945	P	D	--	0	
162N090W02DDC	U.S.B.R.	24	1	H	--	--	11	9-49	U	N	--	8	1938	P	D	--	0	
162N090W03AAB	U.S.B.R.	16	1	H	--	--	12	9-49	U	N	--	7	1943	P	D	--	0	
162N090W03AAD	U.S.B.R.	24	1	H	--	--	14	9-49	U	N	--	6	1946	P	D	--	0	
162N090W03BAA	U.S.G.S.	17	1	H	--	--	8	11-49	U	N	--	4	1922	P	D	--	0	
162N090W03BBA	U.S.B.R.	22	3	H	--	--	8	9-49	U	N	--	6	1916	P	D	--	0	
162N090W03BBB	U.S.G.S.	24	1	H	--	--	24	11-49	U	N	--	6	1921	P	D	--	0	
162N090W03BBC	U.S.B.R.	23	1	H	--	--	11	9-49	U	N	--	6	1923	P	D	--	0	
162N090W03BBD	U.S.G.S.	26	3	H	--	--	--	--	U	N	--	--	1946	--	D	--	0	
162N090W03CBB	U.S.G.S.	32	3	H	--	--	--	--	U	N	--	--	1939	--	D	--	N	
162N090W03CCB	U.S.B.R.	22	1	H	--	--	25	9-49	U	N	--	6	1942	P	D	--	0	
162N090W03CCC	U.S.G.S.	24	1	H	--	--	21	10-49	U	N	--	5	1945	P	D	--	0	
162N090W03CDC	U.S.B.R.	23	1	H	--	--	7	9-49	U	N	--	5	1940	P	D	--	0	
162N090W03DCC	U.S.G.S.	14	1	H	--	--	9	7-49	U	N	--	--	1939	--	D	--	0	
162N090W03DDC	U.DONAHUE	230	4	H	--	--	92	6-49	K	P	--	6	1955	P	--	--	0	
162N090W04B8	G.BERGSTRESER	192	3	H	--	--	60	9-45	K	P	6	6	1943	--	D	--	N	
162N090W04B8	D.ANDERSEN	150	3	--	--	--	110	--	K	P	5	6	--	K	--	43	N	
162N090W05CCC	R.MCCARTHY	29	24	--	--	--	7	8-65	U	P	1	--	--	--	--	--	N	
162N090W06BAA	E.JACOBSEN	30	18	B	--	--	8	--	H	--	--	--	--	--	--	--	N	
162N090W06CBB1	K.CHRISTENSEN	18	24	D	1901	--	10	--	K	P	1	5	--	K	--	40	N	
162N090W06CBB2	K.CHRISTIANSEN	12	40	D	1915	--	5	6-66	S	P	5	4	--	K	--	41	O	
162N090W06CBB3	K.CHRISTIANSEN	10	12	B	1933	--	7	--	H	J	5	5	--	K	--	--	N	
162N090W06BAB	R.JACOBSON	30	24	B	--	--	15	--	K	--	--	--	--	--	--	--	N	
162N090W09AAD	U.S.B.R.	10	1	B	--	--	7	9-49	U	N	--	4	1940	P	D	--	0	
162N090W10AAA	U.S.G.S.	20	1	H	--	--	16	8-49	U	N	--	7	1950	P	D	--	0	
162N090W10AAD	L.CARTER	39	24	B	1943	OG 51	--	--	S	P	6	7	--	K	--	41	N	
162N090W10BCC	U.S.G.S.	22	1	H	--	--	4	11-49	U	N	--	7	1950	P	D	--	0	
162N090W10CAA	U.S.G.S.	14	1	H	--	--	8	8-49	U	N	--	2	1946	P	D	--	0	
162N090W10CBC	U.S.B.R.	22	1	H	--	--	11	9-49	U	N	--	8	1950	C	D	--	0	
162N090W10CCC	U.S.G.S.	24	1	H	--	--	13	10-49	U	N	--	7	1948	P	D	--	0	
162N090W10CDC	U.S.G.S.	6	1	H	--	--	6	7-49	U	N	--	3	1942	P	D	--	0	
162N090W11AAD	U.S.B.R.	16	3	H	--	--	10	11-49	U	N	--	6	1943	P	D	--	0	
162N090W11AD	I.PEDERSON	225	2	H	--	--	11	6-49	K	P	6	--	--	--	--	--	0	
162N090W11BBC	U.S.B.R.	24	3	H	--	--	3	11-49	U	N	--	--	1946	--	D	--	0	
162N090W11BCC	U.S.G.S.	21	1	B	--	--	8	8-49	U	N	--	8	1944	P	D	--	0	
162N090W11BDD	U.S.G.S.	17	1	H	--	--	16	10-49	U	N	--	7	1944	P	D	--	0	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE OF LSO (FT.)	GW TYPE	LOG AVAIL-ABLE	TEMPER-ATURE (F)	FREQUENCY OF WATER-LEVEL MEASU-REMENTS	TOTAL DEPTH
162N09W11CCB	U.S.B.R.	24	1	H	--	--	13	9-49	U	N	--	7	1950	P	D	--	0	
162N09W11CCC	U.S.G.S.	10	1	H	--	--	7	7-49	U	N	--	6	1942	P	D	--	0	
162N09W11CDD	U.S.G.S.	22	1	H	--	--	7	7-49	U	N	--	3	1942	P	D	--	0	
162N09W11DDA	U.S.B.R.	14	3	H	--	--	6	11-49	U	N	--	7	1942	P	D	--	0	
162N09W11DDC	U.S.B.R.	24	3	H	--	--	9	11-49	U	N	--	6	1944	P	D	--	0	
162N09W12ABA	U.S.B.R.	22	3	H	--	--	10	9-49	U	N	--	4	1933	P	D	--	0	
162N09W12ACC	U.S.G.S.	17	1	H	--	--	13	10-49	U	N	--	5	1942	P	D	--	0	
162N09W12ADA	U.S.B.R.	24	3	H	--	--	9	9-49	U	N	--	7	1933	P	D	--	0	
162N09W12ADD	U.S.G.S.	22	3	H	--	--	--	--	U	N	--	--	1937	--	D	--	N	
162N09W12AAB	U.S.B.R.	16	3	H	--	--	10	9-49	U	N	--	4	1934	--	D	--	0	
162N09W12BBB	U.S.G.S.	20	1	H	--	--	12	9-49	U	N	--	7	1941	P	D	--	0	
162N09W12BCC	U.S.G.S.	17	1	H	--	--	13	9-49	U	N	--	8	1943	P	D	--	0	
162N09W12DAD	U.S.B.R.	19	3	H	--	--	10	9-49	U	N	--	6	1936	P	D	--	0	
162N09W12DDD	U.S.G.S.	18	1	H	--	--	14	10-49	U	N	--	7	1940	P	D	--	0	
162N09W13AAD	U.S.B.R.	22	3	H	--	--	9	9-49	U	N	--	7	1940	P	D	--	0	
162N09W13ABA	U.S.B.R.	24	3	H	--	--	13	9-49	U	N	--	7	1944	P	D	--	0	
162N09W13ADD	U.S.G.S.	10	1	H	--	--	10	10-49	U	N	--	6	1936	P	D	--	0	
162N09W13BAA	U.S.G.S.	20	1	H	--	--	13	10-49	U	N	--	6	1942	P	D	--	0	
162N09W13BBA	U.S.B.R.	14	3	H	--	--	10	9-49	U	N	--	7	1940	P	D	--	0	
162N09W13BBC	U.S.B.R.	16	3	H	--	--	9	9-49	U	N	--	7	1944	P	D	--	0	
162N09W13DAD	U.S.B.R.	17	3	H	--	--	9	9-49	U	N	--	8	1934	P	D	--	0	
162N09W13DBB	U.S.G.S.	18	1	H	--	--	10	11-49	U	N	--	2	1946	P	D	--	0	
162N09W13DDA	M. PEPPER	190	4	--	--	--	10	--	K	P	S	6	--	K	--	46	N	
162N09W13DDD	U.S.G.S.	17	1	H	--	--	11	10-49	U	N	--	7	1944	P	D	--	0	
162N09W14AAA	U.S.G.S.	18	1	H	--	--	11	10-49	U	N	--	--	1940	--	D	--	0	
162N09W14ADD	U.S.G.S.	10	1	H	--	--	7	8-49	U	N	--	4	1949	P	D	--	0	
162N09W14BBA	U.S.B.R.	24	3	H	--	--	8	9-49	U	N	--	8	1944	P	D	--	0	
162N09W14BDD	U.S.G.S.	16	1	H	--	--	13	9-49	U	N	--	--	1961	--	D	--	0	
162N09W14DCC	U.S.G.S.	12	1	H	--	--	10	9-49	U	N	--	6	1953	P	D	--	0	
162N09W14DDA	U.S.B.R.	18	3	H	--	--	11	9-49	U	N	--	6	1953	P	D	--	0	
162N09W14DDC	U.S.B.R.	24	3	H	--	--	9	11-49	U	N	--	5	1948	P	D	--	0	
162N09W14DDD	U.S.G.S.	23	1	H	--	--	11	11-49	U	N	--	6	1952	P	D	--	0	
162N09W15AAB	U.S.B.R.	22	3	H	--	--	15	11-49	U	N	--	7	1952	P	D	--	0	
162N09W15ABB	U.S.G.S.	12	1	H	--	--	10	8-49	U	N	--	6	1945	P	D	--	0	
162N09W15ADA	U.S.B.R.	19	3	H	--	--	8	11-49	U	N	--	8	1948	P	D	--	0	
162N09W15BDB	U.S.B.R.	8	3	H	--	--	9	9-49	U	N	--	7	1945	P	D	--	0	
162N09W15BDD	U.S.G.S.	16	1	H	--	--	12	10-49	U	N	--	5	1957	P	D	--	0	
162N09W15CBB	U.S.G.S.	12	1	H	--	--	6	7-49	U	N	--	8	1948	P	D	--	0	
162N09W15CDB	U.S.B.R.	24	3	H	--	--	10	11-49	U	N	--	7	1953	P	D	--	0	
162N09W15CC	J. BUSKE	236	2	H	--	--	--	--	K	P	6	6	1956	P	--	--	N	

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LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE OF LSD (FT.)	OW TYPE	LOG AVAIL-ABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH	
162N090W15CDC	U.S.B.R.	24	3	H	--	--	17	11-49	U	N	--	7	1963	P	D	--	D		
162N090W150AA	U.S.G.S.	24	1	H	--	--	19	11-49	U	N	--	6	1957	P	D	--	O		
162N090W150AD	U.S.B.R.	22	3	H	--	--	16	11-49	U	N	--	6	1965	P	D	--	O		
162N090W150CC	J.NYGAARD	60	6	H	--	--	40	7-46	S	P	--	6	1958	P	--	--	O		
162N090W150CD	U.S.B.R.	24	3	H	--	--	15	11-49	U	N	--	7	1966	P	D	--	O		
162N090W16CC	U.S.G.S.	195	5	H	--	--	23	7-47	U	N	--	--	1958	--	D	--	D		
162N090W160DD	U.S.G.S.	10	1	H	--	--	7	7-49	U	N	--	5	1952	P	D	--	O		
162N090W19AAD1	T.OLSDN	125	4	C	1941	OG 51	--	--	S	P	S	6	--	K	--	43	N		
162N090W19AAD2	T.OLSDN	201	4	C	1965	TL OC	--	--	H	S	S	6	--	K	--	--	N		
162N090W22AAA	U.S.G.S.	12	1	H	--	--	7	8-49	U	N	--	5	1954	P	D	--	O		
162N090W228AA	U.S.G.S.	24	1	H	--	--	11	11-49	U	N	--	3	1958	P	D	--	O		
162N090W23AAD	D.FERM	30	24	--	--	--	23	--	S	--	--	--	--	--	--	--	N		
162N090W238BA	U.S.B.R.	20	3	--	--	--	9	1-50	U	N	--	--	1966	--	D	--	O		
162N090W238DD	L.HANSEN	200	2	C	1949	TL OC	6	--	K	P	S	6	--	K	--	43	N		
162N090W24AAB	U.S.B.R.	22	3	H	--	--	--	--	U	N	--	6	1950	P	D	--	N		
162N090W248AA	U.S.G.S.	24	1	H	--	--	11	10-49	U	N	--	6	1948	P	D	--	O		
162N090W248AB	U.S.B.R.	24	3	H	--	--	7	9-49	U	N	--	6	1944	P	D	--	O		
162N090W30AD	H.PETERS ET.AL.	80	4	H	--	--	26	6-46	K	P	6	6	1967	P	--	--	O		
162N090W300D	W.KUNDIGER	80	4	H	--	--	34	6-46	K	P	6	5	1970	P	--	--	O		
162N090W31ADD1	R.HINDS	42	14	B	--	TL OC	22	--	S	P	S	7	--	K	--	41	N		
162N090W31ADD2	R.HINDS	76	4	C	1952	TL OC	12	--	K	J	S	6	--	K	--	--	N		
162N090W310D	M.PETERSON	80	5	H	--	TL OC	10	6-46	--	--	--	5	1953	P	--	--	O		
162N090W328A	G.BERG	65	6	H	--	--	22	7-46	K	P	6	6	1961	P	--	--	O		
162N090W338AA	N.NELSON	96	4	--	--	--	26	--	K	--	--	--	--	--	--	--	N		
162N090W330D	P.PETERSON	120	4	H	--	--	20	7-46	K	P	6	6	1955	P	--	--	O		
162N090W340DA	L.FUNK	45	6	--	--	--	25	--	K	--	--	6	--	P	--	--	N		
162N090W340DD	N.D.S.W.C.	20	--	--	1952	--	--	--	U	--	--	--	1950	--	D	--	--	N	
162N090W35ADA	R.PETERSON	55	6	B	1910	TL OC	15	--	K	P	S	6	--	K	--	41	N		
162N090W36ADD	H.MAGEDANZ	236	4	--	1920	TL OC	30	--	K	P	S	5	--	K	--	43	N		
162N091W018AA	W.PETERSON	285	6	--	--	TL OC	80	--	H	--	--	--	--	--	--	--	N		
162N091W03CAA	I.NELSON	50	12	--	--	--	38	--	K	--	--	--	--	--	--	--	N		
162N091W030D	C.KALLBERG	360	3	H	--	TL OC	--	--	K	P	6	6	1956	C	--	--	N		
162N091W03DDA	C.KALLBERG	170	3	--	--	TL OC	70	--	S	P	S	6	--	K	--	44	N		
162N091W040DD	A.KOSTAD	385	2	--	1912	TL OC	160	--	K	--	--	--	--	--	--	--	N		
162N091W05AA	W.MONSON	40	--	B	--	OG 51	28	6-46	S	P	6	6	1942	P	--	--	O		
162N091W058AB	H.SORENSEN	151	4	--	--	--	30	--	S	--	--	6	--	P	--	--	N		
162N091W05DD	W.HOLTE	74	2	H	--	TL OC	30	6-46	U	P	--	6	1960	P	--	--	O		
162N091W06AB	M.STAALESON	160	6	H	--	TL OC	100	6-46	K	P	6	6	1953	P	--	--	O		
162N091W06CBB	A.STAALESON	20	36	--	1905	OG 51	14	--	H	J	S	5	--	K	--	42	N		
162N091W06CCC	U.S.G.S.	80	--	H	1966	--	--	--	U	--	--	--	1973	--	OG	--	N		

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	OW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
162N091W088A	C. BLOM	231	3	H	--	TL OC	60	6-46	S	P	3	6	1960	P	--	--	O	
162N091W08DDA	E. BUNTING	135	3	C	1934	TL OC	35	--	S	P	5	6	--	K	--	43	N	
162N091W098AB	W. BERG	65	8	B	--	OG 51	10	--	--	P	6	5	--	K	--	42	N	
162N091W10AD	P. PETERSON	127	2	H	--	--	--	--	U	P	6	5	1951	P	--	--	N	
162N091W10DAD	N. UNDHJEM	40	18	B	1945	--	20	--	K	--	--	--	--	--	--	--	N	
162N091W11AA	C. BLOM	130	3	H	--	--	40	6-46	S	P	3	6	1955	P	--	--	O	
162N091W13AAA	F. INGERSON	107	2	--	1911	TL OC	15	--	K	--	--	--	--	--	--	--	N	
162N091W13CDD	F. SCHIELE	27	2	--	--	--	15	--	K	--	--	--	--	--	--	--	N	
162N091W13DC	J. LARSON	120	4	H	--	--	13	6-46	--	P	6	5	1949	P	--	--	O	
162N091W148C	D. BENGE	160	2	H	--	--	40	6-46	S	P	6	6	1953	P	--	--	O	
162N091W15ADA	D. BENGE	240	4	--	--	TL OC	25	--	K	--	--	--	--	--	--	--	N	
162N091W158B	O. HOSTBJOR	90	2	H	--	--	--	--	S	P	1	6	1948	P	--	--	N	
162N091W15DDO	V. NELSON	70	4	--	1955	TL OC	20	--	K	P	5	6	--	K	--	42	N	
162N091W17CB	A. FREDRICKSON	105	--	D	--	TL OC	7	6-46	U	P	--	6	1963	P	--	--	O	
162N091W1888B	J. ANDERSON	44	36	B	--	TL OC	3	6-67	S	P	5	6	--	K	--	42	O	
162N091W19CCA1	F. SAWYER	45	4	C	1953	TL OC	10G	--	S	P	5	6	--	K	--	43	N	
162N091W19CCA2	F. SAWYER	26	36	D	--	--	18	--	S	J	5	5	--	K	--	--	N	
162N091W20ABA	N. SCOTT	17	48	D	1958	--	15	--	K	--	--	--	--	--	--	--	N	
162N091W20CDD	U.S.G.S.	180	--	H	1968	--	--	--	U	--	--	--	1939	--	GE	--	N	180
162N091W21AB	H. BUNTING	195	3	H	--	TL OC	20	6-46	S	P	3	6	1937	P	--	--	O	
162N091W23CDD	A. MYREN	26	18	B	1952	--	10	--	H	J	5	6	--	K	--	42	N	
162N091W24AAA	U.S.G.S.	38	1	H	1967	OG 51	8	8-67	U	N	--	5	1940	C	GE	46	N	280
162N091W25AD		120	--	H	--	TL OC	50	9-45	H	P	--	6	1945	P	--	--	O	
162N091W25ADD1	FAIRVIEW HILL	94	5	--	1921	TL OC	6	6-67	--	P	1	5	--	K	--	44	O	
162N091W25ADD2	COMMUNITY HALL	54	5	--	--	TL --	1	6-67	H	P	1	5	--	K	--	--	O	
162N091W25DD	H. LUCKMAN	80	4	H	--	TL OC	8	6-46	K	P	6	6	1958	P	--	--	O	
162N091W26CB8	N. RYKKEN	110	4	--	--	TL OC	F	--	K	--	--	--	--	--	--	--	N	
162N091W27AC	H. BUNTING	106	2	H	--	TL OC	40	6-46	K	P	5	6	1953	C	--	--	O	
162N091W33CB8	A. JOHNSON	45	3	C	1953	TL OC	15	--	U	P	1	6	--	K	--	43	N	
162N091W348D	A. JOHNSON	10C	6	H	--	TL OC	30	6-46	K	P	6	6	1969	P	--	--	O	
162N092W01BCC	U.S.G.S.	260	--	H	1967	--	--	--	U	--	--	--	1960	--	GE	--	N	260
162N092W01CC	M. CAMPBELL	41	4	--	--	--	24	--	H	--	--	--	--	--	--	--	N	
162N092W02CB8	U.S.G.S.	38	1	H	1966	OG 31	27	8-66	U	--	--	--	1968	--	GE	--	N	160
162N092W02CDD1	U.S.G.S.	8C	--	H	1966	--	--	--	U	--	--	--	1967	--	GE	--	N	80
162N092W02CDD2	U.S.G.S.	42	4	H	1967	OG 31	27	6-67	U	--	--	--	1967	--	--	--	N	42
162N092W02DDA	H. HERHANSON	42	30	--	--	--	35	--	K	--	--	--	--	--	--	--	N	
162N092W03ADD	S. RIESTAD	70	3	--	--	--	40	--	H	--	--	--	--	--	--	--	N	
162N092W03DDA1	C. CHRISTIANSON	70	5	C	1960	--	15	--	C	J	5	5	--	K	--	--	N	
162N092W03DDA2	C. CHRISTIANSON	4C	12	B	--	--	--	--	U	P	1	4	--	K	--	44	N	
162N092W04DDO	U.S.G.S.	80	--	H	1967	--	--	--	U	--	--	--	1950	--	GE	--	N	80

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPE-CIFIC CON-DUCT ANCE	ALTI-TUDE-OF L50 (FT.)	OW TYPF	LOG AVAIL-ABLE	TEM-PER-ATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
162N093M20CC	KINCAID MINE	180	6	H	--	--	F	5-47	D	--	--	6	2028	P	--	--	N	
162N093M24BAA	J.BUSCH	180	4	--	--	TL OC	20	--	S	--	--	6	--	P	--	--	N	
162N093M26CCC1	J.GRANUD	18	12	D	1924	--	12	--	H	P	1	4	--	K	--	38	N	
162N093M26CCC2	J.GRANRUO	275	2	--	1906	TL OC	60	--	K	P	5	6	--	P	--	--	N	
162N093M27AD	T.WESTERNESS	160	2	H	--	--	--	--	P	--	6	6	2021	--	--	--	N	
162N093M27ADA	T.WESTERNESS	85	4	--	--	--	30	--	K	--	--	--	--	--	--	--	N	
162N093M31DB	G.WATTERUD	170	3	H	--	--	--	--	S	P	6	6	2235	P	--	--	N	
162N093M32ADC	M.YOUNG	55	14	B	--	--	--	--	H	P	5	5	--	K	--	43	N	
162N093M32BAA	A.BENSON	26	12	B	--	--	6	--	K	--	--	--	--	--	--	--	N	
162N093M33DA	G.ELIE	100	18	B	--	--	--	--	S	P	6	6	2138	P	--	--	N	
162N093M34AAB1	K.RUDE	83	4	C	1956	TL OC	50	--	K	J	5	6	--	K	--	--	N	
162N093M34AAB2	K.RUDE	349	4	H	1951	--	94	6-66	U	N	--	--	--	--	--	--	O	
162N093M35CAB	N.OAS	80	18	B	--	--	18	--	K	--	--	--	--	--	--	--	43	N
162N094M01DDC	A.ULSRUD	17	36	D	--	--	13	--	K	J	5	5	--	K	--	43	N	
162N094M02AAD	G.JOHNSON	107	4	C	1947	TL OC	70	--	S	--	S	6	--	K	--	43	N	
162N094M02BAB	M.DIHLE	70	12	--	--	--	12	--	K	--	--	--	--	--	--	--	N	
162N094M03BB	U.S.G.S.	100	5	H	--	--	2	6-47	U	N	--	--	1923	--	D	--	O	
162N094M09CCC	D.DLSON	30	12	P	--	--	10	--	K	--	--	--	--	--	--	--	N	
162N094M10CAD	R.ELY	201	3	C	1932	--	12	--	H	J	5	6	--	K	--	43	N	
162N094M11CCD	R.IVERSON	300	4	C	1917	--	13	--	H	J	5	6	--	K	--	44	N	
162N094M13DDC	A.ULSRUDE	20	36	D	--	--	14	--	K	--	--	--	--	--	--	--	N	
162N094M22ADC	M.WITTY	12	36	D	--	--	5	--	H	--	--	--	--	--	--	--	N	
162N094M26ABB	N.FAGERBAKKE	9	24	D	1948	--	5	--	H	C	5	5	--	K	--	46	N	
162N094M28DDC	R.PETERSON	310	3	C	--	TL OC	210	--	K	P	5	6	--	K	--	46	N	
162N094M29AAA	U.S.G.S.	160	--	H	1967	--	--	--	U	--	--	--	2210	--	GE	--	N	160
162N094M33AAA	T.WITTY	382	3	--	--	TL OC	246	6-67	S	P	5	5	--	--	--	--	O	
162N094M33CCC	G.BURAU	295	4	--	--	TL OC	80	--	K	--	--	--	--	--	--	--	N	
162N094M34BB	A.WITTY	65	4	--	--	--	53	--	S	--	--	--	--	--	--	--	N	
163N088M01CB	E.JOHNSON	180	4	H	--	--	70	7-46	K	P	6	6	1852	P	--	--	O	
163N088M02BB	C.OLNEY	125	4	H	--	--	73	7-46	K	P	6	6	1860	P	--	--	O	
163N088M02BBB	C.OLNEY	300	4	H	1933	--	30	--	K	P	5	6	--	K	--	43	N	
163N088M04BB	T.KNUTSON	120	3	H	--	--	80	7-46	K	P	--	6	1859	C	--	--	O	
163N088M04BBB	T.KNUTSON	180	4	C	1905	--	20	--	K	P	5	6	--	K	--	--	N	
163N088M08BA	F.NOEN	200	4	M	--	--	68	7-46	K	P	6	5	1859	P	--	--	O	
163N088M14CCC	R.EMMEL	40	18	B	1914	QO 51	10	6-66	S	P	1	6	--	K	--	42	O	
163N088M09DAD	M.NELSON	12	18	B	1949	OG 31	8	--	H	P	1	3	--	K	--	--	N	
163N088M11CCC	U.S.G.S.	120	--	H	1966	--	--	--	U	--	--	--	1868	--	GE	--	N	
163N088M12AAA	T.GILBERTSEN	395	4	--	1916	--	--	--	S	P	5	6	--	K	--	43	N	120
163N088M19AC	J.KALLBERG	200	2	H	--	--	30	--	S	P	5	6	1870	P	--	--	O	
163N088M19DC	G.SWENSON	212	3	H	--	--	48	9-45	K	P	6	5	1874	P	--	--	O	

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LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	OW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
163N088W24BB	G. FOX	440	2	H	--	--	61	7-46	U	P	6	6	1858	C	--	--	D	
163N088W25CCB	K. BEISCHLE	22	22	B	--	--	8	--	K	--	--	--	--	--	--	--	N	
163N088W26AD	W. KALMBACH	40	4	H	--	--	23	7-46	K	P	6	5	1861	P	--	--	D	
163N088W28DD	E. BAIR	200	6	H	--	--	44	7-46	K	P	6	6	1857	C	--	--	D	
163N088W29BB	W. SWENSON	180	2	H	--	--	40	7-46	S	P	6	6	1869	P	--	--	D	
163N088W30DC	E. NELSON	140	2	H	--	--	50	7-46	K	P	6	6	1881	P	--	--	D	
163N088W32BA	A. BAUER	180	2	H	--	--	60	7-46	S	P	6	6	1871	P	--	--	D	
163N088W33BB	E. GINS	101	4	H	--	--	40	7-46	K	P	6	6	1866	P	--	--	D	
163N088W35DAA	M. WADE	464	4	C	1962	--	50	4-67	K	S	5	6	--	C	--	--	D	
163N089W04BCB	D. BURKE	90	2	C	--	TL OC	23	--	U	P	1	6	--	K	--	45	N	
163N089W05BC	F. FREED	180	2	H	--	--	90	9-45	K	P	3	6	1872	P	--	--	D	
163N089W06BCD	J. PETERSON	115	2	C	--	--	70	--	S	P	5	6	--	K	--	44	N	
163N089W07BC	B. BAIR	200	5	H	--	--	110	7-46	S	P	6	6	1901	P	--	--	D	
163N089W08AD	J. EMERSON	193	5	H	--	--	79	7-46	K	P	6	6	1893	C	--	--	D	
163N089W08BB	G. GANSKOP	170	4	H	--	--	100	7-46	K	P	6	6	1896	P	--	--	D	
163N089W10BBB	U. S. G. S.	100	--	H	1967	--	--	--	U	--	--	--	1870	--	GE	--	N	100
163N089W10DCD	G. GUERDETTE	12	42	--	--	--	8	--	H	--	--	--	--	--	--	--	N	
163N089W10DDD	U. S. G. S.	140	--	H	1966	--	--	--	U	--	--	--	1882	--	DC	--	N	140
163N089W11ACD	T. GASHUM	10	60	D	--	--	5	--	K	--	--	--	--	--	--	--	N	
163N089W130AA1	C. OLSON	12	24	B	--	--	8	6-66	H	J	P	3	--	K	--	45	D	
163N089W130AA2	C. OLSON	10	24	--	--	--	9	6-66	S	--	--	5	--	K	--	41	D	
163N089W17ADD	C. KNUDSON	200	4	C	1965	--	80	--	S	P	5	6	--	K	--	44	N	
163N089W17DA	U. S. G. S.	300	5	H	--	--	6	7-47	U	N	--	--	1876	--	D	--	D	
163N089W188CA	T. HARM	22	24	B	--	--	15	--	H	--	--	--	--	--	--	--	N	
163N089W198BB	A. GANSKOP	190	4	C	1954	--	150	--	K	P	5	6	--	K	--	--	N	
163N089W210BB	N. D. S. W. C.	240	--	--	1950	--	--	--	U	--	--	--	1903	--	D	--	N	
163N089W210C	M. KNUTSON	300	4	H	--	TL OC	--	--	U	P	6	6	1909	P	--	--	N	
163N089W210AA	W. SWENSON	130	2	--	--	--	80	--	K	--	--	--	--	--	--	--	N	
163N089W22CCD	O. PETERSON	240	2	--	--	--	90	--	K	--	--	6	--	P	--	--	D	
163N089W23DD	E. KIELHACK	126	2	H	--	--	60	7-46	K	P	6	6	1884	P	--	--	D	
163N089W24CC	E. KIELHACK	195	2	H	--	--	90	7-46	S	P	--	6	1887	P	--	--	D	
163N089W24DC	H. HANSON	150	4	H	--	--	50	7-46	K	P	6	6	1881	P	--	--	D	
163N089W25AD	G. SWENSON	200	6	H	--	--	52	7-46	S	P	6	6	1881	C	--	--	D	
163N089W25CB	B. BAIR	167	2	H	--	--	40	7-46	S	P	6	6	1898	P	--	--	C	
163N089W26ABB1	G. SWENSON	130	4	C	1964	--	40	--	K	P	5	6	--	K	--	--	N	
163N089W26ABB2	G. SWENSON	120	2	--	--	--	65	6-66	U	--	--	--	--	--	--	--	D	
163N089W26DDD	U. S. G. S.	120	--	H	1967	--	--	--	U	--	--	--	1900	--	GE	--	N	120
163N089W27DA	S. COONS	132	2	H	--	--	100	7-46	K	P	6	6	1920	P	--	--	D	
163N089W28BC	R. SWENSON	186	4	H	--	--	138	7-46	S	P	6	6	1916	P	--	--	D	
163N089W29ADD	N. D. S. W. C.	170	--	--	1950	--	--	--	U	--	--	--	1925	--	D	--	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	ON TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
163ND9W31CC	U.S.G.S.	21	1	H	--	--	9	9-49	U	N	--	--	1933	--	D	--	O	
163ND9W33DB	B.HASS	185	4	C	1960	--	60	--	S	P	S	6	--	K	--	44	H	
163ND9W33DC	B.HASS	200	2	H	--	--	50	7-46	K	P	6	6	1922	P	--	--	O	
163ND9W34CAC1	F.PETERSON	188	4	C	1965	--	75	--	K	S	S	6	--	K	--	--	N	
163ND9W34CAC2	F.PETERSON	190	3	--	1944	--	75	--	S	P	S	6	--	K	--	43	N	
163ND9W35CD	V.MASTERS	380	2	H	--	TL OC	--	--	U	P	6	5	1907	P	--	--	N	480
163ND9W36000	U.S.G.S.	490	--	H	1966	--	--	--	U	--	--	--	1895	--	GE	--	N	
163ND9W04CBC	A.SMITH	14	48	D	1932	--	2	--	U	N	--	--	--	--	--	--	N	
163ND9W04CCA	A.SMITH	114	3	C	1941	--	45	--	S	P	S	6	--	K	--	43	N	
163ND9W04CCB	A.SMITH	25	48	D	1908	--	13	--	H	P	1	5	--	K	--	43	N	
163ND9W07DB	V.JENSON	120	4	H	--	--	50	6-46	S	P	6	6	1928	P	--	--	O	
163ND9W089C	L.JENSEN	150	2	H	--	--	20	9-45	K	P	3	6	1940	P	--	--	O	
163ND9W08CC	J.JACOBSON	300	2	H	--	--	210	6-46	S	P	6	6	1940	P	--	--	O	
163ND9W08DA	D.SMITH	290	2	H	--	TL OC	100	6-46	S	P	6	6	1935	P	--	--	O	
163ND9W098B	E.MCCLOFFLIN	294	2	H	--	--	80	6-46	S	P	6	6	1927	P	--	--	O	
163ND9W108B	S.TOHM	240	2	H	--	--	80	6-46	S	P	--	6	1921	P	--	--	O	
163ND9W140AD	J.JORGENSEN	200	3	C	1958	TL OC	90	--	K	P	S	6	--	K	--	--	N	
163ND9W15CC	U.S.G.S.	230	5	H	--	--	4	7-47	U	N	--	--	1926	--	D	--	O	
163ND9W17DA	J.JACOBSON	235	3	H	--	--	100	6-46	K	P	6	6	1941	P	--	--	O	
163ND9W180D01	R.PETERSON	20	18	B	--	--	--	--	H	P	1	6	--	K	--	--	N	
163ND9W180D02	R.PETERSON	300	3	C	1956	--	150	--	S	P	S	6	--	K	--	42	N	
163ND9W198B	W.MURPHY	285	2	--	--	TL OC	200	--	S	--	--	--	--	--	--	--	N	
163ND9W198C	W.MURPHY	387	2	H	--	TL OC	100	9-45	S	P	6	6	1953	P	--	--	O	
163ND9W208AC	R.LARSEN	285	2	--	--	--	140	--	K	--	--	--	--	--	--	--	N	
163ND9W20CC	N.HYGAARD	365	2	H	--	TL OC	114	6-46	K	P	6	6	1945	P	--	--	O	
163ND9W21CC	M.SKEEN	280	3	H	--	--	80	6-46	S	P	6	6	1941	P	--	--	O	
163ND9W228CC	A.NELSON	206	4	C	1965	TL OC	120	--	S	P	S	6	--	K	--	--	N	
163ND9W22DC	A.LARSON	210	4	H	--	--	90	6-46	S	P	6	6	1935	P	--	--	O	
163ND9W248C	C.CARTER	175	2	H	--	--	50	9-45	K	P	6	6	1923	P	--	--	O	
163ND9W24CB	A.LARSON	412	3	H	--	--	85	7-46	K	P	6	6	1933	P	--	--	O	
163ND9W26000	M.RAWN	200	2	C	--	--	78	7-46	S	P	S	6	--	K	--	42	O	
163ND9W289C	A.SORENSEN	265	2	H	--	--	150	6-46	S	P	6	6	1943	P	--	--	O	
163ND9W29CBA	M.KALWBACH	30	24	B	1963	--	15	--	K	P	S	5	--	K	--	41	N	
163ND9W30C001	J.ROSE	32	18	B	1945	--	17	6-46	S	P	S	6	--	K	--	42	O	
163ND9W30C002	J.ROSE	60	24	B	1943	--	58	6-46	U	P	--	--	--	--	--	--	O	
163ND9W300AD	U.S.G.S.	240	--	H	1968	--	--	--	U	--	--	--	1946	--	GE	--	N	260
163ND9W31CCC	U.S.G.S.	235	5	H	--	--	21	7-47	U	N	--	--	1934	--	D	--	O	
163ND9W318AA	FLAXTON	290	8	H	1958	--	70	--	P	N	U	6	--	C	--	47	N	
163ND9W3288B	C.LIND	24	18	B	--	--	10	--	K	--	--	--	--	--	--	--	N	
163ND9W32CBC	FLAXTON	715	8	H	1951	TL OC	149	2-66	P	N	U	6	--	C	D	56	O	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF L.S.D. (FT.)	OWN TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER LEVEL MEASUREMENTS	TOTAL DEPTH
163N090W32DB	A. JENSON	212	3	H	--	--	120	6-66	S	P	6	6	1935	P	--	--	O	
163N090W33CD	A. EGGERT	200	3	H	--	--	100	6-66	K	P	6	6	1930	P	--	--	O	
163N090W34AA01	H. KNIGHT	42	1 1/2	B	1949	--	23	6-66	S	P	S	6	--	K	--	41	O	
163N090W34AA02	H. KNIGHT	280	2	C	1910	--	--	--	U	--	--	5	--	K	--	43	N	
163N090W34BC	E. ANDERSON	298	3	H	1646	TL OC	85	6-66	S	P	3	6	1945	P	--	--	O	
163N090W34CBC	A. CHRISTIANSEN	300	4	H	1948	OG 51	70	--	K	P	S	6	--	K	--	43	N	
163N090W34000	U.S.G.S.	22	1	H	--	--	10	8-49	U	N	--	6	1946	C	F	--	O	
163N090W36C8	U.S.G.S.	235	5	H	--	--	20	7-47	U	N	--	--	1013	--	D	--	O	
163N090W36CC	U.S.G.S.	24	1	H	--	--	24	11-49	U	N	--	5	1938	P	D	--	O	
163N091W01A0A1	G. ALTRINGER	500	2	--	1909	--	55	--	U	P	--	--	--	--	--	--	N	
163N091W01A0A2	G. ALTRINGER	23	24	B	1947	OG 31	12	--	H	P	1	6	--	K	--	41	N	
163N091W02B0C	F. CARPENTIER	30	4 1/2	--	--	--	10	--	K	--	--	--	--	--	--	--	N	
163N091W04BB0	U.S.G.S.	460	--	H	1967	--	--	--	U	--	--	--	1940	--	GE	--	N	
163N091W040001	F. SWENSON	38	12	R	1947	--	15	8-65	K	P	1	--	--	--	O	--	N	460
163N091W040002	F. SWENSON	72	18	R	1910	--	35	10-65	U	P	1	--	--	--	--	--	O	
163N091W06B0C	R. BALLANTYNE	30	4 1/2	D	--	--	20	--	U	--	--	--	--	--	--	--	N	
163N091W07B0	A. BRATSBERG	140	4	H	--	--	100	6-66	S	P	6	8	1944	C	--	--	O	
163N091W0900B1	E. CARPENTER	26	24	B	--	--	19	--	S	D	S	7	--	K	--	41	N	
163N091W0900B2	E. CARPENTER	400	3	C	--	TL OC	200	--	U	P	6	--	--	--	--	--	N	
163N091W130CD	A. BIRD	250	4	--	--	TL OC	40	--	K	--	--	--	--	--	--	--	N	
163N091W15C8	G. GUDMAN	700	3	H	--	--	--	--	U	P	6	6	1945	P	--	--	N	
163N091W15C0B	M. SORUM	24	18	B	--	--	8	--	H	P	1	4	--	K	--	42	N	
163N091W21AA	U.S.G.S.	170	5	H	--	--	4	7-47	U	N	--	--	1939	--	D	--	O	
163N091W21CC	M. OLSON	283	4	C	1910	--	250	--	S	P	--	6	--	P	--	--	N	
163N091W22AD	A. BIEVERSBERG	190	12	H	--	TL OC	140	6-66	K	P	6	6	1950	P	--	--	O	
163N091W230CB	M. SORUM	118	4	H	1960	OG 51	105	--	U	P	--	--	--	--	--	--	N	
163N091W230CC	M. SORUM	35	--	B	1951	OG 51	30	--	H	P	S	4	--	K	--	42	N	
163N091W24AD	H. BIRD	17	36	D	--	--	6	--	K	--	--	--	--	--	--	--	N	
163N091W26AD	R. NELSON	32	30	D	--	--	15	--	K	P	S	6	--	K	--	43	N	
163N091W28DD	M. SCHELDROP	165	3	H	--	TL OC	100	6-66	S	P	6	6	1950	P	--	--	O	
163N091W29DC	J. NELSON	180	3	H	--	TL OC	--	--	S	P	1	6	1947	P	--	--	N	
163N091W290CD1	J. NELSON	16	22	D	1920	OG 31	8	--	H	P	S	5	--	K	--	--	N	
163N091W290CD2	J. NELSON	26	48	D	1960	--	18	--	S	P	S	--	--	--	--	41	N	
163N091W32BC	H. NELSON	150	3	H	--	--	100	6-66	S	P	3	6	1946	P	--	--	O	
163N091W330D1	L. NYGAARD	40	1 1/2	B	1956	--	23	6-66	H	S	S	6	--	K	--	49	O	
163N091W330D2	L. NYGAARD	52	1 1/2	B	--	--	--	--	S	P	S	6	--	K	--	42	N	
163N091W34B0	B. SORUM	179	4	H	--	--	88	6-66	U	P	6	6	1946	P	--	--	O	
163N091W35AAC1	M. PETERSON	20	15	B	1946	--	10	--	H	P	1	5	--	K	--	44	N	
163N091W35AAC2	M. PETERSON	275	6	C	1917	OG 51	60	--	K	P	F	6	--	P	--	--	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TUDE-OF LSD (FT.)	OW TYPE	LOG AVAIL-ABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
163N091M35CD	T. POSHAL	100	5	H	--	--	14	9-45	K	P	--	5	1951	P	--	--	O	
163N092M01DAA	C. BRATSBURG	211	3	--	1940	TL OC	70	--	S	P	S	6	--	K	--	43	N	
163N092M02BA	C. BRATSBURG	175	3	H	--	--	--	--	U	P	6	6	1962	P	--	--	N	
163N092M04AB	N. CLINGHOLGER	75	10	B	--	--	56	6-46	S	P	6	7	1950	P	--	--	O	
163N092M04DD	M. ANDERSON	110	12	B	--	--	18	6-46	S	P	--	7	1942	P	--	--	O	
163N092M05CCC	H. BUSCH	48	15	B	--	--	10	--	K	--	--	--	--	--	--	--	N	
163N092M08DDD	U. S. G. S.	160	--	H	1968	--	--	--	U	--	--	--	1930	--	GE	--	N	160
163N092M09CCA	NICKEY EST.	45	18	B	--	--	15	8-65	U	P	1	--	1929	--	--	--	N	
163N092M10ADD1	D. HANBAKER	150	4	C	1955	--	66	--	K	P	S	6	--	K	--	45	N	
163N092M10ADD2	D. HANBAKER	24	12	B	--	--	14	6-66	U	N	--	5	1942	K	--	--	O	
163N092M11AA	M. SKALICKY	160	6	H	--	--	74	6-46	K	P	6	6	1942	P	--	--	O	
163N092M11BAB	J. ABRAHAM	32	12	B	--	--	9	6-66	U	N	--	--	--	--	--	--	O	
163N092M148BB	U. S. G. S.	400	--	H	1967	--	--	--	U	--	--	--	1938	--	GE	--	N	400
163N092M15BB	RUPPERT	200	6	H	--	--	65	6-46	--	P	--	6	1929	C	--	--	O	
163N092M1588B1	L. NESS	20	36	D	1957	--	15	--	H	J	S	6	--	K	--	--	N	
163N092M1588B2	L. NESS	265	6	--	--	--	100	--	U	P	--	--	--	--	--	--	N	
163N092M188AD	I. NYREEN	32	16	B	--	--	15	--	H	--	--	--	--	--	--	--	O	
163N092M188B1	M. KLEPPEN	20	18	B	--	--	5	6-66	U	N	--	--	--	--	--	--	O	
163N092M188B2	M. KLEPPEN	72	18	B	--	--	40	6-66	S	J	S	6	--	K	--	--	O	
163N092M20DDD	U. S. G. S.	220	--	H	1966	--	--	--	U	--	--	--	1934	--	GE	--	N	220
163N092M21AA	U. S. G. S.	295	5	H	--	--	7	8-47	U	N	--	--	1927	--	D	--	O	
163N092M210CC	J. NESS	244	4	--	1912	TL OC	50	--	H	P	6	5	--	C	--	46	N	
163N092M23AAD	R. FALCH	24	48	D	1909	--	19	--	K	--	--	6	--	C	--	--	N	
163N092M23CD	M. KOSTAD	170	3	H	--	--	--	--	K	P	6	6	--	P	--	--	N	
163N092M24DAA	R. BLEY	18	36	D	--	OG 31	9	8-65	U	P	1	5	1927	K	--	47	M	
163N092M24ADA	J. GREENFIELD	95	4	C	--	--	23	--	U	P	6	5	--	P	--	--	N	
163N092M26DDA	R. L. JUNGREN	23	15	B	--	--	4	--	H	--	--	--	--	--	--	--	N	
163N092M28DDD	U. S. G. S.	220	--	H	1966	--	--	--	U	--	--	--	1950	--	GE	--	N	220
163N092M30CCD	NYGAARD EST.	16	28	D	--	--	9	6-66	H	J	S	4	--	K	--	--	O	
163N092M31ADD	F. BECK	50	18	B	1930	--	20	--	H	P	1	5	--	K	--	43	N	
163N092M32DDD	U. S. G. S.	80	--	H	1967	--	--	--	U	--	--	--	1947	--	GE	--	N	80
163N092M33CDC	L. BLY	23	24	D	--	--	11	--	H	J	S	4	--	K	--	--	N	
163N092M33DDC	M. BYWATER	18	36	D	--	OG 31	10	--	U	--	--	--	--	--	--	--	N	
163N092M348A	ATLANTIC REF	6281	--	--	1958	--	--	--	U	--	--	9	--	C	--	146	N	
163N092M348AB	D. BLY	22	36	--	--	OG 31	8	--	H	--	--	--	--	--	--	--	N	
163N092M34DCC	WB. PIPE LINE CO	273	6	C	1960	--	65	--	N	--	--	--	1960	--	D	--	N	273
163N092M35CCC	C. MARTIN	64	24	B	--	OG 31	4	--	S	--	--	--	--	--	--	--	N	
163N092M35DDD	F. FALCK	24	18	B	1919	--	13	10-65	U	N	--	--	1955	--	--	--	M	
163N092M3688B	U. S. G. S.	200	--	H	1967	--	--	--	U	--	--	--	1940	--	GE	--	N	200

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QW TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
163N092H36CB	E.BLY	190	4	--	--	OG 51	20	--	H	--	--	--	--	--	--	--	N	
163N092H36DD	U.S.G.S.	120	5	H	--	--	6	8-47	U	N	--	--	1947	--	D	--	O	
163N093W01ADA	M.REISTAD	31	24	D	--	--	13	6-66	U	P	1	7	--	K	--	42	O	
163N093W058881	D.WATTERUD	14	12	--	--	OG 31	4	6-66	H	P	1	6	1902	K	--	41	O	
163N093W058882	D.WATTERUD	50	16	B	--	--	26	5-46	K	--	--	6	--	--	--	--	O	
163N093W060CB	E.PETERSON	255	2	C	1909	--	28	--	K	P	6	6	1907	K	--	43	N	
163N093W08AD	R.ULBERG	204	5	H	--	TL OC	73	5-46	S	P	3	6	1919	C	--	--	O	
163N093W08CCB	M.TYNDALL	30	18	B	--	--	15	8-65	U	P	1	--	1913	--	--	--	M	
163N093W090AB	M.NEGAARD	60	2	C	1910	--	36	6-66	U	N	--	7	--	P	--	--	O	
163N093W11DAA	G.T.GRANRUD	60	12	R	1915	OG 51	26	5-46	H	P	1	6	1921	K	--	42	O	
163N093W12AAA	L.DEWING	60	24	--	1916	--	25	--	H	--	--	--	--	--	--	--	N	
163N093W12BCD	R.CURTISS	90	18	B	--	--	30	--	H	--	--	5	--	P	--	--	N	
163N093W12CCD	D.CURTISS	63	18	B	--	--	33	--	H	--	--	--	--	--	--	--	N	
163N093W13AAA	U.S.G.S.	160	--	H	1967	--	--	--	U	--	--	--	1925	--	GE	--	N	160
163N093W14CDD	M.WATTERUD	332	4	--	1963	--	86	--	S	P	5	--	--	--	--	--	N	
163N093W170DD	U.S.G.S.	76	1	H	1967	OG 51	16	6-67	U	--	--	6	1917	C	DG	44	N	80
163N093W18AAA	N.D.S.W.C.	120	--	H	1967	--	--	--	U	--	--	--	1917	--	DG	--	N	120
163N093W19AAA	N.D.S.W.C.	460	--	H	1967	--	--	--	U	--	--	--	1916	--	DG	--	N	460
163N093W19ADD	N.D.S.W.C.	437	1	H	1967	OG 52	46	12-67	U	N	--	6	1919	C	DG	48	I	480
163N093W19CCD	N.D.S.W.C.	265	--	H	1967	--	--	--	U	--	--	--	1925	--	GE	--	N	265
163N093W19CCC1	N.D.S.W.C.	295	1	H	1967	OG 52	44	12-67	U	N	--	6	1916	C	GE	46	I	330
163N093W19CCC2	N.D.S.W.C.	290	1	H	1968	OG 52	51	9-68	U	N	--	--	1916	--	D	--	O	290
163N093W19DDA	N.D.S.W.C.	140	1	H	1967	OG 52	45	3-68	U	--	--	--	1923	C	G	46	I	260
163N093W19DDC	SALVESON BROS	160	3	C	1920	--	61	--	S	P	5	6	1923	K	--	42	N	
163N093W20AAA	U.S.G.S.	459	4	H	1967	OG 52	50	6-67	U	N	--	6	1919	C	GF	--	C	490
163N093W20BAB1	M.KOPPELSLOEN	269	4	C	1964	OG 52	70	--	K	S	5	5	--	K	--	45	N	
163N093W20BAB2	M.KOPPELSLOEN	180	4	C	1916	--	100	--	U	P	1	5	--	K	--	43	N	
163N093W20BB	M.KOPPELSLOEN	265	3	--	--	--	56	5-46	K	P	6	6	1925	P	--	--	O	
163N093W20CCC	N.D.S.W.C.	200	--	H	1967	--	--	--	U	--	--	--	1924	--	DG	--	N	200
163N093W21CBB	N.D.S.W.C.	172	1	H	1967	OG 52	47	4-68	U	N	--	6	1916	C	GE	45	I	240
163N093W22CAB	SMENSON EST.	172	6	H	1953	OG 51	52	12-67	U	--	--	6	--	C	--	46	O	
163N093W22CDD	U.S.G.S.	240	--	H	1967	--	--	--	N	--	--	--	1920	--	GE	--	N	240
163N093W23AA	U.S.G.S.	255	5	H	--	--	11	8-47	U	N	--	4	1918	P	D	--	O	
163N093W23AAA	M.WATTERUD	32	12	B	--	OG 31	20	--	H	J	5	3	--	K	--	--	N	
163N093W26CCD1	J.NYGAARD	34	12	B	1946	--	14	6-66	H	J	5	4	--	K	--	43	O	
163N093W26CCD2	J.NYGAARD	38	18	B	--	--	12	5-46	U	P	5	6	--	K	--	--	O	
163N093W28DDA	C.RINGHALL	110	2	C	1909	--	15	--	S	P	5	6	1932	K	--	43	N	
163N093W29CD	A.KOPPELSLOEN	200	5	H	--	--	36	5-46	S	P	6	6	1927	P	--	--	O	
163N093W29CDD	A.KOPPELSLOEN	132	4	--	--	TL OC	32	--	K	--	--	--	--	--	--	--	N	
163N093W29DD	Z.KVHERNUM	82	12	B	--	--	28	5-46	K	P	6	6	1929	C	--	--	O	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTI-TIDE OF LSD (FT.)	OW TYPF	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
163N093M29DD	U.S.G.S.	140	--	H	1966	--	--	--	U	--	--	--	1925	--	GF	--	N	140
163N093M3788A	D.HANSON	28	18	B	191A	--	13	--	S	P	S	6	--	K	--	41	N	
163N093M3088A1	COLUMBUS	305	8	H	1968	OG 52	46	8-68	P	T	U	--	1915	C	--	--	I	
163N093M3088B2	N.D.S.W.C.	300	1	H	1968	OG 52	48	8-68	U	--	--	--	1915	--	OG	--	I	300
163N093M3088B3	N.D.S.W.C.	460	1	H	1968	OG 52	47	8-68	U	--	--	--	1915	--	OG	--	I	479
163N093M30DCC	U.S.G.S.	100	--	H	1967	--	--	--	U	--	--	--	1924	--	GF	--	N	100
163N093M30DDO	N.D.S.W.C.	160	--	H	1967	--	--	--	U	--	--	--	1927	--	OG	--	N	160
163N093M318AA1	C.DARRAS	65	24	R	1947	--	25	--	S	P	S	6	--	K	--	41	N	
163N093M318AA2	C.DARRAS	38	12	R	--	--	11	6-66	U	P	T	6	1924	K	--	41	N	
163N093M329CD	COLUMBUS	315	6	C	1950	TL OC	--	--	P	S	T	--	1928	C	--	--	N	
163N093M328DC1	COLUMBUS	275	6	C	1957	TL OC	180	--	P	T	T	6	1930	C	--	40	N	
163N093M328DC2	COLUMBUS	250	6	C	1944	TL OC	--	--	P	S	T	--	1928	--	--	--	N	
163N093M328DD	COLUMBUS	252	8	H	1940	TL OC	117	5-67	U	N	--	--	1927	--	--	--	N	
163N093M333AB	L.ROMSNESS	40	18	B	--	--	36	5-46	S	P	--	7	1927	P	--	--	N	
163N093M340A	U.S.G.S.	150	5	H	--	--	6	8-47	U	N	--	--	1926	--	D	--	N	
163N093M36DD	U.S.G.S.	105	5	H	--	--	10	8-47	U	N	--	--	1946	--	D	--	N	
163N094M02CD	R.BERG	110	5	--	--	--	--	--	--	--	--	6	--	P	--	--	N	
163N094M03DD	U.S.G.S.	120	--	H	1968	--	--	--	U	--	--	--	1992	--	GF	--	N	120
163N094M049A	D.HENDRICKSON	300	3	H	--	--	60	5-46	S	P	6	6	1905	P	--	--	N	
163N094M05AA 1	V.WRIGLEY	125	8	H	--	TL OC	89	5-46	K	P	6	6	1906	P	--	--	N	
163N094M06AA 2	U.S.G.S.	170	5	H	--	--	--	--	U	N	--	--	1992	--	D	--	N	
163N094M06CA	D.MORSETH	260	6	H	--	--	54	5-46	K	P	6	6	1906	C	--	--	N	
163N094M06CBC	D.MORSETH	120	6	C	--	--	60	--	U	P	6	--	--	--	--	42	N	
163N094M07A01	W.SIMS	20	18	R	1920	OG 31	15	--	H	P	1	6	--	K	--	41	N	
163N094M07A02	W.SIMS	160	3	C	1940	TL OC	60	--	U	P	5	6	--	K	--	43	N	
163N094M09AA1	F.BUSCH	48	14	B	--	--	17	--	U	P	6	6	--	K	--	42	N	
163N094M09AA2	F.BUSCH	22	24	B	--	--	10	6-66	U	N	--	--	--	--	--	--	N	
163N094M10CC	A.PETERSON	46	18	B	--	--	20	8-65	U	--	--	--	1928	--	--	--	N	
163N094M11AA	C.GUDERJONH	125	4	H	--	--	85	5-46	S	P	3	6	1920	P	--	--	N	
163N094M12CC	C.FORTHUN	96	--	H	--	--	78	5-46	S	P	6	6	1917	P	--	--	N	
163N094M14AA	T.BRENNO	20	12	D	--	--	16	5-46	K	P	6	6	1917	P	--	--	N	
163N094M15CC	A.PETERSON	70	6	C	1900	TL OC	47	--	K	C	0	0	--	--	--	--	N	
163N094M15AB	A.PETERSON	24	12	R	1905	--	18	10-65	U	P	1	--	1910	--	--	--	N	
163N094M15CC	A.PETERSON	150	2	H	--	TL OC	65	5-46	S	P	6	6	1903	P	--	--	N	
163N094M15DA	H.SORUM	280	3	H	--	--	77	5-46	S	P	6	6	1903	P	--	--	N	
163N094M15DD	U.S.G.S.	166	5	H	--	--	19	8-47	U	N	--	--	1907	--	D	--	N	
163N094M15DA	U.S.G.S.	180	--	H	1968	--	--	--	U	--	--	--	1900	--	DE	--	N	180
163N094M170A	T.CASTEEL	160	2	H	--	TL OC	60	5-46	U	P	5	6	1917	P	--	--	N	
163N094M170AA	T.CASTEEL	30	18	R	--	--	15	--	H	P	1	4	--	K	--	43	N	
163N094M180DA	E.BEPNT	38	14	R	1920	--	37	6-66	U	P	3	6	--	K	--	44	N	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QM TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
163N094M190AA	U.S.G.S.	60	--	H	1968	--	--	--	U	--	--	--	1913	--	DG	--	N	60
163N094M208BB	U.S.G.S.	160	--	H	1968	--	--	--	U	--	--	--	1909	--	GE	--	N	160
163N094M208DD	C.GRAVES	28	16	B	1912	OG 31	5	6-66	H	P	1	3	--	K	--	42	O	
163N094M20CA	S.DAHL	240	2	H	--	TL OC	60	5-46	S	P	5	6	1912	P	--	--	O	
163N094M20CAA	S.DAHL	88	4	C	1962	TL OC	30	--	H	S	5	6	--	K	--	--	N	
163N094M21CBB	U.S.G.S.	400	--	H	1968	--	--	--	U	--	--	--	1910	--	GE	--	N	400
163N094M22BBC	U.S.G.S.	240	--	H	1968	--	--	--	U	--	--	--	1905	--	GE	--	N	240
163N094M22CBB1	U.S.G.S.	190	--	H	1968	--	--	--	U	--	--	--	1900	--	GE	--	N	190
163N094M22CBB2	U.S.G.S.	98	1	H	1968	OG 52	24	8-68	U	N	--	--	1900	C	DG	--	O	160
163N094M22CCD	D.HORNTVEDT	88	2	--	--	TL OC	48	5-46	K	J	5	6	1911	P	--	41	O	
163N094M22DOB	C.HAUGSTAD	98	3	H	--	--	55	5-46	S	P	6	6	1912	P	--	--	O	
163N094M23AB	E.BRENNO	110	18	B	--	--	68	5-46	S	P	6	6	1927	P	--	--	O	
163N094M23CD	U.S.G.S.	231	5	H	--	--	33	8-47	U	N	--	--	1918	--	D	--	O	
163N094M24AA	H.BRENNO	200	4	H	--	--	94	5-46	S	P	5	5	1917	P	--	--	O	
163N094M24AAA	H.BRENNO	110	3	C	--	TL OC	--	--	S	P	5	5	--	K	--	44	N	
163N094M25AAB	N.D.S.W.C.	290	1	H	1967	OG 52	46	9-68	U	--	--	--	1915	--	GE	--	I	300
163N094M26CB	L.LUNSTAD	90	5	H	1946	--	52	5-46	S	P	6	5	1917	P	--	--	O	
163N094M26CBB1	L.LUNSTAD	70	4	--	--	OG 51	35	--	S	P	5	5	--	K	--	44	N	
163N094M26CBB2	L.LUNSTAD	68	4	C	1965	OG 51	40	--	H	J	T	6	--	K	--	48	N	
163N094M27CBB	U.S.G.S.	120	--	H	1968	--	--	--	U	--	--	--	1914	--	GE	--	N	120
163N094M27CCC	U.S.G.S.	40	--	H	1968	--	--	--	U	--	--	--	1915	--	DG	--	N	40
163N094M29AAA	U.S.G.S.	40	--	H	1968	--	--	--	U	--	--	--	1912	--	DG	--	N	40
163N094M30AD	R.SLATER	309	4	H	--	TL OC	47	5-46	K	P	6	6	1915	P	--	--	O	
163N094M31DCC1	L.AABERG	16	18	B	1961	OG 31	10	10-65	S	P	5	6	--	C	--	46	O	
163N094M31DCC2	L.AABERG	18	24	B	--	--	10	8-65	U	N	--	--	--	--	--	--	N	
163N094M33AA	S.NORDRUM	270	2	H	--	--	40	9-45	S	P	6	6	1922	C	--	--	O	
163N094M33AAB	S.NORDRUM	200	2	--	--	--	--	--	U	P	5	6	--	K	--	44	N	
163N094M33AAC	S.NORDRUM	15	12	B	--	--	8	6-66	H	P	1	4	--	K	--	44	O	
163N094M34DCC	H.BRENNO	53	18	B	--	--	32	6-66	S	S	5	6	--	K	--	44	O	
163N094M36ABD	N.D.S.W.C.	100	--	H	1967	--	--	--	U	--	--	--	1930	--	GE	--	N	100
164N088M33BC	D.JOHNSON	140	3	H	--	--	47	7-46	S	P	6	6	1853	P	--	--	O	
164N088M35DD	C.OLNEY	285	4	H	--	--	41	7-46	K	P	6	6	1872	P	--	--	O	
164N089M30DD	U.S.CUSTOM STA.	135	4	H	--	--	60	9-45	--	P	3	6	1843	P	--	--	O	
164N089M30DDD	C.WOLEN	19	48	D	1938	--	4	6-66	U	P	--	6	--	K	--	--	O	
164N089M31AC	M.MC GILLIRUAY	156	2	H	--	--	79	7-46	K	P	3	6	1872	P	--	--	O	
164N089M31AD	C.THOMPSON	165	2	H	--	--	--	--	--	--	--	6	1867	P	--	--	N	
164N089M31CCC	U.S.G.S.	80	--	R	1967	--	--	--	U	--	--	--	1875	--	DG	--	N	80
164N089M32BC	G.NANSEN	186	6	H	--	--	58	9-45	S	P	--	6	1861	P	--	--	O	
164N089M32DD	C.MCINTEE	90	2	H	--	--	29	7-46	S	P	6	6	1856	P	--	--	O	
164N089M34CD	R.NANSEN	150	2	H	--	--	40	7-46	K	P	6	6	1841	P	--	--	O	

LOCAL WELL NUMBER	OWNER	WELL DEPTH (FT.)	CASING DIAMETER (IN.)	METHOD DRILLED	DATE DRILLED (YEAR)	AQUIFER	WATER LEVEL (FT.)	WATER LEVEL DATE MEAS.	WATER USE	TYPE LIFT	POWER	SPECIFIC CONDUCTANCE	ALTITUDE OF LSD (FT.)	QM TYPE	LOG AVAILABLE	TEMPERATURE (F)	FREQUENCY OF WATER-LEVEL MEASUREMENTS	TOTAL DEPTH
1644090W25DC	P. TALELMEYER	152	4	H	--	--	90	9-45	S	P	6	6	1865	P	--	--	O	
1644090W25DCD1	D. TVEIT	22	30	D	1904	--	7	--	H	P	1	6	--	K	--	41	N	
1644090W25DCD2	D. TVEIT	170	4	C	1934	OG 51	110	7-46	K	P	5	6	1873	P	--	--	O	
1644090W26CDC	R. GANSKOP	170	4	--	--	TL OC	40	--	K	--	--	6	1875	P	--	--	N	
1644090W32CDD	H. BENSHOOF, JR.	280	2	--	--	TL OC	120	--	K	--	--	--	--	--	--	--	N	
1644090W32DC	B. WILSON	200	2	H	--	--	150	6-46	S	P	6	6	1918	P	--	--	O	
1644090W33DDC	A. WOLKENHAUER	205	4	C	1956	TL OC	135	--	K	P	5	6	--	K	--	45	N	
1644090W34CC	R. HANSEN	200	6	H	--	--	96	6-46	S	P	3	6	1897	P	--	--	O	
1644090W35ABA	U.S.G.S.	81	1	H	1966	OG 51	7	9-66	U	--	--	6	1869	C	GE	47	N	120
1644091W328CB	W. KELLER	18	36	D	--	--	10	--	H	--	--	--	--	--	--	--	N	
1644091W32DCC1	S. ERICKSON	362	1	H	1917	--	100	--	S	P	5	5	--	K	--	44	N	
1644091W32DCC2	S. ERICKSON	20	36	D	--	--	15	--	H	P	1	6	--	K	--	41	N	
1644091W34DCC	A. LUND	83	2	C	1953	OG 51	14	--	H	--	5	6	--	K	--	43	N	
1644092W25DD	SOO LINE RR.	708	8	H	--	TL OC	--	--	A	--	--	6	1950	P	D	--	N	
1644092W29DDA	W. CLINGMAN	290	3	--	--	TL OC	150	--	K	--	--	--	--	--	--	--	N	
1644092W34DB	J. RUPPERT	400	3	H	--	--	--	--	U	P	1	5	--	P	--	--	N	
1644092W34DC	J. RUPPERT	345	4	H	--	--	--	--	S	P	3	6	1959	C	--	--	N	
1644092W35AAD	L. CEGOMSKI, SR.	17	30	--	--	--	6	--	K	--	--	--	--	--	--	--	N	
1644092W36AAB	PORTAL	625	--	H	--	TL OC	260	--	P	--	--	6	--	C	--	46	N	
1644092W36DD	U.S.G.S.	265	5	H	--	--	7	8-47	U	N	--	--	1950	--	D	--	O	
1644093W27CCD1	C. LARSON	26	12	B	1902	TL OC	16	--	H	J	5	6	--	K	--	--	N	
1644093W27CCD2	C. LARSON	16	30	D	1920	--	7	6-66	Z	P	6	4	--	K	--	39	O	
1644093W31DD	U.S.G.S.	50	5	H	--	--	10	8-47	U	N	--	--	1903	--	D	--	O	
1644093W35CCC	U.S.G.S.	40	--	H	1966	--	--	--	U	--	--	--	1917	--	OG	--	N	40
1644093W35DDC	OLSON EST.	26	36	D	--	--	4	8-65	U	P	1	--	--	--	--	--	O	
1644094W32CC	V. WRIGLEY	125	4	H	--	--	70	5-46	K	P	6	6	1907	P	--	--	O	
1644094W33AD	D. EARLY	110	3	H	--	--	100	5-46	K	P	3	6	1905	P	--	--	O	
1644094W33DDD1	J. KNUTSON	110	4	--	1905	OG 51	90	--	U	P	1	--	--	--	--	--	N	
1644094W33DDD2	J. KNUTSON	18	18	B	1936	--	14	--	U	P	1	6	--	K	--	44	N	

Location number	Owner or name	Use of water	Lithology	Flow range (gallons per minute)	Conductance (micromhos per centimeter at 25°C)	Temperature of	Remarks
151-90-14aca3	J. Bartelson	S	..	8	1,680	43	
152-90-24bcc	F. Maurer	S	S	35	1,420	..	Several outlets
152-92- 3dbb	M. Ruland	K	S	1-1.5	800	47	
152-92-11bdc	M. Ruland	S	S	100	1,200	..	
153-90-33acd	J. Casey	K	L	3	660	..	
153-92- 6caa	E. Satterthwaite	S	L	..	2,160	..	
153-92- 6dcc	E. Satterthwaite	S	L	.1-1	3,000	45	
154-91- 4gab	F. Evans	S	L	.1-1	..	..
154-91-17acb1	J. Baaken	H	L	.3	580	..	
154-91-17acb2	J. Baaken	S	..	3	430	46	
154-91-19cba2	E. Tillisto	S	L	1-10	1,150	..	
154-91-30dcc	W. Evans	S	L	1-10	1,810	40	
154-92-23ddd2	C. Arndt	S	L	..	1,020	39	
154-92-25daa	F. Evans	K	L	1-10	2,950	..	
154-92-31dac	Gibb Springs	K	..	160	1,310	45	Several outlets
154-92-35aba	W. Evans	S	L	.1-1	3,990	45	
154-92-35cac	W. Evans	H	L	.1-1	4,600	..	
154-92-35dca	W. Evans	K	L	1-10	2,210	45	
155-90-13ada	T. Dolan	S	..	10	4,300	46	
156-89-23ddb2	J. Biere	H	..	..	3,000	44	
156-93-31cdc	R. Quammen	S	L	>100	2,900	46	
156-94- 9bda	L. Lund	K	L	1-10	1,390	45	
156-94-23cac	T. Watson	U	..	11-100	2,900	48	Several outlets
156-94-23ddc	T. Watson	S	..	1-10	2,550	47	
156-94-33aac	H. Ortloff	..	..	1-10	1,570	47	

Location number	Owner or name	Use of water	Lithology	Flow range (gallons per minute)	Conductance (micromhos per centimeter at 25°C)	Temperature °F	Remarks
156-94-34bda	G. Williams	K	L	.12-1	990	46	
157-89-9daa	L. Goettle	S	..	1	530	45	
157-89-15aad	L. Goettle	S	..	5	560	..	
157-89-20acd	M. Nelson	U	S	50	1,940	44	
157-93-18bbb	J. Moore	H	..	..	1,910	49	
157-93-30bba	J. Moore	S	L	.1-1	1,620	50	
157-93-30bbc	J. Moore	S	..	1-10	1,130	47	
157-94-9dad	M. Jorstad	S	S	50-75	1,580	40	
157-94-13aac	M. Leichtie	U	..	20	1,470	45	Several outlets
157-94-25bbd	J. Enger	K	..	1	1,110	50	
157-94-26dac	E. Dannewitz	S	L	25-30	900	41	
158-93-19cac	J. Blikre	K	L	10	1,500	47	
<u>BURKE COUNTY</u>							
160-90-22bba	W. Johnson	K	S	10	1,620	45	

TABLE 3.--Water levels in selected wells

MOUNTAIN COUNTY

Depth to water, in feet below land surface

151-89-12add					
Date	Water level	Date	Water level	Date	Water level
June 3, 1966....	5.45	July 17.....	6.89	May 13.....	7.92
July 22.....	7.11	Aug. 9.....	7.94	June 6.....	8.28
Oct. 14.....	8.56	Sept. 12.....	8.80	July 3.....	8.60
Nov. 14.....	Frozen	Oct. 10.....	9.23	Aug. 5.....	9.23
Dec. 14.....	Frozen	Nov. 14.....	9.56	Sept. 4.....	9.82
Apr. 25, 1967....	2.72	Dec. 4.....	9.64	Oct. 2.....	9.81
May 15.....	3.57	Mar. 13, 1968....	7.50	Nov. 5.....	9.87
June 12.....	5.36	Apr. 10.....	7.61		

151-90-36dda					
June 7, 1966....	68.80	June 12.....	67.74	May 13.....	68.20
Nov. 14.....	68.47	July 17.....	^{a/} 83.27	June 6.....	67.79
Dec. 14.....	68.44	Aug. 9.....	68.50	July 8.....	68.99
Jan. 23, 1967....	68.08	Sept. 12.....	^{a/} 79.14	Aug. 5.....	67.53
Feb. 20.....	68.26	Nov. 14.....	68.01	Sept. 4.....	68.21
Mar. 16.....	68.52	Dec. 4.....	68.86	Oct. 2.....	67.31
Apr. 20.....	^{a/} 72.34	Feb. 6, 1968....	67.86	Nov. 5.....	67.60
Apr. 20.....	68.04	Mar. 13.....	67.66		
May 15.....	68.03	Apr. 10.....	67.86		

^{a/} Pump had been operating.

151-92-34daa					
Sept. 2, 1966....	73.83	Apr. 25.....	72.84	Dec. 4.....	72.21
Sept. 23.....	73.47	May 15.....	72.31	Jan. 9, 1968....	72.66
Oct. 12.....	73.10	June 12.....	71.74	Feb. 6.....	70.40
Nov. 14.....	73.07	July 17.....	71.52	Mar. 13.....	70.08
Dec. 14.....	72.83	Aug. 9.....	71.98	Apr. 10.....	70.07
Jan. 23, 1967....	73.30	Sept. 12.....	70.96	May 13.....	69.59
Feb. 20.....	73.27	Oct. 10.....	71.07		
Mar. 16.....	73.59	Nov. 9.....	70.44		

152-90-18ccc					
May 27, 1966....	14.16	Feb. 20.....	15.26	Feb. 6.....	12.64
June 2.....	14.10	Mar. 16.....	15.57	Mar. 13.....	13.64
June 8.....	13.79	Apr. 20.....	14.59	Apr. 10.....	13.38
June 17.....	13.64	May 15.....	14.39	May 13.....	13.48
July 22.....	12.68	June 12.....	13.90	June 6.....	13.75
Aug. 2.....	12.75	July 17.....	11.60	July 3.....	12.55
Aug. 24.....	21.91	Aug. 9.....	11.24	Aug. 5.....	11.40
Sept. 23.....	13.31	Sept. 12.....	11.81	Sept. 4.....	10.95
Oct. 14.....	13.59	Oct. 10.....	11.94	Oct. 2.....	10.74
Nov. 14.....	14.04	Nov. 9.....	12.30	Nov. 5.....	11.11
Dec. 14.....	14.40	Dec. 4.....	12.55		
Jan. 23, 1967....	14.85	Jan. 9, 1968....	13.23		

Depth to water, in feet below land surface

152-92-17bbb

Date	Water level	Date	Water level	Date	Water level
Apr. 15, 1967	96.23	Nov. 9	91.97	June 13	91.55
May 15	95.73	Dec. 4	92.13	July 1	91.71
June 12	95.24	Jan. 9, 1968	92.34	Aug. 5	90.53
July 17	94.41	Feb. 6	92.70	Sept. 4	90.08
Aug. 9	94.01	Mar. 13	91.87	Oct. 4	89.63
Sept. 15	93.10	Apr. 10	91.80	Nov. 5	89.42
Oct. 10	92.75	May 13	91.24		

152-92-19aab

Aug. 9, 1967	48.84	Feb. 25	56.47	Aug. 20	48.85
Sept. 13	50.50	Feb. 28	56.65	Aug. 25	48.45
Oct. 10	50.23	Mar. 5	56.55	Aug. 31	48.17
Oct. 26	50.73	Mar. 10	56.65	Sept. 5	48.00
Oct. 31	50.82	Mar. 13	56.36	Sept. 10	47.92
Nov. 5	51.28	Apr. 10	53.10	Sept. 15	47.72
Nov. 10	51.25	May 5	54.20	Sept. 20	47.45
Nov. 15	51.45	May 13	54.17	Sept. 25	47.60
Nov. 20	51.48	June 10	55.83	Sept. 30	47.51
Nov. 25	51.50	June 15	55.80	Oct. 5	47.75
Nov. 30	51.96	June 20	53.97	Oct. 10	48.05
Dec. 5	52.52	June 25	53.43	Oct. 15	48.53
Dec. 7	52.99	June 30	51.87	Oct. 20	48.54
Jan. 9, 1968	54.21	July 5	51.28	Oct. 25	48.45
Jan. 10	54.17	July 10	51.03	Oct. 31	48.95
Jan. 15	54.53	July 15	50.68	Nov. 5	48.95
Jan. 20	54.92	July 20	50.79	Nov. 10	49.00
Jan. 25	55.08	July 25	49.83	Nov. 15	48.95
Jan. 31	55.35	July 31	49.68	Nov. 20	49.00
Feb. 5	55.55	Aug. 5	50.01	Nov. 25	49.08
Feb. 10	55.67	Aug. 10	49.64	Nov. 30	49.94
Feb. 15	55.83	Aug. 15	49.13	Dec. 5	49.52

152-92-20aaa

May 27, 1966	90.82	Feb. 20	96.09	Jan. 9, 1968	89.59
June 2	90.60	Mar. 16	97.35	Feb. 6	90.86
June 17	89.29	Apr. 20	96.12	Mar. 13	91.54
July 22	88.69	May 15	94.92	Apr. 10	90.37
Aug. 2	88.70	June 12	92.46	May 13	91.08
Aug. 26	88.42	July 17	86.19	June 6	92.10
Sept. 23	89.93	Aug. 9	84.44	July 8	87.02
Oct. 12	89.34	Sept. 12	86.22	Aug. 5	85.30
Nov. 14	91.09	Oct. 10	85.74	Sept. 4	83.66
Dec. 14	92.60	Nov. 9	86.77	Oct. 2	83.33
Jan. 23, 1967	94.24	Dec. 4	87.57	Nov. 5	84.49

152-92-29ddd

July 17, 1967	41.48	Jan. 9, 1968	43.48	July 8	42.26
Aug. 9	41.45	Feb. 6	44.48	Aug. 5	40.92
Sept. 12	41.64	Mar. 13	44.80	Sept. 4	39.73
Oct. 10	41.53	Apr. 13	44.23	Oct. 2	39.31
Nov. 9	41.76	May 13	44.68	Nov. 5	39.69
Dec. 4	42.21	June 6	45.21		

Depth to water, in feet below land surface

152-92-31ccc

Date	Water level	Date	Water level	Date	Water level
Apr. 9, 1967....	23.46	Feb. 6.....	22.56	Aug. 5.....	22.35
Sept. 12.....	22.35	Mar. 13.....	22.34	Sept. 4.....	22.39
Oct. 10.....	22.43	Apr. 10.....	22.39	Oct. 2.....	22.38
Nov. 9.....	22.41	May 13.....	22.30	Nov. 5.....	22.37
Dec. 4.....	22.44	June 6.....	22.40		
Jan. 9, 1968....	22.44	July 8.....	22.44		

153-92-17bbb

Aug. 9, 1967....	6.11	Jan. 9, 1968....	6.37	July 1.....	5.47
Sept. 15.....	6.51	Feb. 6.....	5.93	Aug. 5.....	6.02
Sept. 23.....	6.23	Mar. 13.....	5.35	Sept. 4.....	5.63
Oct. 9.....	6.19	Apr. 10.....	5.29	Oct. 2.....	5.63
Nov. 9.....	6.09	May 13.....	5.32	Nov. 5.....	5.62
Dec. 4.....	6.05	June 13.....	5.32		

154-89-15ddd

Aug. 10, 1967....	15.38	Feb. 6.....	15.75	Aug. 6.....	15.85
Sept. 13.....	15.64	Mar. 12.....	15.52	Sept. 5.....	15.80
Oct. 11.....	15.70	Apr. 10.....	15.43	Oct. 2.....	15.60
Nov. 9.....	15.68	May 15.....	15.33	Nov. 5.....	15.55
Dec. 4.....	15.72	June 11.....	15.57		
Jan. 9, 1968....	15.77	July 3.....	15.68		

154-91-30aaa

Aug. 25, 1966....	19.11	June 12.....	19.19	Apr. 10.....	19.41
Sept. 23.....	19.28	July 17.....	19.34	May 15.....	19.34
Oct. 12.....	19.18	Aug. 9.....	19.38	June 11.....	19.37
Nov. 15.....	19.29	Sept. 13.....	19.24	July 3.....	19.48
Dec. 14.....	19.25	Oct. 11.....	18.42	Aug. 6.....	19.82
Jan. 23, 1967....	19.23	Nov. 9.....	19.41	Sept. 5.....	19.44
Feb. 20.....	19.32	Dec. 4.....	19.35	Oct. 2.....	19.40
Mar. 16.....	19.46	Jan. 9, 1968....	19.50	Nov. 5.....	19.41
Apr. 20.....	19.10	Feb. 6.....	19.60		
May 16.....	19.28	Mar. 12.....	19.53		

154-94-3bba

Aug. 9, 1967....	10.74	Feb. 6.....	10.57	Aug. 5.....	10.52
Sept. 15.....	11.00	Mar. 13.....	10.23	Sept. 4.....	10.02
Oct. 10.....	10.82	Apr. 10.....	10.18	Oct. 2.....	9.94
Nov. 9.....	10.60	May 13.....	10.29	Nov. 5.....	9.87
Dec. 4.....	10.55	June 13.....	10.35		
Jan. 9, 1968....	10.58	July 1.....	10.41		

Depth to water, in feet below land surface

155-88-6ddd

Date	Water level	Date	Water level	Date	Water level
Aug. 25, 1966	133.35	June 12	133.30	Apr. 10	133.46
Sept. 22	133.53	July 17	133.42	May 15	133.50
Oct. 14	133.94	Aug. 10	133.88	June 11	133.63
Nov. 16	133.38	Sept. 13	133.08	July 3	133.91
Dec. 14	133.30	Oct. 11	133.30	Aug. 6	133.65
Jan. 23, 1967	133.75	Nov. 9	133.30	Sept. 5	133.64
Feb. 20	133.74	Dec. 4	133.51	Oct. 2	133.73
Mar. 16	134.36	Jan. 9, 1968	134.04	Nov. 5	133.93
Apr. 20	133.03	Feb. 6	134.18		
May 16	133.69	Mar. 12	133.71		

155-89-25acb1

Sept. 20, 1965	11.69	May 13	11.49	Jan. 23, 1967	12.56
Oct. 4	11.64	June 17	11.64	May 16	11.58
Dec. 8	11.67	Oct. 14	12.45	June 12	11.73
Mar. 18, 1966	12.00	Nov. 16	12.38	July 17	12.28
Apr. 15	11.69	Dec. 14	12.50		

155-89-25acb2

Sept. 20, 1965	14.01	May 16	13.99	May 15, 1968	14.96
Oct. 4	13.98	June 12	14.10	July 3	15.58
Sept. 22, 1966	14.72	July 17	14.63	Aug. 6	16.24
Oct. 14	14.78	Aug. 13	16.12	Oct. 2	15.26
Nov. 16	14.76	Oct. 11	15.78	Nov. 5	15.04
Dec. 14	14.85	Nov. 9	15.62		
Jan. 23, 1967	14.93	Dec. 4	15.59		

155-89-25bcc

Sept. 15, 1965	+0.09	Oct. 14	0.10	Dec. 4	Frozen
Sept. 21	+ .16	Nov. 16	Frozen	Mar. 10, 1968	Frozen
Dec. 8	Frozen	Dec. 14	Frozen	Apr. 10	0.01
Jan. 20, 1966	Frozen	Apr. 20, 1967	+ .43	May 15	+ .02
Mar. 18	Frozen	May 16	+ .33	June 3	.08
Apr. 15	Frozen	June 12	+ .29	July 3	.25
May 13	+ .37	July 17	.08	Aug. 6	.49
June 17	+ .22	Aug. 10	.21	Sept. 5	.38
July 22	+ .09	Sept. 13	.34	Oct. 2	.33
Aug. 31	+ .04	Oct. 11	.38	Nov. 5	.25
Sept. 22	.07	Nov. 9	Frozen		

Depth to water, in feet below land surface

155-89-32aaa

Date	Water level	Date	Water level	Date	Water level
Sept. 2, 1966	13.35	June 12	23.31	Mar. 12	25.31
Sept. 22	23.19	July 17	23.89	Apr. 10	25.10
Oct. 14	24.35	Aug. 10	24.75	May 15	24.47
Nov. 16	24.33	Sept. 13	25.48	June 11	24.28
Dec. 14	Snow plug	Oct. 10	25.70	July 3	24.35
Feb. 20, 1967	25.27	Nov. 9	25.65	Aug. 6	24.96
Mar. 16	24.86	Dec. 4	25.55	Sept. 5	24.66
Apr. 20	23.98	Jan. 9, 1968	Snow plug	Oct. 2	24.37
May 16	23.48	Feb. 6	25.88	Nov. 5	24.12

155-89-35aaa

Aug. 31, 1966	20.13	June 12	19.38	Apr. 10	19.80
Sept. 22	20.32	July 17	20.24	May 15	19.70
Oct. 14	20.24	Aug. 10	20.82	June 11	20.08
Nov. 16	20.05	Sept. 13	21.30	July 3	20.48
Dec. 14	20.24	Oct. 11	21.00	Aug. 6	21.22
Jan. 23, 1967	20.17	Nov. 7	20.87	Sept. 5	20.67
Feb. 20	20.01	Dec. 4	20.83	Oct. 2	20.29
Mar. 16	19.90	Jan. 9, 1968	20.87	Nov. 5	20.02
Apr. 20	19.02	Feb. 6	20.65		
May 16	19.08	Mar. 12	20.27		

155-90-12ddd

Aug. 24, 1966	24.10	June 12	24.13	Apr. 10	24.28
Sept. 22	24.30	July 17	24.30	May 15	24.25
Oct. 14	24.34	Aug. 10	24.45	June 11	24.25
Nov. 16	24.26	Sept. 13	24.44	July 3	24.39
Dec. 14	24.19	Oct. 11	24.50	Aug. 6	24.52
Jan. 23, 1967	24.13	Nov. 9	24.50	Sept. 5	24.41
Feb. 20	24.05	Dec. 4	24.33	Oct. 2	24.34
Mar. 16	24.10	Jan. 9, 1968	24.60	Nov. 5	24.33
Apr. 20	23.90	Feb. 6	24.42		
May 16	24.06	Mar. 12	24.38		

155-93-13aaa

June 29, 1967	121.26	Dec. 4	129.48	June 11	129.36
July 17	125.12	Jan. 10, 1968	129.92	July 3	130.11
Aug. 9	136.65	Feb. 6	129.37	Aug. 5	130.10
Sept. 14	128.47	Mar. 13	129.40	Sept. 4	129.48
Oct. 10	138.75	Apr. 10	129.41	Oct. 2	129.63
Nov. 9	129.06	May 15	129.88	Nov. 5	130.17

156-89-6aab

Aug. 10, 1967	1.54	Jan.-Apr., 1968	Frozen	Sept. 5	1.59
Sept. 13	1.47	May 15	1.45	Oct. 2	1.60
Oct. 11	1.50	June 11	1.45	Nov. 5	1.67
Nov. 9	1.54	July 3	1.61		
Dec. 4	1.52	Aug. 6	1.70		

Depth to water, in feet below land surface

156-90-4abb

Date	Water level	Date	Water level	Date	Water level
June 20, 1967....	37.14	Dec. 5.....	37.82	June 11.....	37.81
July 17.....	37.21	Jan. 10, 1968....	37.88	July 8.....	37.78
Aug. 10.....	37.42	Feb. 6.....	38.04	Aug. 6.....	37.90
Sept. 13.....	37.60	Mar. 12.....	38.00	Sept. 5.....	37.98
Oct. 11.....	37.74	Apr. 10.....	37.80	Oct. 2.....	37.99
Nov. 9.....	37.79	May 15.....	37.84	Nov. 5.....	38.02

156-91-2ccc

June 20, 1967....	35.26	Dec. 5.....	35.47	Aug. 1.....	35.56
July 17.....	35.41	Mar. 12, 1968....	35.48	Sept. 4.....	35.58
Aug. 10.....	35.52	Apr. 10.....	35.43	Oct. 2.....	35.33
Sept. 13.....	35.59	May 15.....	35.41	Nov. 5.....	35.41
Oct. 10.....	35.59	June 11.....	35.36		
Nov. 9.....	35.46	July 3.....	35.52		

156-91-5daa

June 15, 1967....	21.83	Dec. 5.....	21.99	July 3.....	22.00
June 18.....	21.79	Jan. 10, 1968....	21.91	Aug. 1.....	22.10
July 17.....	21.96	Feb. 7.....	21.94	Sept. 4.....	21.93
Aug. 10.....	22.06	Mar. 12.....	21.96	Oct. 2.....	21.88
Sept. 13.....	22.03	Apr. 10.....	21.85	Nov. 5.....	21.96
Oct. 10.....	22.08	May 15.....	21.89		
Nov. 9.....	22.04	June 12.....	21.93		

156-91-10bbb

Aug. 10, 1966....	56.72	June 12.....	56.52	Apr. 10.....	56.89
Sept. 22.....	56.64	July 17.....	56.59	May 15.....	56.90
Oct. 14.....	56.78	Aug. 10.....	56.89	June 12.....	57.00
Nov. 16.....	56.50	Sept. 13.....	56.53	July 3.....	57.11
Dec. 15.....	56.66	Oct. 10.....	56.92	Aug. 1.....	57.02
Jan. 23, 1967....	56.73	Nov. 9.....	56.79	Sept. 4.....	57.03
Feb. 20.....	56.65	Dec. 5.....	56.77	Oct. 2.....	57.07
Mar. 17.....	56.94	Jan. 10, 1968....	56.70	Nov. 3.....	57.14
Apr. 20.....	56.39	Feb. 6.....	57.35		
May 19.....	56.78	Mar. 12.....	56.97		

156-94-16dba

Aug. 10, 1966....	16.22	May 17.....	14.80	Mar. 13.....	15.44
Aug. 12.....	15.77	June 13.....	15.23	Apr. 10.....	15.60
Sept. 21.....	15.93	July 17.....	15.76	May 13.....	15.88
Oct. 12.....	15.78	Aug. 10.....	16.12	June 11.....	16.04
Nov. 15.....	15.66	Sept. 15.....	16.40	July 1.....	16.17
Dec. 15.....	15.68	Oct. 10.....	16.31	Aug. 5.....	16.50
Jan. 24, 1967....	15.75	Nov. 9.....	16.15	Sept. 4.....	16.41
Feb. 21.....	15.77	Dec. 5.....	16.08	Oct. 2.....	16.15
Mar. 16.....	15.87	Jan. 10, 1968....	16.16	Nov. 5.....	15.90
Apr. 27.....	14.54	Feb. 6.....	17.09		

Depth to water, in feet below land surface

157-89-20adc

Date	Water level	Date	Water level	Date	Water level
Aug. 22, 1966.....	14.12	May 16.....	14.01	Mar. 12.....	14.28
Sept. 22.....	14.19	June 12.....	14.07	Apr. 10.....	14.18
Oct. 14.....	14.20	July 17.....	14.23	May 15.....	14.14
Nov. 16.....	14.13	Aug. 10.....	14.36	June 11.....	14.13
Dec. 15.....	14.12	Sept. 13.....	14.29	July 3.....	14.34
Jan. 23, 1967.....	14.05	Oct. 11.....	14.30	Aug. 6.....	14.36
Feb. 20.....	13.93	Nov. 9.....	14.33	Sept. 5.....	15.06
Mar. 16.....	14.05	Dec. 5.....	14.27	Oct. 2.....	15.03
Apr. 20.....	13.89	Feb. 6, 1968....	14.28	Nov. 5.....	14.98

157-90-15bbb

Aug. 10, 1966....	25.82	June 12.....	25.90	Apr. 10.....	27.66
Sept. 2.....	26.21	July 17.....	26.31	May 15.....	27.44
Oct. 14.....	26.33	Aug. 10.....	26.68	June 12.....	27.25
Nov. 16.....	26.41	Sept. 13.....	27.10	July 3.....	27.37
Dec. 15.....	26.54	Oct. 11.....	27.37	Aug. 5.....	27.72
Jan. 23, 1967....	26.70	Nov. 9.....	27.48	Sept. 5.....	27.74
Feb. 20.....	26.78	Dec. 5.....	27.56	Oct. 2.....	27.65
Mar. 16.....	26.90	Jan. 10, 1968....	27.73	Nov. 5.....	27.61
Apr. 20.....	26.90	Feb. 3.....	27.87		
May 16.....	26.05	Mar. 12.....	27.76		

157-91-36ddd

Aug. 10, 1966....	42.42	June 12.....	42.22	Apr. 10.....	42.86
Sept. 22.....	42.38	July 17.....	42.37	May 15.....	42.92
Oct. 14.....	42.40	Aug. 10.....	43.07	June 12.....	42.91
Nov. 16.....	42.31	Sept. 13.....	43.03	July 3.....	42.96
Dec. 15.....	42.34	Oct. 10.....	43.03	Aug. 1.....	43.08
Jan. 23, 1967....	42.22	Nov. 9.....	42.98	Sept. 4.....	42.98
Feb. 20.....	42.09	Dec. 5.....	42.99	Oct. 2.....	42.98
Mar. 17.....	42.16	Jan. 10, 1968....	42.89	Nov. 5.....	42.90
Apr. 20.....	42.03	Feb. 6.....	42.99		
May 19.....	42.16	Mar. 12.....	42.98		

157-92-16ddd1

July 21, 1966....	9.76	June 13.....	8.60	Mar. 13.....	11.43
Sept. 21.....	9.04	July 17.....	9.31	Apr. 10.....	11.14
Oct. 12.....	9.17	Aug. 10.....	10.23	May 15.....	10.84
Nov. 15.....	9.33	Sept. 14.....	11.88	June 11.....	10.84
Dec. 14.....	9.49	Oct. 13.....	11.14	July 3.....	10.94
Jan. 24, 1967....	9.69	Nov. 9.....	11.14	Aug. 5.....	11.56
Mar. 16.....	9.86	Dec. 4.....	11.23	Sept. 4.....	11.49
Apr. 18.....	8.77	Jan. 10, 1968....	11.47	Oct. 2.....	11.59
May 17.....	8.37	Feb. 6.....	11.62	Nov. 5.....	11.63

Depth to water, in feet below land surface

158-90-17bba

Date	Water Level	Date	Water Level	Date	Water Level
Sept. 13, 1967....	28.66	Feb. 7.....	28.89	July 3.....	29.05
Oct. 17.....	28.91	Mar. 12.....	28.92	Aug. 6.....	29.05
Nov. 9.....	28.85	Apr. 11.....	28.83	Sept. 5.....	29.02
Dec. 5.....	28.75	May 14.....	28.77	Oct. 2.....	28.94
Jan. 10, 1968....	28.74	June 12.....	28.92	Nov. 5.....	29.02

158-94-16bbb

Sept. 21, 1966....	23.49	June 12.....	23.33	Apr. 11.....	23.21
Oct. 12.....	23.23	July 17.....	23.29	May 14.....	23.22
Nov. 15.....	23.28	Aug. 10.....	23.51	June 13.....	23.30
Dec. 15.....	23.40	Sept. 14.....	23.33	July 10.....	23.37
Jan. 24, 1967....	23.42	Oct. 17.....	23.51	Aug. 1.....	23.46
Mar. 14.....	23.53	Nov. 9.....	23.31	Sept. 5.....	23.35
Apr. 18.....	23.52	Dec. 5.....	23.19	Oct. 3.....	23.43
May 17.....	23.29	Mar. 12, 1968....	23.47	Nov. 6.....	23.25

BURKE COUNTY

Depth to water, in feet below land surface

159-90-4bcc

Date	Water level	Date	Water level	Date	Water level
Sept. 21, 1966....	82.04	Aug. 22.....	81.72	May 14.....	81.38
Oct. 13.....	81.97	Sept. 13.....	81.54	June 12.....	81.87
Nov. 16.....	81.74	Oct. 12.....	81.34	July 3.....	81.95
Dec. 16.....	81.56	Nov. 7.....	81.73	Aug. 6.....	81.91
Apr. 17, 1967....	82.01	Dec. 5.....	81.53	Sept. 5.....	81.83
May 17.....	81.58	Feb. 7, 1968....	81.80	Oct. 2.....	81.98
June 13.....	81.68	Mar. 12.....	81.84	Nov. 6.....	82.13
July 18.....	81.69	Apr. 10.....	81.38		

159-93-34baa

Aug. 10, 1967....	13.30	Feb. 7.....	13.22	Aug. 1.....	13.30
Sept. 14.....	13.69	Mar. 12.....	12.76	Sept. 5.....	12.86
Oct. 12.....	13.27	Apr. 11.....	12.27	Oct. 3.....	12.78
Nov. 7.....	13.22	May 14.....	13.42	Nov. 5.....	12.75
Dec. 5.....	13.10	June 13.....	12.40		
Jan. 10, 1968....	13.16	July 10.....	12.88		

159-93-36aaa

Aug. 15, 1966....	51.10	May 17.....	51.00	Mar. 12.....	51.52
Sept. 1.....	51.29	June 13.....	51.21	Apr. 11.....	51.17
Sept. 21.....	51.36	July 18.....	51.29	May 14.....	52.37
Oct. 12.....	51.20	Aug. 10.....	51.47	June 13.....	51.30
Nov. 15.....	51.24	Sept. 14.....	51.45	July 10.....	51.40
Dec. 15.....	51.45	Oct. 12.....	51.31	Aug. 1.....	51.52
Jan. 24, 1967....	51.44	Nov. 7.....	51.48	Sept. 5.....	51.49
Feb. 21.....	51.24	Dec. 5.....	51.38	Oct. 3.....	51.62
Mar. 14.....	51.44	Jan. 10, 1968....	51.34	Nov. 5.....	51.50
Apr. 18.....	51.16	Feb. 7.....	51.49		

159-94-23adc

July 21, 1966....	11.92	May 17.....	10.40	Mar. 12.....	13.13
Aug. 12.....	11.55	June 13.....	11.53	Apr. 11.....	12.28
Sept. 21.....	12.95	July 18.....	12.98	May 14.....	12.10
Oct. 12.....	13.07	Aug. 10.....	13.67	June 13.....	12.29
Nov. 15.....	13.16	Sept. 14.....	14.23	July 10.....	13.20
Dec. 15.....	13.56	Oct. 17.....	14.14	Aug. 1.....	13.80
Jan. 24, 1967....	13.83	Nov. 7.....	14.08	Sept. 5.....	13.00
Feb. 21.....	13.84	Dec. 5.....	14.18	Oct. 3.....	13.05
Mar. 14.....	13.96	Jan. 10, 1968....	14.56	Nov. 6.....	13.10
Apr. 18.....	10.84	Feb. 7.....	14.69		

Depth to water, in feet below land surface

160-91-13acd1

Date	Water level	Date	Water level	Date	Water level
July 21, 1966	21.01	May 17	21.90	Mar. 12	22.75
Aug. 18	21.11	June 13	21.96	Apr. 11	22.62
Aug. 19	21.13	July 18	22.06	May 14	22.60
Sept. 21	21.34	Aug. 23	22.18	June 12	22.75
Oct. 13	21.38	Sept. 13	22.17	July 10	22.91
Nov. 16	21.46	Oct. 12	22.25	Aug. 6	22.97
Dec. 16	21.50	Nov. 7	22.39	Sept. 5	22.86
Jan. 25, 1967	21.65	Dec. 5	22.38	Oct. 2	22.73
Mar. 13	22.76	Jan. 10, 1968	22.41	Nov. 6	22.64
Apr. 17	21.97	Feb. 7	22.61		

160-91-13acd2

July 21, 1966	23.84	May 17	24.63	Mar. 12	25.52
Aug. 18	24.03	June 13	24.66	Apr. 11	25.39
Aug. 19	24.42	July 18	24.66	May 14	25.38
Sept. 21	24.16	Aug. 23	24.90	June 12	25.58
Oct. 13	24.19	Sept. 13	24.85	July 10	25.59
Nov. 16	24.25	Oct. 12	25.01	Aug. 6	25.71
Dec. 16	24.29	Nov. 7	25.17	Sept. 5	25.61
Jan. 25, 1967	24.53	Dec. 5	25.15	Oct. 2	25.43
Mar. 13	24.60	Jan. 10, 1968	25.18	Nov. 6	25.42
Apr. 17	24.79	Feb. 7	25.38		

160-94-7add

Sept. 1, 1966	49.30	June 13	48.22	Mar. 12	48.95
Sept. 21	48.27	July 18	48.16	Apr. 11	48.50
Oct. 12	48.09	Aug. 10	48.58	May 14	48.56
Nov. 15	48.14	Sept. 14	48.73	June 13	48.49
Dec. 15	48.44	Oct. 17	49.03	July 10	48.52
Jan. 24, 1967	48.55	Nov. 7	48.72	Aug. 1	48.75
Mar. 14	48.79	Dec. 5	48.62	Sept. 5	48.75
Apr. 18	48.55	Jan. 10, 1968	48.53	Oct. 3	49.04
May 17	48.13	Feb. 7	48.59	Nov. 6	49.00

161-89-28add

Aug. 13, 1965	9.89	Nov. 16	14.29	Dec. 6	17.30
Oct. 28	12.15	Dec. 16	14.73	Feb. 8, 1968	18.09
Dec. 7	12.57	Jan. 25, 1967	15.43	Mar. 11	17.90
Jan. 18, 1966	12.88	Mar. 13	15.80	Apr. 1	17.48
Mar. 17	12.79	Apr. 18	12.78	May 14	17.17
Apr. 14	10.18	May 17	11.70	June 12	17.46
May 11	8.65	June 13	11.96	July 10	17.66
June 15	8.33	July 18	13.33	Aug. 2	17.77
July 21	9.91	Aug. 11	14.60	Sept. 6	17.28
Aug. 17	11.27	Sept. 13	15.70	Oct. 3	17.44
Sept. 20	12.80	Oct. 12	16.42	Nov. 6	17.33
Oct. 13	13.60	Nov. 7	16.93		

Depth to water, in feet below land surface

161-92-12ded1

Date	Water level	Date	Water level	Date	Water level
Aug. 13, 1965....	8.72	Oct. 13.....	9.47	Nov. 6.....	15.42
Oct. 28.....	10.08	Nov. 15.....	13.24	Dec. 5.....	15.11
Dec. 7.....	10.85	Dec. 15.....	15.05	Feb. 7, 1968....	18.43
Jan. 18, 1966....	12.00	Jan. 24, 1967....	16.13	Apr. 1.....	19.43
Feb. 18.....	14.37	Mar. 14.....	19.11	May 14.....	19.96
Mar. 17.....	15.22	Apr. 17.....	13.23	June 12.....	18.31
Apr. 14.....	15.42	May 17.....	9.93	July 10.....	16.98
May 12.....	13.00	June 13.....	9.16	Aug. 1.....	19.84
June 16.....	19.33	July 18.....	8.41	Sept. 6.....	21.40
July 21.....	7.87	Aug. 11.....	11.54	Oct. 3.....	12.26
Aug. 18.....	11.97	Sept. 14.....	11.54	Nov. 6.....	13.03
Sept. 19.....	11.89	Oct. 17.....	16.16		

161-92-35ccc

June 29, 1967....	13.17	Dec. 5.....	15.39	June 12.....	14.50
July 18.....	13.59	Jan. 11, 1968....	15.60	July 10.....	14.81
Aug. 23.....	14.36	Feb. 7.....	15.80	Aug. 1.....	14.91
Sept. 14.....	14.70	Mar. 11.....	14.98	Sept. 6.....	14.91
Oct. 12.....	15.05	Apr. 1.....	14.37	Oct. 3.....	15.06
Nov. 6.....	15.25	May 14.....	14.48	Nov. 6.....	15.20

162-88-25bbb

Aug. 10, 1965....	66.09	Oct. 13.....	66.30	Nov. 13.....	66.66
Oct. 28.....	66.13	Nov. 16.....	66.37	Dec. 6.....	66.68
Dec. 7.....	66.16	Dec. 16.....	66.40	Feb. 8, 1968....	66.69
Jan. 18, 1966....	66.23	Jan. 25, 1967....	66.47	Mar. 11.....	66.71
Feb. 17.....	66.27	Mar. 13.....	66.50	Apr. 1.....	66.75
Mar. 17.....	66.29	Apr. 17.....	66.45	May 14.....	66.78
Apr. 14.....	66.31	May 17.....	66.46	June 12.....	66.78
May 11.....	66.33	June 13.....	66.50	July 10.....	66.80
June 15.....	66.33	July 18.....	66.47	Aug. 2.....	66.74
July 21.....	66.29	Aug. 22.....	66.50	Sept. 6.....	66.56
Aug. 17.....	66.30	Sept. 13.....	66.58	Oct. 3.....	66.52
Sept. 19.....	66.27	Oct. 9.....	66.63	Nov. 6.....	66.52

162-89-3bbb

Aug. 19, 1966....	87.70	June 13.....	87.43	Apr. 1.....	87.63
Sept. 1.....	87.37	July 18.....	87.59	May 14.....	87.34
Sept. 19.....	87.48	Aug. 11.....	87.68	June 12.....	87.37
Oct. 13.....	87.47	Sept. 14.....	87.70	July 10.....	87.57
Nov. 16.....	87.53	Oct. 12.....	87.61	Aug. 2.....	87.65
Dec. 16.....	87.51	Nov. 7.....	87.68	Sept. 6.....	87.48
Jan. 25, 1967....	87.47	Dec. 6.....	87.68	Oct. 3.....	87.50
Mar. 13.....	87.43	Jan. 11, 1968....	87.62	Nov. 6.....	87.51
Apr. 17.....	87.47	Feb. 8.....	87.61		
May 18.....	87.34	Mar. 11.....	87.66		

Depth to water, in feet below land surface

162-89-5dad

Date	Water level	Date	Water level	Date	Water level
Aug. 9, 1965....	71.42	Apr. 14.....	72.33	Oct. 13.....	72.01
Oct. 28.....	71.36	May 12.....	72.44	Nov. 16.....	72.23
Nov. 18.....	71.64	June 16.....	72.04	Dec. 16.....	72.35
Jan. 18, 1966....	72.01	July 21.....	71.86	Jan. 25, 1967..	Discontinued
Feb. 17.....	72.18	Aug. 18.....	71.87		
Mar. 17.....	72.26	Sept. 19.....	71.87		

162-90-5ecc

Aug. 11, 1965....	6.88	Oct. 13.....	8.03	Nov. 6.....	10.14
Oct. 28.....	8.50	Nov. 16.....	8.39	Dec. 5.....	10.29
Dec. 7.....	8.91	Dec. 15.....	9.69	Feb. 7, 1968....	11.45
Jan. 18, 1966....	9.51	Jan. 24, 1967....	9.37	Mar. 11.....	11.06
Feb. 17.....	9.99	Mar. 14.....	10.52	Apr. 1.....	11.84
Mar. 17.....	10.44	Apr. 17.....	9.63	May 14.....	11.27
Apr. 14.....	10.71	May 18.....	7.07	June 12.....	10.98
May 12.....	10.19	June 13.....	7.26	July 10.....	10.62
June 16.....	8.22	July 18.....	7.95	Aug. 1.....	10.43
July 21.....	7.82	Aug. 11.....	8.76	Sept. 6.....	9.93
Aug. 16.....	7.90	Sept. 14.....	9.21	Oct. 3.....	9.38
Sept. 19.....	7.95	Oct. 12.....	9.57	Nov. 6.....	9.23

162-91-24aaa

Aug. 11, 1967....	8.40	Feb. 7.....	9.42	Aug. 1.....	8.32
Sept. 14.....	9.05	Mar. 11.....	8.94	Sept. 6.....	7.90
Oct. 12.....	10.06	Apr. 1.....	8.71	Oct. 3.....	8.00
Nov. 6.....	10.16	May 14.....	6.86	Nov. 6.....	8.12
Dec. 5.....	9.14	June 12.....	6.76		
Jan. 11, 1968....	9.42	July 10.....	7.63		

162-92-2cbb

Aug. 18, 1966....	27.48	June 13.....	27.40	Mar. 11.....	28.05
Sept. 19.....	27.39	July 18.....	27.43	Apr. 1.....	28.07
Oct. 13.....	27.37	Aug. 11.....	27.73	May 14.....	28.00
Nov. 15.....	27.37	Sept. 14.....	27.79	June 12.....	28.05
Dec. 15.....	Ice plug	Oct. 17.....	27.88	July 10.....	28.11
Jan. 24, 1967....	27.45	Nov. 7.....	27.84	Aug. 1.....	28.11
Mar. 14.....	27.59	Dec. 5.....	27.84	Sept. 6.....	28.23
Apr. 18.....	27.52	Jan. 11, 1968....	27.92	Oct. 3.....	28.21
May 18.....	27.46	Feb. 7.....	27.97	Nov. 6.....	28.22

162-92-2cdd2

June 28, 1967....	27.42	Dec. 5.....	27.70	June 12.....	27.88
July 18.....	27.48	Jan. 11, 1968....	27.76	July 10.....	27.90
Aug. 11.....	27.58	Feb. 7.....	27.71	Aug. 1.....	27.93
Sept. 14.....	27.66	Mar. 11.....	27.90	Sept. 6.....	28.01
Oct. 17.....	27.71	Apr. 1.....	28.19	Oct. 3.....	28.04
Nov. 7.....	27.74	May 14.....	27.82	Nov. 6.....	28.05

Depth to water, in feet below land surface

162-92-24ccc1

Date	Water level	Date	Water level	Date	Water level
Aug. 13, 1965....	8.68	Oct. 13.....	9.43	Nov. 6.....	9.36
Oct. 28.....	8.71	Nov. 15.....	9.16	Dec. 5.....	9.60
Dec. 7.....	8.65	Dec. 15.....	9.22	Feb. 7, 1968....	9.20
Jan. 18, 1966....	8.73	Jan. 24, 1967....	9.32	Mar. 11.....	8.96
Feb. 18.....	9.17	Mar. 14.....	9.36	Apr. 11.....	8.73
Mar. 17.....	8.28	Apr. 18.....	8.85	May 14.....	8.49
Apr. 14.....	7.68	May 18.....	8.27	June 12.....	8.60
May 12.....	7.47	June 13.....	7.98	July 10.....	9.32
June 16.....	7.75	July 18.....	9.79	Aug. 1.....	9.08
July 21.....	8.23	Aug. 11.....	9.02	Sept. 6.....	9.30
Aug. 18.....	8.58	Sept. 14.....	9.37	Oct. 3.....	9.98
Sept. 19.....	9.21	Oct. 17.....	9.39	Nov. 6.....	10.12

162-93-7ddd

Aug. 12, 1965....	6.89	Nov. 15.....	8.71	Jan. 10, 1968....	9.59
Oct. 28.....	6.57	Dec. 15.....	9.08	Feb. 7.....	9.87
Dec. 7.....	7.22	Jan. 24, 1967....	9.45	Mar. 12.....	10.06
Jan. 18, 1966....	8.05	Mar. 14.....	10.09	Apr. 11.....	8.89
Feb. 18.....	9.09	Apr. 17.....	8.37	May 14.....	7.66
Mar. 17.....	9.38	May 18.....	5.74	June 13.....	7.40
Apr. 14.....	8.00	June 13.....	6.09	July 10.....	7.90
May 12.....	6.11	July 18.....	7.11	Aug. 1.....	8.43
June 15.....	6.15	Aug. 10.....	8.00	Sept. 5.....	7.18
July 21.....	6.64	Sept. 14.....	9.10	Oct. 3.....	7.39
Aug. 18.....	7.41	Oct. 17.....	9.39	Nov. 6.....	7.59
Sept. 19.....	7.87	Nov. 7.....	9.38		
Oct. 13.....	8.46	Dec. 6.....	9.5f		

163-91-4ddd1

Aug. 11, 1965....	14.85	Nov. 16.....	16.65	Feb. 8, 1968....	18.73
Oct. 28.....	14.93	Dec. 15.....	17.15	Mar. 11.....	19.24
Dec. 7.....	15.78	Apr. 18, 1967....	18.73	Apr. 1.....	18.08
Jan. 18, 1966....	16.75	May 18.....	17.74	May 14.....	19.33
Mar. 17.....	16.24	June 13.....	20.52	June 12.....	19.29
Apr. 14.....	16.51	July 18.....	18.60	July 10.....	19.02
May 12.....	16.23	Aug. 23.....	19.26	Aug. 2.....	18.39
June 16.....	16.47	Sept. 14.....	18.55	Sept. 6.....	19.91
July 21.....	16.87	Oct. 12.....	20.17	Oct. 3.....	18.90
Sept. 19.....	16.76	Nov. 7.....	20.26	Nov. 6.....	17.76
Oct. 13.....	16.68	Dec. 6.....	19.02		

Depth to water, in feet below land surface

163-92-9cca

Date	Water level	Date	Water level	Date	Water level
Aug. 11, 1965	14.33	Nov. 15	14.90	Jan. 11, 1968	14.77
Oct. 28	14.56	Dec. 15	15.11	Feb. 8	17.02
Dec. 7	14.76	Jan. 24, 1967	15.45	Mar. 11	16.36
Jan. 18, 1966	15.18	Mar. 14	16.02	Apr. 1	16.36
Feb. 17	15.40	Apr. 17	16.05	May 14	16.18
Mar. 17	15.45	May 18	15.43	June 12	16.34
Apr. 14	15.91	June 13	14.78	July 10	16.30
May 12	15.92	July 18	14.57	Aug. 2	16.26
June 16	15.59	Aug. 11	14.72	Sept. 6	16.09
July 21	15.31	Sept. 14	14.57	Oct. 3	15.89
Aug. 16	15.09	Oct. 17	14.99	Nov. 6	15.78
Sept. 19	14.91	Nov. 8	15.02		
Oct. 13	14.71	Dec. 6	15.14		

163-92-24daa

Aug. 11, 1965	9.32	Jan. 24, 1967	10.53	Feb. 8	12.38
Oct. 28	9.45	Mar. 14	10.77	Mar. 11	11.96
Mar. 17, 1966	9.73	Apr. 18	8.51	Apr. 1	10.49
Apr. 14	8.48	May 18	7.33	May 14	9.30
May 12	7.71	June 13	8.04	June 12	9.82
June 16	7.80	July 18	10.04	July 10	10.45
July 21	6.89	Aug. 11	11.24	Aug. 2	11.21
Aug. 16	8.53	Sept. 14	12.25	Sept. 6	11.79
Sept. 19	9.87	Oct. 17	12.15	Oct. 3	11.94
Oct. 13	9.95	Nov. 7	12.03	Nov. 6	11.79
Nov. 15	10.05	Dec. 6	12.13		
Dec. 15	10.29	Jan. 11, 1968	12.18		

163-92-35ddd

Oct. 28, 1965	12.60	Nov. 15	13.98	Dec. 5	15.15
Dec. 7	12.85	Dec. 15	14.15	Jan. 11, 1968	15.45
Jan. 18, 1966	12.85	Jan. 24, 1967	14.48	Feb. 7	15.63
Feb. 17	13.60	Mar. 14	15.19	Mar. 11	15.89
Mar. 17	13.62	Apr. 18	13.18	Apr. 1	14.81
Apr. 14	12.27	May 18	11.05	May 14	13.42
May 12	10.95	June 13	11.25	June 12	13.31
June 16	10.80	July 18	13.00	July 10	14.08
July 21	11.23	Aug. 11	14.10	Aug. 1	14.98
Aug. 16	12.42	Sept. 14	14.92	Sept. 6	15.13
Sept. 19	13.67	Oct. 17	15.27	Oct. 3	15.58
Oct. 13	14.13	Nov. 7	15.09	Nov. 6	15.38

Depth to water, in feet below land surface

163-93-8ccb

Date	Water level	Date	Water level	Date	Water level
Aug. 12, 1965	15.00	Nov. 15	16.69	Jan. 10, 1968	16.82
Oct. 28	15.92	Dec. 15	17.04	Feb. 7	17.50
Dec. 7	16.26	Jan. 24, 1967	17.37	Mar. 11	18.02
Jan. 18, 1966	16.30	Mar. 14	18.00	Apr. 1	17.64
Feb. 17	15.75	Apr. 17	16.76	May 14	16.00
Mar. 17	17.09	May 18	13.67	June 12	15.70
Apr. 14	17.10	June 13	13.70	July 10	15.72
May 12	15.78	July 18	14.52	Aug. 2	16.12
June 15	15.01	Aug. 11	15.34	Sept. 5	16.68
July 21	15.40	Sept. 14	16.04	Oct. 3	16.85
Aug. 16	15.75	Oct. 17	16.70	Nov. 6	16.79
Sept. 19	16.21	Nov. 8	16.64		
Oct. 13	16.52	Dec. 5	16.80		

163-93-17ddd

June 29, 1967	15.69	Dec. 6	16.22	June 12	17.23
July 18	15.73	Jan. 10, 1969	16.22	July 10	17.09
Aug. 11	15.75	Feb. 3	16.86	Aug. 6	17.13
Sept. 14	15.77	Mar. 11	17.23	Sept. 5	17.05
Oct. 17	16.13	Apr. 1	17.24	Oct. 3	17.00
Nov. 14	16.22	May 14	17.05	Nov. 6	16.76

163-93-20aaa

Apr. 11, 1968	49.29	June 30	49.32	Sept. 20	49.89
Apr. 15	49.36	July 5	49.36	Sept. 25	49.74
Apr. 20	49.38	July 10	49.33	Sept. 30	49.66
Apr. 25	49.42	July 15	49.33	Oct. 5	49.58
Apr. 30	49.42	July 20	49.28	Oct. 10	49.52
May 5	49.42	July 25	49.36	Oct. 15	49.51
May 10	49.30	July 31	49.35	Oct. 20	49.49
May 15	49.26	Aug. 5	49.33	Oct. 25	49.44
May 20	49.33	Aug. 10	49.50	Oct. 31	49.41
May 25	49.35	Aug. 15	49.74	Nov. 5	49.51
May 31	49.30	Aug. 20	50.07	Nov. 10	49.48
June 5	49.30	Aug. 25	52.70	Nov. 15	49.37
June 10	49.30	Aug. 31	51.27	Nov. 20	49.34
June 15	49.32	Sept. 5	50.60	Nov. 25	49.41
June 20	49.27	Sept. 10	50.25	Nov. 30	49.32
June 25	49.39	Sept. 15	49.95	Dec. 5	49.41

163-93-32bdd

May 18, 1967	116.62	Sept. 14	126.12	May 14	99.80
June 13	116.38	Oct. 17	127.68	June 12	101.37
June 27	119.34	Nov. 14	127.64	July 10	133.40
June 29	123.10	Dec. 6	119.57	Aug. 21	100.56
July 5	118.46	Jan. 11, 1968	128.00	Sept. 5	102.57
July 6	123.09	Feb. 8	121.32	Oct. 3	104.70
July 18	136.08	Mar. 12	123.63	Nov. 6	113.03
Aug. 11	140.44	Apr. 2	105.87		

Depth to water, in feet below land surface

163-94-15bab

Date	Water level	Date	Water level	Date	Water level
Oct. 28, 1965....	17.66	Dec. 15.....	17.90	Jan. 10, 1968....	17.87
Dec. 7.....	17.62	Jan. 24, 1967....	17.95	Feb. 7.....	18.08
Jan. 18, 1966....	17.70	Mar. 14.....	18.14	Mar. 12.....	18.15
Mar. 17.....	17.68	Apr. 18.....	17.75	Apr. 1.....	18.23
Apr. 14.....	17.50	May 18.....	17.43	May 14.....	18.17
May 12.....	17.31	June 13.....	17.35	June 12.....	18.14
June 15.....	17.47	July 18.....	17.50	July 10.....	18.21
July 21.....	17.70	Aug. 10.....	17.74	Aug. 1.....	18.37
Aug. 16.....	17.80	Sept. 14.....	18.00	Sept. 5.....	18.47
Sept. 19.....	18.05	Oct. 17.....	17.99	Oct. 3.....	18.61
Oct. 13.....	18.05	Nov. 7.....	17.86	Nov. 6.....	18.48
Nov. 15.....	17.85	Dec. 6.....	17.92		

163-94-31dec2

Aug. 12, 1965....	9.82	Oct. 13.....	10.10	Nov. 8.....	10.43
Oct. 28.....	9.63	Nov. 15.....	10.13	Dec. 6.....	10.74
Dec. 7.....	10.10	Dec. 15.....	10.19	Feb. 7, 1968....	10.39
Jan. 18, 1966....	9.74	Jan. 24, 1967....	10.19	Mar. 12.....	10.39
Feb. 18.....	9.8	Mar. 14.....	10.18	Apr. 1.....	10.33
Mar. 17.....	9.67	Apr. 18.....	9.90	May 14.....	10.08
Apr. 14.....	9.55	May 18.....	9.55	June 12.....	10.08
May 12.....	9.40	June 13.....	9.50	July 10.....	10.27
June 15.....	9.43	July 18.....	9.81	Aug. 1.....	10.57
July 21.....	9.77	Aug. 10.....	10.14	Sept. 5.....	10.40
Aug. 16.....	9.89	Sept. 14.....	10.35	Oct. 3.....	10.33
Sept. 19.....	10.03	Oct. 17.....	10.64	Nov. 6.....	10.29

164-90-35aba

Sept. 2, 1966....	7.43	July 18.....	8.41	Apr. 1.....	8.87
Sept. 19.....	9.18	Aug. 23.....	8.58	May 14.....	8.89
Oct. 13.....	8.43	Sept. 14.....	8.63	June 12.....	9.04
Nov. 16.....	8.16	Oct. 12.....	8.61	July 10.....	8.18
Dec. 16.....	7.96	Nov. 7.....	8.65	Aug. 2.....	9.28
Jan. 25, 1967....	7.78	Dec. 6.....	8.62	Sept. 6.....	9.17
Apr. 17.....	8.11	Jan. 11, 1968....	8.47	Oct. 3.....	9.15
May 18.....	8.12	Feb. 8.....	8.53	Nov. 6.....	9.04
June 13.....	8.16	Mar. 11.....	8.78		

TABLE 4.--Logs of test holes and wells

MOUNTAIN COUNTY

150-92-2aba
(Log from Dingman and Gordon, 1954)

Altitude: 1,933 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Topsoil-----	2	2
	Sand and gravel-----	3	5
	Clay, with pebbles-----	25	30
	Clay, gray-----	40	70
	Sand-----	34	104
	Clay, gray and brown-----	6	110
	Lignite-----	5	115
	Sand and clay-----	5	120
	Sand-----	5	125
	Lignite-----	5	130
	Sand-----	3	133
	Clay, gray-----	4	137
	Lignite-----	3	140
	Clay, gray-----	9	149
	Sand-----	36	185
	Lignite-----	5	190
	Sand and clay, gray-----	10	200
	Clay, gray-----	33	233
	Lignite-----	2	235
	Clay, sandy, gray-----	20	255
	Clay, gray-----	60	315
	Clay, sandy, gray-----	13	328
	Lignite-----	17	345
	Clay, gray-green-----	22	367
	Lignite-----	3	370
	Clay, sandy, gray-green-----	7	377
	Lignite-----	3	380
	Clay, gray-green-----	8	388
	Lignite-----	2	390
	Clay, gray-green-----	3	393
	Lignite-----	2	395
	Clay, gray to brown-----	10	405

150-92-14abd
(Log from Dingman and Gordon, 1954)

Altitude: 1,950 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (Feet)</u>	<u>Depth (Feet)</u>
	Gravel-----	5	5
	Gravel and clay-----	10	15
	Clay, gray-----	40	55
	Lignite-----	2	57
	Clay, gray-----	18	75
	Clay, silty, brown-----	25	100
	Silt, brown-----	15	115
	Clay, gray-----	30	145
	Lignite-----	5	150
	Clay, gray-----	30	180
	Sand-----	20	200
	Lignite-----	5	205
	Clay, silty and sandy, gray-----	28	233
	Lignite-----	2	235
	Clay, gray-----	10	245
	Sand-----	10	255
	Lignite-----	8	263
	Clay, gray-----	4	267
	Lignite-----	3	270
	Clay, gray-----	55	325
	Lignite-----	15	340
	Clay, gray-green-----	5	345
	Sand-----	35	380
	Lignite-----	5	385
	Clay, gray-----	10	395
	Sand-----	10	405
	Lignite-----	5	410
	Clay, gray-----	5	415
	Sand and tan sandy clay-----	5	420
	Clay, gray and tan-----	15	435
	Lignite-----	15	450
	Sand-----	26	476
	Clay, gray-----	4	480
	Lignite-----	5	485
	Clay, sandy, gray-----	7	492
	Lignite-----	8	500

150-93-1dda
(Log from Dingman and Gordon, 1954)

Altitude: 2,179 feet

	Topsoil-----	3	3
	Clay, silty and sandy, with gravel-----	7	10
	Clay, silty, gray-brown-----	5	15
	Sand-----	60	75
	Lignite-----	5	80
	Clay, silty, dense, gray-----	55	135
	(No sample)-----	15	150
	Sand-----	62	212
	Lignite-----	3	215
	Clay, silty, gray-----	5	220
	Lignite-----	5	225
	Sand-----	5	230
	Clay, gray-----	10	240
	Clay, gray, with lignite streaks-----	15	255
	Sand with lignite streaks-----	15	270
	Sand-----	40	310
	Lignite-----	5	315
	Clay, sandy, gray-----	15	330

150-93-2ade
(Log from Dingman and Gordon, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Topsoil-----	5	5
	Clay, brown with gravel-----	25	30
	Sand-----	10	40
	Lignite-----	1	41
	Sand-----	18	59
	Lignite-----	4	63
	Clay, gray-----	53	116
	Lignite-----	4	120
	Clay, gray-----	26	146
	Lignite-----	8	154
	Clay, gray-----	129	283
	Lignite-----	7	290
	Clay, gray-----	25	315
	Clay, gray and brown, with thin lignite beds-----	15	330
	Clay, silty, gray-----	60	390
	Sand-----	15	405

150-93-2ebb
(Log from Dingman and Gordon, 1954)

	Topsoil-----	3	3
	Clay, yellow, with pebbles-----	42	45
	Clay, gray-----	5	50
	Clay, sandy, yellow-----	16	66
	Clay, carbonaceous, and lignite-----	2	68
	Clay, gray-----	9	77
	Lignite-----	3	80
	Clay, silty, gray and brown-----	90	170
	Lignite-----	3	173
	Clay, gray and brown-----	26	199
	Clay, brown, with small amount of lignite-----	5	204
	Clay, sandy, dense, gray-----	26	230
	Sand-----	1	231
	Clay, gray-----	89	320
	Lignite-----	3	323
	Clay, gray-----	77	400
	Sand-----	10	410
	Clay, gray-----	16	426
	Limestone-----	4	430
	Sand-----	8	438
	Limestone-----	1	439
	Lignite-----	11	450
	Limestone-----	3	453
	Lignite-----	9	462
	Clay, gray-----	33	495

150-93-11baa
(Log from Dingman and Gordon, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Topsoil-----	3	3
	Clay, brown and gray-----	17	20
	Clay, gray and green-----	13	33
	Lignite-----	6	39
	Clay, gray and green-----	61	100
	Sand with thin lignite bed-----	35	135
	Clay, silty, gray-----	10	145
	Lignite-----	10	155
	Clay, brown and gray-----	40	195
	Sand-----	10	205
	Clay, gray and brown-----	8	213
	Lignite-----	2	215
	Clay, gray-----	15	230
	Lignite-----	2	232
	Clay, gray-----	3	235
	Lignite-----	3	238
	Clay, silty, gray-----	31	269
	Lignite-----	1	270
	Clay, gray and brown-----	69	339
	Lignite-----	1	340
	Clay, gray and brown-----	30	370
	Lignite-----	5	375
	Clay, gray-----	30	405

151-88-8aaa

Altitude: 2,118 feet

Glacial drift:			
	Sand, clayey, black-----	1	1
	Sand, very clayey, white to yellowish-gray-----	3	4
	Till, moderate-olive-brown, oxidized-----	58	62
	Sand, medium, brown, well-sorted, subangular to subrounded-----	27	89
Sentinel Butte Formation:			
	Shale, silty, various shades of yellow, light-green, and gray-----	12	101
	Lignite, black-----	4	105
	Shale, medium-to dark-gray-----	15	120

151-88-12abb

Altitude: 2,105 feet

Glacial drift:			
	Soil, pebbly, silty, black-----	1	1
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	40	41
	Till, olive-gray-----	19	60
	Till, dusky-yellow to moderate-olive-brown, oxidized	41	101
Sentinel Butte Formation:			
	Shale, yellowish-green to medium-gray; a thin lignite bed at 118 ft.-----	19	120

151-88-29bbb

Altitude: 2,115 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty, black-----	1	1
	Till, yellowish-gray to dusky-yellow, oxidized-----	17	18
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	19	37
Sentinel Butte Formation:			
	Sand, fine, yellowish-green, lignitic-----	25	62
	Lignite, black, fissile-----	2	64
	Shale, silty, light-to medium-gray-----	16	80

151-89-1daa
(Log from D. Jahnke)

Black loam-----	3	3
Yellow clay-----	63	66
Darker sandy clay-----	6	72
Yellow sandy formation-----	2	74
Yellow soft sandstone with soft layers-----	9	83
Yellow soft clay-----	2	85

151-89-19ccc
(Log from D. Jahnke)

Missing-----	7	7
Yellow clay-----	28	35
Blue clay or shale-----	19	54
Coal-----	1	55
Gray clay or shale-----	3	58
Coal-----	1	59
Gray clay or shale-----	31	90
Rock-----	3.5	93.5
Gray sandy clay-----	8.5	102
Soft lignite and water-----	3	105
Gray clay-----	3	108
Coal-----	2	110

151-89-30bbb1
(Log from D. Jahnke)

Drift clay-----	52	52
Moist clay-----	1	53
Lignite coal-----	1	54
Sandy clay-----	5	59
Blue clay or shale-----	21	80
Gray clay or shale-----	18	98
Sandy clay-----	12	110
Lignite-----	3.5	113.5
Blue clay or shale-----	3.5	117

151-89-33adc
(Log from D. Jahnke)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Yellow clay with small stones and pebbles-----	24	24
	Boulder or rock-----	3	27
	Sandy yellow clay-----	27	54
	Lignite-----	3	57
	Blue clay or shale-----	7.67	64.67
	Lignite coal-----	2.33	67
	Gray shale or clay-----	20	87
	Hard rock or limestone-----	3.5	90.5
	Sandy formation-----	.5	91
	Soft sandstone-----	30.5	121.5
	Hard rock or limestone-----	3	124.5
	Soft clay-like formation-----	1.5	126
	Soft sandstone or petrified sand-----	10	136

151-89-36ddd

Altitude: 2,076 feet

Glacial drift:	Till, dusky-yellow, oxidized-----	2	2
Sentinel Butte Formation:	Sand, medium, yellowish-brown to reddish-brown, well-sorted, subangular to subrounded, oxidized; contains ironstone chips and concretions-----	35	37
	Silt, dusky-yellow, limonitic, oxidized-----	3	40
	Sand, fine, clayey, yellowish-green-----	5	45
	Shale, yellowish-gray to medium-gray and greenish- gray-----	27	72
	Sand, fine, greenish-gray to bluish-gray, calcareous	16	88
	Silt, bluish-gray-----	11	99
	Shale, medium-gray-----	13	112
	Lignite, black-----	10	122
	Shale, medium-gray and brownish-black-----	18	140

151-90-3baa
(Log from Schmid, 1962)

Glacial drift:	Sand, gravelly to clayey, oxidized-----	6	6
	Till, light-olive-brown, oxidized-----	6	12
	Till, olive-gray-----	19	31
	Sand, very fine to coarse-----	5	36
Tongue River Formation:	Lignite-----	3	39
	Clay, greenish-gray to light-bluish-gray-----	13.5	52.5

151-90-26ddd

Altitude: 2,192 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, dusky-yellow to moderate-olive-brown, oxidized-	8	8
	Till, moderate-olive-brown, oxidized-----	12	20
	Boulder-----	2	22
	Till, moderate-olive-brown, oxidized-----	13	35
Sentinel Butte Formation:			
	Sand, silty and clayey, light-olive-gray, bedded----	46	81
	Shale, silty and sandy, interbedded, light-olive-gray to medium-gray-----	27	108
	Sand, fine to medium, clayey, bluish-gray to dark- greenish-gray-----	18	126
	Shale, bluish-gray-----	4	130
	Sand, fine to medium, bluish-gray to dark-greenish- gray-----	4	134
	Shale, bluish-gray-----	6	140

151-90-35baa
(Log from D. Jahnke)

Black loam-----	2	2
Yellow clay-----	14	16
Yellow sand-----	20	36
Rock or boulders-----	2	38
Hard sandy formation or yellow sandstone-----	32	70
Hard yellow sandy clay-----	28	98
Darker clay with small pieces of lignite-----	10	108
Yellow sandstone or hard sandy clay, some water at 125 ft.-----	17	125
Darker sand or blue sandy clay-----	8	133
Blue sandy formation-----	12	145
Rather hard rock, light colored-----	1.5	146.5

151-90-36dda
(Log from D. Jahnke)

Drift clay-----	29.75	29.75
Boulders and smaller stones-----	2.25	32
Medium hard sandy formation-----	29	61
Blue clay or shale-----	19	80
Reddish coal-----	.5	80.5
Gray clay or shale-----	21.5	102
Gray sandy clay-----	6	108
Harder sandstone-----	1	109
Softer gray sandstone-----	8	117

151-92-3ccc

Altitude: 1,900 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty, loam, black-----	1	1
	Silt, sandy, yellowish-gray-----	3	4
	Till, yellowish-gray to dusky-yellow, oxidized-----	6	10
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	22	32
	Till, moderate-olive-brown, oxidized-----	20	52
	Sand, coarse with fine gravel, moderately well-sorted, subangular to subrounded; pebbles are mostly limestone and dark shale-----	19	71
	Clay, silty, olive-gray-----	26	97
	Clay, dark-olive-gray-----	12	109
	Sand, very fine, light-olive-gray, subrounded, lignitic-----	5	114
	Clay, silty, olive-gray-----	9	123
	Sand, very fine to medium with interbedded silt and sandy clay, generally light-olive-gray, but varies to black-----	35	158
	Till, olive-gray-----	117	275
Tongue River Formation:			
	Shale, silty, medium-gray-----	5	280
	Sand, very fine, clayey, dark-greenish-gray-----	3	283
	Shale, silty, greenish-gray-----	2	285
	Lignite, Leonardite, and black oily sandy clay-----	9	294
	Shale, black-----	6	300

151-92-8bbb

Altitude: 1,925 feet

Glacial drift:			
	Loam, silty, dark-brown-----	2	2
	Sand, coarse and fine to medium gravel, subangular (dry)-----	4	6
	Till, yellowish-gray, oxidized-----	3	9
	Till, dusky-yellow, oxidized-----	12	21
	Till, moderate-olive-brown, oxidized-----	13	34
	Clay, silty, light-olive-gray-----	6	40
	Claystone, gray, iron stained-----	3	43
	Till, olive-brown to olive-gray-----	11	54
	Sand, medium to coarse with some fine gravel, lignitic-----	4	58
	Till(?), olive-gray-----	3	61
	Sand, medium to coarse with some fine gravel, lignitic-----	10	71
Tongue River Formation:			
	Shale, medium-gray-----	5	76
	Shale, light-greenish-gray-----	4	80
	Sand, very fine to fine, well-sorted, subangular to subrounded, calcareous, contains some lignite grains-----	62	142
	Sand, very fine to fine, clayey-----	11	153
	Sand, very fine to fine, well-sorted, subangular to subrounded, calcareous, contains lignite grains--	42	195
	Lignite, brownish-black-----	5	200
	Shale, light-olive-gray-----	20	220

151-92-22ddd
Altitude: 1,899 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, clayey and sandy, yellowish-gray, oxidized-----	5	5
	Till, dusky-yellow-----	33	38
	Gravel, fine, and coarse sand, well-sorted, sub-angular to subrounded-----	9	47
	Till, moderate-olive-brown, oxidized-----	11	58
	Clay, silty, moderate-olive-brown-----	5	63
	Till, olive-gray-----	18	81
	Clay, silty, olive-gray with streaks of various shades of gray and green, calcareous; contains a few lignite and limestone grains-----	19	100
	Gravel, fine to medium, sand, interbedded, sub-angular to subrounded; predominantly limestone pebbles-----	20	120
	Sand, fine to medium, dark-greenish-gray, lignitic-----	57	177
Tongue River Formation:			
	Shale, sandy, olive-gray, calcareous with noncalcareous white to tan specks-----	44	221
	Sand, very fine, clayey, light-greenish-gray, calcareous-----	19	240

151-92-31aaa
Altitude: 1,968 feet

Glacial drift:			
	Till, yellowish-gray to dusky-yellow, oxidized-----	13	13
	Till, dusky-yellow, oxidized-----	8	21
	Sand, medium to very coarse, dark-brown and rusty, subangular to subrounded-----	13	34
Sentinel Butte Formation:			
	Shale, silty, medium-gray-----	26	60

151-92-34daa
Altitude: 1,891 feet

Glacial drift:			
	Loam, sandy, black-----	1	1
	Sand, fine to medium, slightly clayey, dusky-yellow, oxidized-----	20	21
	Till, moderate-olive-brown, oxidized-----	28	49
	Till, olive-gray-----	11	60
	Gravel, fine to medium, moderately well-sorted, generally subrounded; predominantly limestone pebbles-----	6	66
	Clay, olive-gray-----	4	70
	Gravel, fine to medium, moderately well-sorted, sub-rounded; predominantly limestone pebbles-----	4	74
	Sand, fine to medium, well-sorted, subrounded, lignitic-----	9	83
	Clay, sandy, light-olive-gray-----	4	87
	Sand, fine and medium, light-gray, lignitic-----	12	99
	Silt, light-olive-gray-----	6	105
	Sand, fine, gray, well-sorted, subrounded-----	4	109
	Clay, silty and sandy, light-olive-gray to olive-gray-----	15	124
	Gravel, fine and medium, sandy, dark-brown; predominantly iron stained siliceous pebbles-----	17	141
	Clay, olive-gray with bluish tint-----	4	145
	Gravel, fine and medium, sandy, dark-brown; predominantly iron stained siliceous pebbles-----	25	170
Tongue River Formation:			
	Shale, silty and sandy, light-and medium-gray to light-olive-gray and light-greenish-gray, calcareous-----	30	200

151-93-21bba
(Log from D. Jahnke)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Dark sandy clay or soil-----	1	1
	Fine yellow dry sand-----	72	73
	Fine gray wet sand-----	29	102
	Fine gray wet sand, mixed with small pieces of coal--	9	111
	Gray wet sand-----	15	126
	Sand mixed with slack coal and coarser sand toward bottom-----	3	129

151-93-22ddd

Altitude: 1,986 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Till, dusky-yellow, oxidized-----	22	22
	Sand, medium to coarse, silty to gravelly, poorly sorted, subangular to subrounded, interbedded, oxidized-----	29	51
	Sand, fine, silty, interbedded with medium to coarse sand and gravel, oxidized-----	27	78
	Silt, clayey to sandy, dusky-yellow, oxidized, interbedded with fine to medium sand-----	20	98
	Sand, fine, interbedded with lenses of silt and medium sand, oxidized-----	26	124
	Sand, fine, dark-green, very poor sample-----	43	167
	Sand, fine, clayey, dark-greenish-gray-----	21	188
	Sand, fine to medium, dark-greenish-gray, well-sorted, subangular-----	24	212
	Lignite, black, detrital-----	5	217
	Sand, medium, dark-greenish-gray, well-sorted, lignitic-----	14	231
	Lignite, clayey, black, detrital-----	4	235
	Sand, fine to medium, dark-greenish-gray, well-sorted, subangular-----	63	298
	Gravel, fine to medium, dark-brown, predominantly iron stained siliceous and sedimentary pebbles---	9	307
	Till, dark-olive-gray, contains many small lignite fragments-----	92	399
	Sand or gravel (from E-log and drilling) no samples--	23	422
Tongue River Formation:	Shale, dark-brownish-black, oily-----	12	434
	Silt, clayey to sandy, light-greenish-gray-----	16	450

151-93-23bcc

Altitude: 1,935 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Loam, sandy, black-----	1	1
	Sand, very fine to very coarse, clayey, yellowish-gray, drilled as though interbedded-----	8	9
	Till, dusky-yellow, oxidized-----	22	31
	Till(?), clay, silty, sandy clay, lignite, and carbonaceous clay, variegated, light-gray to black, principally moderate-olive-brown, oxidized, contains a few sandstone boulders; till apparently contains many inclusions from the Fort Union Group-----	54	85
Tongue River Formation:	Sand, fine, rusty-yellowish-gray, well-sorted, subrounded, micaceous, oxidized and iron stained---	9	94
	Shale, silty, light-olive-gray, oxidized-----	13	107
	Shale, silty, medium-gray-----	13	120

151-93-28add
(Log from D. Jahnke)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Black loam with some gravel-----	3	3
	Yellow clay with gravel-----	24	27
	Seemed to be a layer of gravel-----	1	28
	Yellow clay-----	8	36
	Sort of hard pan or rock of some kind-----	2	38
	Yellow hard sandy clay or sandstone-----	6	44
	Harder sandstone with soft layers-----	34	78
	Blue sandy clay or sandstone-----	13	91
	Lignite coal and water-----	2.5	93.5
	Dark clay-----	.5	94

151-93-29add
(Log from D. Jahnke)

	Black loam-----	1	1
	Yellow clay mixed with gravel-----	37	38
	Darker clay-----	4	42
	Yellow clay-----	9	51
	Petrified sandy clay or soft sandstone-----	9	60
	Yellow sandy clay-----	34	94
	Darker sandy clay-----	8	102
	Still darker clay-----	14	116
	Lighter sandy clay-----	31	147
	Reddish clay, rocks and gravel-----	9	156
	Yellow sandstone or sandy clay-----	22	178
	Dark, green, and muddy-----	9	187
	Blue sandy mud-----	29	216
	Dark gray clay, not so muddy-----	30	246
	Gray soft sandstone or hard sand, water from 256 to 259 ft.-----	15	261
	Hard rock-----	1.5	262.5
	Sandy hard clay or soft sandstone-----	7	269.5
	Very hard rock-----	2	271.5
	Not quite so hard rock-----	2	273.5
	Very hard rock-----	2	275.5
	Sandy blue clay-----	14.5	290
	Gray sticky clay or shale-----	11	301
	Almost black clay-----	.5	301.5
	Fairly hard lignite coal-----	5	306.5
	Gray clay-----	2	308.5

151-93-35bbb
(Log from D. Jahnke)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Black soil mixed with gravel-----	1	1
	Gravel and sandy clay-----	3	4
	Rocks, gravel and sand-----	4	8
	Yellow clay-----	13	21
	Rock and gravel-----	4	25
	Sandy mud-----	31	56
	Quite a lot of gravel-----	2	58
	Gray clay or shale-----	1	59
	Hard formation of some kind-----	2	61
	Sticky gray clay-----	15	76
	Light-green clay-----	6	82
	Dark-green clay or shale (some seepage)-----	13	95
	Very dark clay-----	2	97
	Very dark clay like coal but softer than coal-----	2	99
	Very sticky dark clay-----	3	102
	Greenlike very sticky clay-----	6	108
	Dark-gray clay-----	7	115
	Dark limestone-----	1.5	116.5
	Dark clay-----	4.5	121
	Black clay mixed with coal-----	2	123
	Lighter clay, sticky, noticed some seepage at 145 ft.-----	22	145
	Still light colored clay-----	10	155
	Coal-----	.5	155.5
	Sticky gray clay-----	16.5	172
	Brownish clay, not sticky-----	5	177
	Layers of thin coal, some seepage-----	2	179
	Gray clay-----	4	183
	Sandy clay-----	1.5	184.5
	Fairly hard coal-----	2	186.5
	Gray clay-----	17	203.5
	Rock-----	.5	204
	Sticky dark-gray clay-----	26	230
	Sandy and some water-----	4	234
	Still sandy clay and a little more water-----	4	238
	Layer of clay-----	2	240
	More sand and a little more water-----	10	250
	Gray clay or shale-----	5	255
	Hard rock, probably dark lime rock-----	1.5	256.5
	Sticky gray clay-----	13.5	270
	Loose coal and water-----	2	272
	Hard lignite, no more water-----	2	274
	Gray clay or shale-----	1	275

152-88-4bbb
(Log from C. A. Simpson & Son)

	Topsoil-----	1	1
	Yellow clay-----	38	39
	Gray clay-----	6	45
	Yellow clay, rust colored in places-----	9	54
	Gray clay-----	4	58
	Hard layer-----	2	60
	Gray clay-----	5	65
	Slightly sandy gray clay-----	8	73
	Coal chunks, gray clay or shale-----	2	75
	Gray shale with coal particles-----	10	85
	Coal-----	1.5	86.5
	Gray shale with coal particles-----	13.5	100

152-88-10ddd

Altitude: 2,035 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel, fine and medium, moderately well-sorted, limonite stained-----	5	5
	Till, moderate-olive-brown, oxidized-----	5	10
	Till, olive-gray; contains some oxidized zones-----	12	22
Sentinel Butte Formation:			
	Silt, clayey, olive-gray and light-olive-gray-----	14	36
	Shale, greenish-gray, waxy, slightly brittle-----	4	40

152-88-11bbb

Altitude: 2,076 feet

Glacial drift:			
	Loam, sandy, black-----	1	1
	Sand, fine, clayey, moderate-olive-brown-----	5	6
	Till, moderate-olive-brown, oxidized-----	11	17
Sentinel Butte Formation:			
	Sand, medium, yellowish-green, well-sorted, sub-angular, lignitic, micaceous, oxidized-----	8	25
	Clay, sandy, white and yellowish-gray-----	11	36
	Sandstone, medium, light-greenish-gray; calcium carbonate cement-----	4	40
	Sand, medium to coarse, yellowish-green, subangular, lignitic-----	21	61
	Shale, silty, light-olive-green and greenish-gray, slightly brittle-----	13	74
	Lignite, black, fissile-----	3	77
	Shale, black and reddish-brown-----	3	80

152-88-22aaa

Altitude: 2,085 feet

Glacial drift:			
	Loam, pebbly, black-----	1	1
	Till, moderate-olive-brown, oxidized-----	57	58
	Gravel, fine, brown, well-sorted, generally sub-angular; pebbles are predominantly iron-stained limestone, sandstone, claystone, and dark shale---	4	62
	Till, olive-gray; inclusions in till are predominantly lignite and shales from the Fort Union Group---	14	76
	Gravel, fine and medium, moderately well-sorted, sub-angular; pebbles are predominantly iron-stained sedimentary rocks and lignite-----	7	83
	Till, olive-gray-----	9	92
Sentinel Butte Formation:			
	Sand, fine, slightly clayey, dark-greenish-gray-----	6	98
	Shale, reddish-brown to brownish-black-----	7	105
	Lignite, black, fissile-----	4	109
	Shale, variegated grays and greens-----	11	120

152-89-1bbb

Altitude: 2,091 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Till, moderate-olive-brown, oxidized-----	27	27
Sentinel Butte Formation:	Leonardite, black, oily-----	5	32
	Shale, variegated-----	23	55
	Lignite, black-----	2	57
	Shale, variegated-----	24	81
	Lignite, black-----	2	83
	Shale, variegated-----	7	90
	Lignite, black-----	3	93
	Shale, variegated-----	8	101
	Shale, variegated, lignitic, interbedded-----	19	120

152-89-6aad

Altitude: 2,111 feet

Glacial drift:	Loam, sandy, black-----	1	1
	Till, sandy, yellowish-gray to dusky-yellow, oxidized	24	25
Sentinel Butte Formation:	Lignite, black-----	2	27
	Sand, fine, black, carbonaceous and medium-gray shale, interbedded-----	7	34
	Shale, bluish-gray-----	6	40

152-89-27abb

(Log from Schmid, 1962)

Glacial drift:	Gravel, fine to coarse, sandy, oxidized-----	8	8
	Till, moderate-yellowish-brown, oxidized-----	4	12
	Till, olive-gray-----	20	32
	Sand, medium to very coarse, gravelly-----	7	39
	Till, olive-gray-----	10	49
Tongue River Formation:	Clay, dark-greenish-gray, lignite seams-----	3.5	52.5

152-89-29dad

(Log from Schmid, 1962)

Glacial drift:	Gravel, fine to coarse, sandy, oxidized-----	12	12
	Till, olive-gray-----	34	46
	Gravel, fine to very coarse, sandy-----	8	54
Tongue River Formation:	Clay, brownish-gray and grayish-blue-green with lignite fragments-----	19.5	73.5

152-89-30aca
(Log from Schmid, 1962)

Altitude: 1,949 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topssoil, black-----	2	2
	Sand, medium to very coarse, gravelly, and clay; oxidized-----	9	11
	Gravel, fine to coarse, sandy and sparse clay-----	5	16
	Till, olive-gray, shale granules-----	6	22
	Sand, medium to very coarse with clay layers, olive-gray-----	7	29
	Till, olive-gray, sand lenses-----	13	42
	Till, olive-gray-----	17	59
	Till, olive-gray, gravelly-----	3	62
Tongue River Formation:			
	Sandstone, greenish-gray, fine grained-----	3	65

152-89-30bcc
(Log from Schmid, 1962)

Altitude: 1,941 feet

Glacial drift:			
	Till, moderate-yellowish-brown, oxidized-----	20	20
	Till, olive-gray-----	10	30
	Sand, medium to coarse-----	4	34
	Till, olive-gray; fine gravel-----	7	41
	Gravel, fine to coarse, sandy-----	5	46
	Till, olive-gray-----	5	51
Tongue River Formation:			
	Sandstone, greenish-gray, very fine lignitic seams with olive-gray shale-----	12	63

152-89-30cbc
(Log from Schmid, 1962)

Altitude: 1,927 feet

Glacial drift:			
	Sand, fine to very coarse, clayey to gravelly-----	4	4
	Till, moderate-yellowish-brown, oxidized-----	1	5
	Till, olive-gray to dark-greenish-gray-----	20	25
	Sand, very fine to very coarse, clayey-----	2	27
	Till, olive-gray-----	2	29
	Sand, medium to very coarse, gravelly-----	5	34
	Till, olive-gray, shale granules-----	5	39
	Gravel, fine, sandy-----	3	42
	Till, olive-gray-----	25	67
	Gravel, fine to medium, sandy-----	2	69
	Till, olive-gray-----	7	76
	Sand, very fine to very coarse-----	13	89
	Sand, gravel and clay-----	6	95
Tongue River Formation:			
	Shale, medium-light-gray-----	10	105

152-89-30dba
(Log from Schmid, 1962)

Altitude: 1,933 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, gravelly to clayey-----	6	6
	Gravel, fine to coarse, sandy, dark stain-----	5	11
	Till, olive-gray-----	6	17
	Sand, fine to very coarse, gravelly-----	22	39
Tongue River Formation:			
	Clay, light-olive to greenish-gray-----	24	63

152-89-30ddb
(Log from Schmid, 1962)

Altitude: 1,936 feet

Glacial drift:			
	Till, moderate-yellowish-brown, oxidized-----	11	11
	Till, yellowish-gray, oxidized-----	5	16
	Till, olive-gray-----	34	50
	Gravel, fine to coarse, sand-----	11	61
	Sand, medium to very coarse, gravel-----	10	71
	Clay (no sample)-----	2	73

152-89-31aaa
(Log from Schmid, 1962)

Altitude: 1,964 feet

Glacial drift:			
	Clay, yellowish-gray, silty-----	6	6
	Till, moderate-yellowish-brown, oxidized-----	21	27
	Gravel, fine to coarse-----	5	32
	Gravel, fine to medium-----	6	38
	Gravel, fine to medium, clayey-----	7	45
	Clay (very poor samples)-----	7.5	52.5

152-89-31aba
(Log from Schmid, 1962)

Altitude: 1,940 feet

Glacial drift:			
	Topsoil, black-----	2	2
	Till, moderate-yellowish-brown, oxidized-----	14	16
	Till, yellowish-gray, oxidized-----	7	23
	Till, olive-gray-----	25	48
Tongue River Formation:			
	Clay, light-to medium-bluish-gray-----	15	63

152-90-3aba

Altitude: 1,956 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Clay, gravelly, yellowish-gray, oxidized-----	4	4
	Till, dusky-yellow to moderate-olive-brown-----	26	30
	Gravel, fine to medium, sandy, angular to subrounded; principally iron-stained limestone, shale, and granitic pebbles-----	19	49
	Till, olive-gray-----	38	87
	Sand, fine to medium, lignitic-----	4	91
	Till, olive-gray-----	33	124
Tongue River Formation:	Shale, silty, light-olive-gray-----	16	140

152-90-8acd

(Log from Schmid, 1962)

Glacial drift:	Silt, light-olive-gray, oxidized-----	6	6
	Gravel, fine to medium, sandy with dark stains on pebbles-----	4	10
	Gravel, fine to coarse, sandy-----	28	38
	Till, olive-gray-----	27	65
	Sand, medium to very coarse, granules-----	9	74
Tongue River Formation:	Clay, greenish-gray-----	31	105

152-90-13ccc2

Altitude: 2,057 feet

Glacial drift:	Till, moderate-olive-brown, oxidized-----	9	9
	Sand, fine to very coarse with fine to medium gravel, iron-stained-----	16	25
Sentinel Butte Formation:	Shale, medium-gray-----	14	39
	Limestone, gray-----	2	41
	Shale, medium-gray-----	17	58
	Lignite, black, hard-----	8	66
	Shale, variegated, white to dark-gray, with some interbedded bluish-gray to greenish-gray, clayey, fine sand-----	38	104
	Shale, light-green-----	10	114
	Lignite, black, hard-----	6	120

152-90-14ddd

(Log from Schmid, 1962)

Glacial drift:	Till, grayish-orange, gravel, oxidized-----	8	8
Tongue River Formation:	Clay, moderate-yellowish-brown, oxidized-----	4	12
	Clay, grayish-yellow, oxidized-----	5	17
	Lignite-----	2	19
	Clay, olive-gray to light-bluish-gray and bluish-gray-----	2	21

152-90-18ccc

Altitude: 1,870 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, sandy, black-----	1	1
	Sand, fine to coarse, subangular to subrounded, oxidized-----	3	4
	Till, dusky-yellow, oxidized-----	5	9
	Till, moderate-olive-brown, oxidized; grades into olive-gray till at about 15 ft.-----	55	64
	Sand, medium to very coarse, and fine to coarse gravel, interbedded in well-sorted lenses-----	11	75
	Till, partly oxidized; poor samples-----	8	83
Tongue River Formation:			
	Shale, medium-gray-----	6	89
	Sand, fine, greenish-gray, calcareous, friable-----	6	95

152-90-24ddd

(Log from Schmid, 1962)

Altitude: 1,993 feet

Glacial drift:			
	Till, moderate-yellowish-brown, oxidized-----	9	9
Tongue River Formation:			
	Clay, dusky-yellow, oxidized-----	7	16
	Clay, greenish-gray-----	4	20
	Shale, grayish-yellow and dusky-yellow with lignitic seams-----	10	30
	Clay, greenish-gray-----	16	46
	Sandstone, very fine to fine, medium-bluish-gray with lignitic seams-----	12	58
	Shale, grayish-yellow and dusky-yellow with lignitic seams-----	5	63

152-90-25abd

(Log from Schmid, 1962)

Altitude: 1,986 feet

Glacial drift:			
	Till, dark-yellowish-orange to moderate-yellowish-brown, oxidized-----	28	28
Tongue River Formation:			
	Clay, light-olive-gray to olive-gray with lignitic seams-----	10	38
	Clay, dusky-yellow, sandy-----	4	42
	Shale, greenish-gray-----	6	48
	Lignite-----	4	52
	Sandstone, medium-bluish-gray, fine-----	13	65
	Shale, greenish-gray, sandy with lignitic seams-----	4	69
	Sand, grayish-green, very fine to fine with shale, moderate-olive-brown with lignitic seams-----	4	73
	Siltstone, pale-green to dusky-yellowish-green with lignitic seams-----	9	82
	Clay, light-olive-gray with lignitic seams-----	9	91
	Shale, greenish-gray-----	9	100
	Sandstone, pale-green, clayey-----	5	105

152-90-25dbcl
(Log from Schmid, 1962)

Altitude: 1,933 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel, fine to coarse, sandy, oxidized-----	10	10
	Sand, fine to coarse, oxidized-----	7	17
	Rocks (?), probably very coarse gravel, oxidized----	2	19
	Till, olive-gray-----	30	49
	Sand, fine to very coarse with layers of fine to medium gravel-----	9	58
	Gravel, fine to medium, sandy with layers of pale-olive clay-----	5	63
	Till, olive-gray-----	9	72
	Gravel, fine to very coarse-----	8	80
	Till, brown-black-----	19	99
Tongue River Formation:			
	Shale, dark-greenish-gray-----	6	105

152-90-25ddcl
(Log from Schmid, 1962)

Altitude: 1,927 feet

Glacial drift:			
	Topsoil or fill, brownish-black, sandy-----	4	4
	Gravel, fine to coarse, sandy, oxidized-----	4	8
	Till, olive-gray-----	41	49
	Gravel, fine to medium-----	3	52
	Till, olive-gray-----	11	63
	Gravel, fine, very sandy-----	2	65
	Till, olive-gray-----	3	68
	Gravel, fine to medium, sandy-----	5	73
	Till, olive-gray with sand lenses-----	10	83
	Till, olive-gray with fine gravel lenses-----	10	93
Tongue River Formation:			
	Clay, grayish-green-----	12	105

152-90-25ddc2
(Log from Schmid, 1962)

Altitude: 1,927 feet

Glacial drift:			
	Sand, very fine to medium, clayey, oxidized-----	4	4
	Gravel, fine to coarse, sandy, oxidized-----	6	10
	Till, olive-gray-----	47	57
	Gravel, fine to medium-----	3	60
	Till, olive-gray-----	1	61
	Gravel, fine, sandy-----	2	63
	Till, olive-gray with fine gravel lenses-----	9	72
	Gravel, fine to medium-----	7	79
	Till, olive-gray with lenses of sand-----	5	84

152-90-26cdd
(Log from Schmid, 1962)

Altitude: 1,909 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, medium-gray, oxidized-----	5	5
	Sand, fine to very coarse, sparse clay-----	6	11
	Sand, fine to very coarse, gravelly-----	10	21
	Gravel, fine to coarse-----	2	23
	Till, olive-gray-----	10	33

152-90-26ddc
(Log from Schmid, 1962)

Altitude: 1,918 feet

Glacial drift:			
	Sand, fine to very coarse, gravelly, oxidized-----	15	15
	Gravel, fine to very coarse, oxidized-----	2	17
	Till, olive-gray-----	8	25
	Sand, very fine to very coarse-----	13	38
Tongue River Formation:			
	Lignite with greenish-gray clay lenses-----	8	46
	Clay, olive-gray with greenish-gray areas-----	17	63

152-90-27caa
(Log from Schmid, 1962)

Altitude: 1,905 feet

Glacial drift:			
	Clay, moderate-yellowish-brown, sandy, oxidized-----	5	5
	Clay, dark-greenish-gray to greenish-gray, silty-----	3	8
	Clay, yellowish-gray, silty-----	3	11
	Till, olive-gray-----	42	53
	Gravel, fine to coarse-----	2	55
Tongue River Formation:			
	Lignite-----	2	57
	Shale, dark-greenish-gray-----	7	64
	Clay, pale-blue-green, silty with greenish-gray and dark-greenish-gray clay with lignite lenses-----	18	82
	Sandstone, medium-gray, very hard-----	2	84

152-90-27ddd
(Log from Schmid, 1962)

Altitude: 1,909 feet

Glacial drift:			
	Clay, dusky-yellow, oxidized-----	5	5
	Gravel, fine to coarse, sandy, oxidized-----	2	7
	Gravel, fine to coarse, sandy-----	13	20
	Till(?), rock at 22 ft., abandoned hole-----	2	22

152-90-29add
(Log from Schmid, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, dark-yellowish-orange to moderate-yellowish-brown, oxidized-----	10	10
	Till, moderate-yellowish-brown to olive-gray, partially oxidized-----	52	62
	Clay, olive-gray, limonitic areas-----	6	68
	Gravel, fine to medium, sandy, oxidized-----	6	74
Tongue River Formation:			
	Sand, dusky-yellow, clayey, oxidized-----	12	86
	Sand, pale-blue, clayey-----	12	98
	Sandstone, very light-gray-----	2	100
	Sand, greenish-gray, clayey-----	5	105

152-90-29bcc
(Log from D. Jahnke)

Fill-----	3	3
Dark-yellow clay and stones-----	44	47
Yellow clay with gravel and stones-----	3	50
Yellow clay-----	8	58
Small boulders-----	1	59
Sandy yellow clay or soft sandstone-----	11	70
Soft sandstone with some seepage at 85 ft.-----	15	85
Soft sandy clay-----	11	96
Hard sandstone-----	2	98
Soft gray sandstone-----	12	110
Gray clay-----	4	114

152-90-33bbc
(Log from Schmid, 1962)

Glacial drift:			
	Gravel, fine to very coarse, sandy, oxidized-----	23	23
Tongue River Formation:			
	Clay, greenish-gray, (poor samples)-----	37	60
	Sandstone-----	2	62
	Clay, greenish-gray-----	1	63

152-90-34bab
(Log from Schmid, 1962)

Altitude: 1,909 feet

Glacial drift:			
	Topsoil or fill-----	3	3
	Till, grayish-orange, oxidized-----	7	10
	Clay, dark-yellowish-orange, oxidized-----	3	13
	Clay, olive-gray-----	8	21
	Gravel, fine, sandy-----	6	27
	Sand, clayey to gravelly, slightly oxidized clay-----	6	33
Tongue River Formation:			
	Clay, greenish-gray, lignitic lenses-----	30	63

152-90-35bac
(Log from Schmid, 1962)
Altitude: 1,918 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, dusky-yellow, oxidized-----	11	11
	Gravel, fine to coarse, sandy, oxidized-----	7	18
	Till, olive-gray-----	44	62
Tongue River Formation:			
	Shale, dark-greenish-gray-----	6	68
	Sandstone, greenish-gray, fine to very fine-----	5.5	73.5

152-90-36aaa
(Log from Schmid, 1962)
Altitude: 1,932 feet

Glacial drift:			
	Till, moderate-yellowish-brown, oxidized-----	16	16
	Till, olive-gray, gravel-----	15	31
	Gravel, fine to coarse, sandy-----	10	41
	Gravel, bouldery, poor samples-----	5	46
Tongue River Formation:			
	Clay, light-greenish-gray to bluish-gray, sandy, very poor samples-----	17	63

152-90-36aba
(Log from Schmid, 1962)
Altitude: 1,919 feet

Glacial drift:			
	Sand, very fine to medium, silty, oxidized-----	6	6
	Sand, very fine to very coarse, silty-----	10	16
	Gravel, fine, very sandy-----	12	28
	Till, olive-gray-----	15	43
	Sand, medium to very coarse, granule gravel-----	2	45
	Till, olive-gray-----	3	48
	Gravel, fine to medium, sandy-----	12	60
Tongue River Formation:			
	Clay, greenish-gray, lignitic seams-----	24	84

152-90-36abb
(Log from Schmid, 1962)
Altitude: 1,919 feet

Glacial drift:			
	Till, moderate-yellowish-brown, oxidized-----	7	7
	Gravel, fine to medium, sandy, dark stained-----	24	31
	Clay, light-bluish-gray to medium-bluish gray with brownish-black clay with lignite seams (Tongue River Formation??)-----	6	37
	Clay, olive-gray-----	20	57
	Gravel, fine to medium, sandy-----	3	60
Tongue River Formation:			
	Clay, light-bluish-gray with brownish-black clay-----	3	63
	Clay, pale-green to grayish-green with light-olive-gray sandstone-----	11	74
	Clay, greenish-gray to dark-greenish-gray-----	31	105

152-90-36abc
(Log from Schmid, 1962)

Altitude: 1,950 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, black-----	2	2
	Gravel, fine, sandy, clayey, oxidized-----	7	9
	Till, dark-yellowish-orange, oxidized-----	9	18
	Gravel, fine to medium, sandy, oxidized-----	2	20
	Till, olive-gray-----	60	80
Tongue River Formation:			
	Clay, greenish-gray-----	4	84

152-90-36add
(Log from Schmid, 1962)

Altitude: 1,931 feet

Glacial drift:			
	Sand, very fine to coarse, silty, oxidized-----	7	7
	Sand, very fine to coarse, clayey-----	4	11
	Sand, medium to very coarse, gravelly-----	4	15
	Till, olive-gray-----	30	45
	Gravel, fine to medium, sandy-----	5	50
	Till, light-olive-gray to olive-gray-----	10	60
Tongue River Formation:			
	Shale, light-bluish-gray, silty, lignitic seams-----	3	63

152-90-36ddd
(Log from Schmid, 1962)

Altitude: 1,977 feet

Glacial drift:			
	Till, dark-yellowish-brown, sandy, oxidized-----	6	6
	Till, moderate-yellowish-brown to dark-yellowish-orange, oxidized-----	8	14
	Till, dark-yellowish-brown to dusky-yellowish-brown, oxidized-----	13	27
	Till, olive-gray-----	10	37
Tongue River Formation:			
	Clay, light-olive-gray with lignite lenses-----	15	52
	Clay, pale-blue-green to grayish-blue-green-----	6	58
	Shale, light-olive-gray-----	5	63

152-91-13ccd
(Log from Schmid, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, clayey to gravelly, oxidized-----	5	5
	Sand, very fine to medium, clayey, partially oxidized-----	4	9
	Till, olive-gray-----	28	37
	Clay, olive-gray to light-olive-gray-----	7	44
	Gravel, fine to medium-----	15	59
	Till, olive-gray to moderate-olive-brown-----	15	74
Tongue River Formation:			
	Shale, olive-black with olive-gray to greenish-gray sandy clay; grayish-green clay; and light-olive-brown silty clay-----	10	84

152-91-25bbd
(Log from Schmid, 1962)

Glacial drift:			
	Gravel, fine to coarse, sandy, oxidized-----	8	8
	Till, moderate-yellowish-brown to dark-yellowish-orange, oxidized-----	5	13
	Till, olive-gray-----	35	48
	Sand, gravelly-----	4	52
	Gravel, fine to medium, sandy-----	16	68
Tongue River Formation:			
	Sandstone, greenish-gray, very fine to fine-----	5.5	73.5

152-92-2bcc

Altitude: 2,095 feet

Glacial drift:			
	Gravel, fine to medium, sandy, moderately well-sorted, subangular to subrounded; pebbles are predominantly iron-stained limestone and shale-----	14	14
	Till, olive-gray-----	6	20
	Sand, very fine to fine, gray, subrounded-----	10	30
Sentinel Butte Formation:			
	Shale, medium-gray-----	10	40

152-92-14ddd

Altitude: 1,865 feet

Glacial drift:			
	Gravel, sandy, poorly sorted, subangular, iron stained	9	9
	Till, dusky-yellow, oxidized-----	15	24
	Gravel, sandy, subangular to subrounded-----	10	34
	Till, moderate-olive-brown, oxidized-----	4	38
	Till, olive-gray-----	17	55
	Boulder, sandstone, light-greenish-gray-----	2	57
	Till, olive-gray-----	6	63
	Sand, fine to medium, gray, well-sorted, subrounded, lignitic-----	8	71
	Till, olive-gray-----	9	80
Tongue River Formation:			
	Ignite, black, oily-----	3	83
	Shale, silty, light-greenish-gray and greenish-gray---	17	100

152-92-19aaa1
(Log from C. A. Simpson & Son)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Topsoil-----	1	1
	Light-gray clay-----	1	2
	Light-gray clay, rocks and gravel-----	1	3
	Gravel, rocks-----	2	5
	Yellow clay-----	33	38
	Gray clay-----	78	116
	Muddy gray sand-----	31	147
	Medium-fine sand and fine gray sand-----	10	157
	Sand and small gravel with coal and scoria particles-----	2	159
	Sand with coal chunks-----	1	160
	Sand and gravel-----	15	175
	Sand-----	5	180
	Muddy fine gray sand with a few coarser particles and coal-----	5	185

152-92-19aaa3

Altitude: 1,896 feet

Glacial drift:			
	Soil, silty and sandy, brownish-black-----	1	1
	Gravel, fine to medium, clayey, angular to sub-rounded, oxidized-----	3	4
	Clay, silty, dusky-yellow, calcareous, (fluvial sediments), cracks at 10-12 and 46-48 ft.-----	46	50
	Clay, silty, light-olive-gray, (lost circulation in interval, apparently in cracks)-----	57	107
	Till, olive-gray-----	13	120
	Sand, fine to medium, moderately well-sorted, angular to rounded; 70 to 80 percent quartz-----	22	142
	Gravel, sandy, moderately well-sorted, angular to subrounded; gravel is fine near top and grades to coarse near bottom, and contains about 15 to 25 percent coarse to very coarse sand-----	16	158
Tongue River Formation:			
	Sandstone, fine to medium, light-bluish-gray to medium-bluish-gray-----	4	162
	Shale, medium to dark-gray; contains some lignite-----	18	180

152-92-19aab

Altitude: 1,892 feet

Glacial drift:			
	Silt, sandy with pebbles, dusky-yellow, oxidized-----	4	4
	Silt, clayey to sandy, dusky-yellow, oxidized-----	24	28
	Clay, silty, olive-gray-----	90	118
	Sand, medium to coarse with fine to medium gravel, generally subrounded; pebbles are composed predominantly of limestone, granitic rocks, and shale-----	13	131
	Sand, medium, well-sorted, subangular to subrounded, lignitic-----	18	149
	Gravel, coarse; pebbles are predominantly limestone and claystone-----	12	161
Tongue River Formation:			
	Shale, light to medium-gray; interval also contains thin lenses of interbedded lignite-----	19	180

152-92-20add

Altitude: 1,926 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, pebbly near surface, dusky-yellow, oxidized----	5	5
	Silt, sandy to clayey, dusky-yellow, oxidized-----	14	19
	Silt, clayey with lenses of pure plastic clay and very fine sandy clay, olive-gray-----	188	207
	Clay, sandy with pebbles and gravel stringers, olive- gray, (till?)-----	28	235
	Sand, very fine to fine, dark-greenish-gray to black, highly micaceous and lignitic, moderately cal- careous, contains some gravel lenses and detrital lignite; has strong H ₂ S odor-----	38	273
	Sand, coarse and very coarse, some fine gravel, sub- rounded, light-brown color, well sorted, the sand is mostly clear quartz with minor amount of green silicates and brown ironstone, shale, limestone, and lignite-----	34	307
Tongue River Formation:			
	Sand, very fine to fine, light-greenish-gray, cal- careous-----	4	311
	Shale, medium-gray to olive-black-----	3	314
	Lignite-----	5	319
	Shale, medium-gray to olive-black-----	6	325

152-92-20bba

Altitude: 1,901 feet

Glacial drift:			
	Soil, silty and sandy, brownish-black-----	1	1
	Gravel, fine to medium, poorly-sorted, angular to subrounded, oxidized-----	4	5
	Clay, silty, dusky-yellow, calcareous, oxidized-----	50	55
	Clay, silty, light-olive-gray to greenish-gray, (lost circulation at 60 ft. and drilled blind, E-log indicates similar material through interval)-----	53	108
	Till, olive-gray-----	16	124
	Sand, fine to medium, lignitic-----	17	141
	Sand, fine to coarse, about 25 percent gravel-----	9	150
	Gravel, fine to coarse, about 25 percent sand-----	67	217
	Boulders and cobbles; predominantly limestone and sandstone-----	2	219
Tongue River Formation:			
	Shale, medium-to dark-gray; siliceous; slightly cal- careous near bottom of interval-----	21	240

152-92-20bbb2

Altitude: 1,898 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty and sandy, brownish-black-----	1	1
	Silt, gravelly, dusky-yellow, calcareous-----	3	4
	Silt, clayey, dusky-yellow, calcareous; contains a few limestone pebbles, oxidized (fluvial sediments)-----	44	48
	Clay, silty, light-olive-gray to greenish-gray, calcareous; a few thin yellowish-gray layers in some samples (fluvial sediments)-----	48	96
	Clay, silty, olive-gray, calcareous (fluvial sediments)-----	14	110
	Till, olive-gray to dark-greenish-gray-----	13	123
	Sand, fine to coarse, moderately well-sorted, angular to rounded; 75 to 80 percent quartz grains-----	31	154
	Gravel, fine to medium (grades to coarse with depth), moderately well-sorted in lenses, angular to subrounded; predominantly subrounded; contains about 20 percent coarse to very coarse sand-----	61	215
	Boulders; greenish-gray, calcareous sandstone and pale-orange limestone-----	3	218
Tongue River Formation:			
	Shale, medium-to dark-gray, siliceous; slightly calcareous in top 10-15 ft. of section-----	22	240

152-92-29ddd

Altitude: 1,877 feet

Glacial drift:			
	Loam, sandy, black-----	4	4
	Silt, sandy, dusky-yellow, oxidized-----	12	16
	Silt, clayey, light-olive-gray, laminated-----	20	36
	Clay, silty, moderate-olive-brown, oxidized-----	4	40
	Till(?), moderate-olive-brown, partly oxidized; contains a few silt and clay streaks-----	10	50
	Till, olive-gray-----	53	103
	Sand, fine to coarse with some gravel, lignitic (sand is coarser and cleaner with depth)-----	19	122
Tongue River Formation:			
	Sand, very fine, silty and clayey, greenish-gray----	4	126
	Clay, sandy, white, calcareous-----	2	128
	Lignite, black, fissile-----	4	132
	Sandstone, fine-grained, greenish-gray, hard-----	2	134
	Shale, light-gray-----	3	137
	Sand, fine, clayey, dark-greenish-gray-----	3	140

152-92-31ccc

Altitude: 1,968 feet

Glacial drift:			
	Till, yellowish-gray to dusky-yellow-----	20	20
	Gravel, fine to medium, moderately well-sorted-----	5	25
	Sand, medium to very coarse with some gravel, well-sorted in lenses, subangular to subrounded-----	17	42
	Sand, coarse, gravelly, subangular to subrounded----	8	50
Sentinel Butte Formation(?):			
	Sand, very fine, clayey, light-greenish-gray-----	8	58
	Sandstone, fine-grained, lignitic, calcareous-----	2	60
	Shale, light-olive-gray-----	20	80

152-93-1daa

Altitude: 2,004 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel, fine to medium, sandy, iron-stained-----	8	8
	Clay, sandy, black, oily-----	1	9
	Gravel, fine to medium, sandy, iron-stained-----	9	18
	Clay, silty, black, oily-----	1	19
	Sand, medium to very coarse, well-sorted in lenses, iron-stained; contains some gravel-----	28	47
	Till, moderate-olive-gray to olive-gray-----	20	67
Sentinel Butte Formation:			
	Lignite, black, hard-----	3	70
	Shale, sandy, greenish-gray to light-olive-gray, brittle-----	30	100

153-88-6ddd

Altitude: 2,036 feet

Glacial drift:			
	Loam, sandy, black-----	1	1
	Sand, very fine to fine, clayey to silty, yellowish-gray-----	23	24
	Gravel, fine, sandy, reddish-brown, well-sorted, sub-angular to subrounded, iron-stained-----	10	34
Sentinel Butte Formation:			
	Shale, variegated, contains sandstone, lignite, and leonardite, probably in thin beds-----	26	60

153-88-15ddd

Altitude: 2,071 feet

Glacial drift:			
	Loam, silty, black-----	1	1
	Till, moderate-olive-brown, oxidized-----	17	18
	Till, light-olive to olive-gray-----	7	25
	Till, olive-gray-----	20	45
Sentinel Butte Formation:			
	Lignite, black, fissile-----	2	47
	Shale, variegated grays and greens-----	13	60

153-88-23ddd

Altitude: 2,089 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	9	9
	Till, moderate-olive-brown, oxidized-----	41	50
	Till, olive-gray-----	24	74
Sentinel Butte Formation:			
	Silt, clayey, dusky-yellow, micaceous, oxidized-----	10	84
	Silt, clayey, medium-gray, micaceous-----	16	100

153-88-30cdc
(Log from D. Jahnke)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Dark yellow clay mixed with stones-----	20	20
	Darker clay-----	11	31
	Yellow clay-----	7	38
	Dark clay, almost black like coal-----	7	45
	Sticky gray clay-----	5	50
	Lignite coal, some loose coal above lignite-----	2	52
	Gray clay-----	5	57

153-89-16ddc
N.D.G.S. auger hole

	Pebbly sand; dark-yellowish-brown, outwash-----	60	60
	Gradation between outwash and bedrock-----	2	62
Fort Union Group:	Clayey sand, gray-----	12	74

153-89-21ccc

Glacial drift:	Loam, gravelly, dark-brown-----	1	1
	Gravel, fine and medium, sandy, poorly-sorted, sub- angular and subrounded, iron-stained-----	7	8
	Till, dusky-yellow, oxidized-----	3	11
Sentinel Butte Formation:	Silt, clayey, moderate-olive-brown to light-olive- gray-----	10	21
	Limestone, gray-----	2	23
	Shale, silty, medium-gray to light-greenish-gray----	17	40
	Sand, very fine to fine, very clayey, dark-greenish- gray, slightly friable-----	13	53
	Lignite, black, hard-----	2	55
	Shale, gray-----	5	60

153-89-31cbc

Altitude: 1,910 feet

Glacial drift:	Loam, clayey, black-----	2	2
	Sand, coarse, well-sorted-----	4	6
	Clay, light-olive-gray-----	2	8
	Gravel, fine and medium, sandy-----	24	32
	Till, olive-gray-----	33	65
	Gravel, fine and medium, sandy, moderately well sorted in lenses, subrounded-----	31	96
Fort Union Group:	Shale, silt, and sand, generally olive-gray with some variegated beds-----	46	142
	Shale, silty, medium-gray-----	18	160
	Sand, very fine, silty, light-gray, calcareous-----	20	180

153-89-33dda
(Log from D. Jahnke)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Black loam-----	3	3
	Yellow drift clay-----	41	44
	Yellow clay mixed with sand-----	4	48
	Slush coal, mud, some black dirt with water-----	3	51
	Hard like coal with water below coal-----	.5	51.5
	Yellow clay-----	1.5	53
	Dark clay-----	5	58
	Gray clay or shale-----	22	80
	Darker clay-----	10	90
	Slush coal and water-----	2	92
	Hard lignite with water-----	3	95

153-89-35ddd
N.D.G.S. auger hole

	Silty loam soil-----	1	1
	Till, slightly gravelly-----	26	27
Fort Union Group:	Clayey silt (some thin, fine sand lenses), dusky-yellowish-brown-----	7	34

153-90-7ccc

Altitude: 2,191 feet

Glacial drift:	Loam, pebbly, dark-brown-----	1	1
	Till, yellowish-gray, oxidized-----	14	15
	Till, dusky-yellow to moderate-olive-brown-----	17	32
	Gravel, fine and medium, moderately well-sorted, sub-angular to subrounded, iron-stained-----	7	39
	Till, moderate-olive-brown, oxidized-----	20	59
	Till, olive-gray-----	25	84
	Gravel, medium, sandy, subangular to angular, lignitic, iron-stained-----	5	89
	Clay, sandy, olive-gray; contains numerous lignite specks-----	15	104
	Clay, silt, and sandstone. Probably a large boulder of Fort Union sediments-----	13	117
	Till, olive-gray-----	93	210
Sentinel Butte Formation(?):	Shale, silty to sandy, slightly calcareous; contains minor quantities of lignite-----	16	226
	Shale, brownish-black, and gray, carbonaceous-----	4	230
	Shale, variegated, grays, greens, and brown-----	16	246
	Lignite, black, fissile-----	3	249
	Shale, light-greenish-gray-----	3	252
	Sand, very fine, clayey, light-greenish-gray-----	5	257
	Shale, light-greenish-gray-----	3	260

153-90-15add

Altitude: 1,301 feet

Orderly Number	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Loam, sandy, dark-brown-----	1	1
	Till, yellowish-gray, oxidized-----	5	6
	Silt, clayey, dusky-yellow, oxidized-----	6	12
	Gravel, fine, sandy, iron-stained; contains many iron-oxide and iron carbonate pellets-----	8	20
Sentinel Butte Formation:			
	Sand, very fine to fine, clayey, yellowish-green, lignitic, and micaceous, friable-----	16	36
	Clay, silty, dusky-yellow-----	8	44
	Sand, very fine to fine, light-greenish-gray to brownish-black, calcareous, lignitic, micaceous, friable-----	14	58
	Lignite, black, fissile-----	7	65
	Clay, sandy, light-olive-gray to greenish-gray-----	15	80

153-91-27ccc

Altitude: 2,078 feet

Orderly Number	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Loam, gravelly, dark-brown-----	1	1
	Gravel, medium, brown-----	1	2
	Silt, sandy, yellowish-gray-----	4	6
	Till, dusky-yellow, oxidized-----	8	14
	Sand, medium to coarse, gravelly, well-sorted in lenses, subrounded, iron-stained-----	10	24
	Till, moderate-olive-brown, oxidized-----	16	40
Sentinel Butte Formation:			
	Silt, clayey, dusky-yellow, oxidized-----	10	50
	Sand, fine, slightly clayey, yellowish-green; contains some lignite grains-----	12	62
	Sandstone, fine grained, light-greenish-gray, calcium-carbonate cement-----	4	66
	Sand, fine, greenish-gray, lignitic-----	24	90
	Shale, sandy, medium-gray-----	10	100

153-91-32cbc

(Log from E. H. Prather)

Orderly Number	Material	Thickness (feet)	Depth (feet)
	Topsoil-----	3	3
	Brown sandy shale-----	32	35
	Gray sandy shale-----	10	45
	Gray sand-----	15	60
	Coal-----	2	62
	Gray sandy shale-----	8	70
	Blue sand (rolling sand)-----	80	150
	Gray shale-----	78	228
	Gray sand (fine sand and some coal in the sand)-----	31	259

153-92-17bbb

Altitude: 1,778 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (Feet)</u>	<u>Depth (Feet)</u>
Glacial drift:	Loam, silty, black-----	1	1
	Silt, dusky-yellow, oxidized-----	9	10
	Gravel, fine to medium, sandy, well-sorted in lenses; 40 percent subangular, 60 percent subrounded-----	36	46
Tongue River Formation:	Lignite, black, fissile-----	7	53
	Shale, silty, medium-gray to greenish-gray, and black, carbonaceous-----	7	60

153-92-19ccc

Altitude: 1,964 feet

Glacial drift:	Till, yellowish-gray, oxidized-----	21	21
Tongue River Formation:	Shale, silty, dusky-yellow, oxidized-----	4	25
	Shale, silty, light-olive-gray-----	15	40

154-89-14dcd

Altitude: 2,050 feet

Glacial drift:	Till, moderate-olive-brown, oxidized-----	20	20
Sentinel Butte Formation(?):	Shale, variegated, yellows, greens, and grays; contains a few thin lenses of lignite-----	20	40

154-89-15cdd

Altitude: 2,096 feet

Glacial drift:	Loam, pebbly, black-----	1	1
	Till, moderate-olive-brown, oxidized-----	37	38
	Till, olive-gray-----	10	48
	Gravel, fine to medium, sandy, subangular, iron- stained-----	5	53
	Till, olive-gray-----	7	60
	Shale, light-greenish-gray-----	5	65
	Sand, clayey, dark-greenish-gray, micaceous-----	6	71
	Gravel, fine, sandy, subangular to subrounded, iron-stained-----	9	80
Sentinel Butte Formation:	Shale, variegated, contains leonardite and lignite----	20	100

154-89-15ddd

Altitude: 2,002 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, sandy, brown-----	2	2
	Gravel, fine to medium, sandy, moderately well-sorted in lenses, subangular to subrounded, iron-stained to 17 ft.-----	58	60
	Sand, medium to coarse, fine gravel interbedded, generally subrounded-----	11	71
Tongue River Formation:			
	Shale, silty, light-olive-gray-----	3	74
	Lignite, black, fissile-----	2	76
	Shale, medium-gray, thin carbonaceous and lignitic shale-----	4	80

154-90-6cca
(Log from E. H. Prather)

Brown clay-----	15	15
Gray clay, rock and gravel-----	61	76
Brown clay and rock-----	65	141
Brown sand-----	3	144
Brown clay-----	17	161
Brown clay and small trace of coal-----	3	164
Brown sandy clay-----	12	176
Green clay-----	6.5	182.5
Hard shell-----	1	183.5
Gray sandy clay-----	12.5	196
Gray clay-----	16	212
Gray sand-----	5	217

154-90-18ddd

Altitude: 2,300 feet

Glacial drift:			
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	19	19
	Till, olive-gray-----	19	38
	Till, gravelly, olive-gray-----	11	49
	Till, olive-gray; contains some yellow, oxidized, silty boulders-----	31	80
	Sand, very fine to fine, silty, light-olive-gray-----	8	88
	Clay, olive-gray-----	6	94
Sentinel Butte Formation:			
	Silt, light-olive-gray-----	7	101
	Lignite, black, fissile-----	6	107
	Shale, silty, light-gray to brownish-black, sandy near bottom, darker color is due to carbonaceous matter-----	13	120

154-91-30aaa

Altitude: 2,121 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Topsoil, black-----	2	2
	Silt, clayey, variegated, mostly greenish-gray-----	14	16
	Silt, light-olive-gray, soft, calcareous-----	7	23
	Sand, fine, gray, well-sorted, subrounded-----	2	25
	Silt, sandy, light-olive-gray-----	7	32
	Clay, olive-gray to olive-black, some greenish-gray--	7	39
	Clay, silt, and fine sand, olive-gray; generally in lenses 2 to 3 ft. thick-----	26	65
	Clay, olive-gray, olive-black, and dark-greenish-gray	7	72
	Silt, slightly sandy, olive-gray-----	6	78
	Gravel, fine and medium, poorly sorted, angular and subangular-----	3	81
	Clay, very silty, greenish-gray and olive-gray-----	11	92
Sentinel Butte Formation:			
	Sandstone, medium-grained, light-greenish-gray to dark-greenish-gray, fairly well-sorted, calcareous cement-----	5	97
	Sand, medium-grained, dark-greenish-gray, very well- sorted, micaceous and lignitic-----	29	126
	Lignite, black, fissile-----	4	130
	Shale, silty, calcareous-----	10	140

154-92-4ccc
(Log from E. H. Frather)

Brown clay-----	25	25
Gray shale and sand-----	39	64
Coal-----	4	68
Gray shale (water)-----	2	70

154-92-7dbc
(Log from J. F. Bruton)

Yellow clay-----	75	75
Gray sandy clay-----	40	115
Some coal and muddy water-----	10	125
Gray sandy clay-----	65	190
Coal and water-----	6	196
Gray sandy shale-----	7	203

154-92-25bbb

Altitude: 2,120 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Loam, sandy, dark-brown-----	1	1
	Sand, fine to medium, clayey, silty, yellowish-gray--	13	14
	Silt and clay, sandy, yellowish-gray, interbedded, soft-----	15	29
	Sand, coarse, some gravel, poorly sorted, sub-angular and subrounded-----	4	33
	Silt and clay, sandy, yellowish-gray to moderate-olive-brown with variegated streaks, interbedded---	15	48
	Clay, silty to sandy with occasional pebbles--mostly lignite chips--variegated yellows, grays, and greens, (till?)-----	30	78
	Gravel, fine and medium, sandy, "dirty", poorly sorted, angular to subrounded, iron-stained-----	2	80
Sentinel Butte Formation:			
	Sand, fine, slightly clayey, yellowish-green, highly lignitic and micaceous; becomes dark-greenish-gray and more clayey with depth-----	20	100

154-92-32bcc

	Till-----	13.5	13.5
	Silty clay, with scattered pebbles-----	17	30.5
	Silty clay, brownish-----	5.5	36
	Yellowish bentonite-----	5.5	41.5
	Clay with scattered gravel pebbles(?)-----	2.5	44
	Bentonitic clay and bentonite-----	3	47
	Silty clay, brownish-----	7	54
	Clay, bentonite, waxey, yellowish-----	1	55
	Silty clay, bentonitic, brownish-----	2	57
	Silty clay, reddish-yellow-----	1	58
	Silty clay, brownish-----	3	61
	Clay, purplish (1 in. lignite at top)-----	1	62
	Clay, tan-----	.5	62.5
	Clay, bentonite, orangish-----	.5	63
	Clay, bentonite, tan; with silty clay-----	4	67
	Clay, bentonite, purplish-----	2	69
	Clay, bentonite, tannish; lignite chunks-----	4	73
	Silty clay and clayey silt, tan to bluish-----	21	94

154-93-5add

Altitude: 2,330 feet

Glacial drift:			
	Gravel, fine to coarse, sandy, poorly sorted, sub-angular and subrounded, iron-stained-----	12	12
	Till, dusky-yellow, oxidized-----	7	19
	Till, olive-gray-----	26	45
Sentinel Butte Formation:			
	Sand, fine, silty, and clayey, light-olive-gray-----	13	58
	Shale, silty, medium-gray to light-greenish-gray-----	7	65
	Lignite, black, fissile-----	3	68
	Shale, brownish-black and medium-gray-----	6	74
	Shale, greenish-gray-----	6	80

154-93-5dce
(Log from E. H. Prather)

Geologic source	Material	Thickness (feet)	Depth (feet)
	Brown clay-----	6	6
	Brown sandy clay-----	22	28
	Black clay-----	2	30
	Gray clay-----	2	32
	Coal, sand and water-----	5	37
	Gray clay-----	2	39

154-93-25aaa

	Till, oxidized-----	52	52
	Clayey silt and silty clay, scattered pebbles, oxidized-----	16	68
	Clayey silt and silty clay, oxidized-----	8	76
	Silty clay, oxidized, more reddish-----	4	80
	Silty clay or clay; oxidized; dark-grayish-brown-----	3	83
	Bentonite, greenish-bluish-----	2	85
	Clay, brownish and yellowish-----	3	88
	Silty clay, dark brown-----	8	96
	Clayey silt, light brown-----	7	103
	Clay, olive-greenish-----	4	107
	Silty clay or clayey silt, greenish-----	11	118
	Clayey silt, greener-----	6	124

154-94-3bba

Altitude: 1,938 feet

Glacial drift:	Sand, very fine, clayey to silty, yellowish-gray to dusky-yellow, oxidized, (dry)-----	9	9
	Gravel, fine and medium, sandy, interbedded; contains some marcasite; pebbles are predominantly limestone and sedimentary rocks-----	48	57
Tongue River Formation:	Shale, silty to sandy, light-olive-gray to light-greenish-gray-----	23	80

154-94-4ddd
(Log from E. H. Prather)

	Brown sandy shale-----	30	30
	Gray shale-----	10	40
	Gray sandy shale-----	17	57
	Hard shell-----	3	60
	Gray sandy shale-----	14	74
	Gray sandy shale (small amount of water)-----	11	85
	Gray shale-----	5	90
	Gray sandy shale-----	11	101
	Coal-----	3	104

155-88-2add

Altitude: 2,103 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, black-----	2	2
	Clay, yellowish-gray, oxidized-----	14	16
	Clay, silty, dusky-yellow, light-olive-gray, and yellowish-gray, interbedded-----	14	30
	Clay, silty to sandy, gray, bedded-----	22	52
	Till, olive-gray-----	52	104
	Gravel, fine to very coarse-----	15	119
	Till, olive-gray-----	42	161
Fort Union Group:			
	Shale, silty, various shades of gray and green; contains some thin seams of white bentonite and black lignite-----	39	200

155-88-3aaa2

Altitude: 2,182 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	10	10
	Till, moderate-olive-brown, oxidized-----	52	62
	Sand, medium, tan, well-sorted, subrounded to sub-angular, micaceous, oxidized-----	4	66
	Till, olive-gray-----	22	88
Sentinel Butte Formation:			
	Sand, fine to medium, dark-greenish-gray, micaceous and lignitic-----	9	97
	Sand, dark-green; indurated, light-greenish-gray sandstone; and yellowish-gray, bentonitic, silty shale-----	23	120

155-88-6ddd

Altitude: 2,191 feet

Glacial drift:			
	Sand, silty and clayey, yellowish-gray, oxidized----	4	4
	Till, moderate-olive-brown-----	25	29
	Till, olive-gray-----	81	110
	Gravel, medium to coarse, sandy, poorly sorted, angular to subrounded; contains thin lenses of silt and clay-----	21	131
	Gravel, fine and medium, well-sorted, subangular to subrounded-----	29	160
	Gravel, medium to very coarse, poorly sorted-----	18	178
Sentinel Butte Formation:			
	Shale, silty, variegated grays and greens, and interbedded dark-greenish-gray sand and brown carbonaceous silt-----	22	200

155-88-7ddd

Altitude: 2,123 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, sandy, black-----	1	1
	Sand, fine, clayey, yellowish-gray-----	9	10
	Till, dusky-yellow, oxidized-----	7	17
	Till, moderate-olive-brown, oxidized-----	41	58
	Till, olive-gray-----	70	128
	Till, olive-gray, contains many thin streaks of limestone gravel-----	28	156
	Gravel, fine to medium, subangular to subrounded-----	4	160
	Till, olive-gray, contains thin streaks of sand and gravel-----	25	185
	Sand, fine to medium, gray, moderately well-sorted, subrounded; contains many lignite chips-----	15	200
	Till, olive-gray-----	5	205
Tongue River Formation:			
	Sand, very fine, clayey, greenish-gray-----	7	212
	Shale, silty, light-olive-gray to light-greenish-gray-----	8	220

155-88-14ccc

Altitude: 2,117 feet

Glacial drift:			
	Clay, sandy, yellowish-gray, oxidized-----	3	3
	Till, moderate-olive-brown, oxidized-----	15	18
	Sand, fine, silty, reddish-brown-----	8	26
	Gravel, fine to medium, poorly sorted, subangular to subrounded; pebbles are iron-stained-----	9	35
	Till, moderate-olive-brown to olive-gray, partly oxidized-----	30	65
Sentinel Butte Formation:			
	Silt and very fine, clayey sand, light-greenish-gray-----	13	78
	Shale, silty, light-olive-gray to light-greenish-gray-----	14	92
	Limestone, dark-gray-----	2	94
	Shale, silty, medium-gray-----	6	100

155-88-15abb

Altitude: 2,104 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	8	8
	Till, moderate-olive-brown, oxidized-----	10	18
	Till, olive-gray-----	144	162
Fort Union Group:			
	Shale, silty, light-gray-----	9	171
	Sand, silty and clayey, light-gray to greenish-gray, micaceous; interbedded-----	54	225
	Lignite, black, fissile-----	9	234
	Shale, medium-gray-----	6	240

155-88-26ccc

Altitude: 2,077 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, silty to gravelly, yellowish-gray to dusky-yellow, (till?), oxidized-----	8	8
	Till, moderate-olive-brown, oxidized-----	23	31
	Till, olive-gray-----	118	149
	Sand, gray, well-sorted, lignitic-----	3	152
	Till, olive-gray-----	17	169
	Sand, fine to medium, silty, light-gray, well-sorted in lenses-----	7	176
	Clay, olive-gray-----	4	180
	Sand, fine to medium, light-gray, well-sorted, sub-rounded-----	11	191
	Clay, sandy, white-----	3	194
	Gravel, fine to medium, moderately well-sorted, angular to subrounded-----	10	204
	Silt, clayey, white-----	3	207
	Gravel, fine to medium, sandy, poorly sorted-----	6	213
	Silt, clay, and very fine sand, intercalated, olive-gray and light-olive-gray (possibly Tongue River Formation)-----	64	277
Tongue River Formation:			
	Sandstone, very fine, greenish-gray, cemented-----	3	280
	Sand, clayey, very light-gray to light-greenish-gray-----	20	300

155-88-30ada

Altitude: 2,050 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	5	5
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	9	14
	Gravel, sandy, reddish-brown, with thin lenses of dusky-yellow silt-----	18	32
	Till, moderate-olive-brown to olive-gray, partly oxidized-----	14	46
	Gravel, fine to very coarse, poorly sorted-----	8	54
	Till, olive-gray-----	35	89
	Gravel, fine to coarse, sandy, poorly-sorted, angular to subrounded-----	6	95
	Till, olive-gray-----	15	110
	Gravel, fine and medium, sandy, moderately well-sorted in lenses, angular to subrounded-----	13	123
Tongue River Formation:			
	Shale, silty, light-to medium-gray, interbedded with greenish-gray to dark-greenish-gray, sand-----	17	140

155-88-31aaa
(Log from D. Jahnke)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Dark soil mixed with some gravel-----	3	3
	Yellow clay, some gravel and sand-----	27	30
	Yellow clay-----	7	37
	Dark clay, rock at about 51 and 63 ft.-----	37	74
	Harder formation, varied color-----	3	77
	Gray clay-----	17	94
	Harder formation mixed with sand-----	4	98
	Gray clay-----	3	101
	Gray clay and darker-----	20	121
	Dark muddy clay with some water-----	13	134
	Fine blue sand with water-----	2	136
	Sand became gradually coarser with some gravel-----	8	144
	Soft clay mixed with sand-----	2	146

155-89-22bbb

Altitude: 2,015 feet

Glacial drift:			
	Sand, silty and pebbly, yellowish-gray, oxidized----	4	4
	Silt, clayey, moderate-olive-brown and reddish-brown, contains lenses of medium to coarse sand and fine gravel-----	8	12
	Gravel, fine and medium with interbedded medium to very coarse sand, subangular to subrounded-----	18	30
	Till, moderate-olive-brown, oxidized; contains several thin lenses of rusty sand-----	27	57
	Till, olive-gray-----	66	123
Tongue River Formation:			
	Clay, light-olive-gray, laminated-----	4	127
	Sand, very fine, clayey, greenish-gray-----	15	142
	Shale, reddish-brown-----	4	146
	Lignite, black, fissile-----	2	148
	Shale, medium-gray, lignitic-----	8	156
	Lignite, black; fractured and takes much water-----	4	160

155-89-25acb2

Altitude: 2,036 feet

Glacial drift:			
	Soil, black-----	2	2
	Sand, medium to coarse, gravelly, yellowish-brown, poorly sorted-----	7	9
	Till, yellowish-brown, oxidized-----	8	17
	Clay, silty to sandy, olive-gray, calcareous, lignitic-----	18	35
	Sand, coarse, gravelly, moderately well-sorted-----	2	37
	Gravel, medium to coarse, sandy, moderately well-sorted, subangular to subrounded; about 50 percent limestone pebbles-----	9	46
	Sand, coarse, gravelly, angular to subangular-----	24	70
Tongue River Formation:			
	Clay, silty, greenish-gray, contains lignite flakes--	10	80

155-89-25acb3

Altitude: 2,037 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty, black-----	5	5
	Gravel, sandy, yellowish-brown, poorly sorted-----	4	9
	Clay, silty and sandy, yellowish-brown; drilling indicates a few cobbles or small boulders (till?)-----	7	16
	Clay, silty and sandy, dark-blackish-gray-----	11	27
	Clay, dark-blackish-gray interbedded with thin lenses of sand and gravel-----	11	38
	Gravel, fine to medium, moderately well-sorted, subangular to subrounded-----	12	50
	Gravel, fine to very coarse with boulders, poorly sorted-----	11	61
	Clay, silty, medium-gray; poor returns-----	9	70

155-89-25acb4

Altitude: 2,034 feet

Glacial drift:			
	Soil, black-----	1	1
	Clay, silty to sandy, yellowish-brown, oxidized-----	6	7
	Gravel and sand, poorly sorted, subangular to subrounded-----	6	13
	Clay, silty, dark-olive-gray, slightly calcareous-----	12	25
	Gravel, sandy, poorly sorted; contains two thin clay lenses between 40 and 45 ft.-----	33	58

155-89-25bcc

Altitude: 2,028 feet

Glacial drift:			
	Soil, black-----	4	4
	Gravel, medium to coarse, yellowish-brown, poorly sorted-----	14	18
	Clay, slightly sandy, dark-olive-gray, calcareous; contains several thin lenses of sand-----	65	83
	Sand or gravel-----	11	94
Tongue River Formation:			
	Clay, silty, light-greenish-gray; contains lignite flakes-----	6	100

155-89-25bdd

Altitude: 2,029 feet

Glacial drift:			
	Soil, silty, black-----	4	4
	Gravel, sandy, fine to medium, subangular to subrounded, poorly sorted, oxidized, a thin clay lense at 4 and 9 ft.-----	11	15
	Gravel, sandy, fine to medium, subangular to subrounded, poorly sorted-----	7	22
	Sand, medium to fine gravel, well sorted in lenses--	10	32
	Gravel, fine to coarse; contains some sand and gravel-----	27	59
Fort Union Group:			
	Clay, dark-greenish-gray, contains lignite flakes---	11	70

155-89-32aaa

Altitude: 2,035 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, medium to coarse, reddish-brown, subangular to subrounded, contains some fine to medium gravel---	23	23
	Gravel, fine to coarse, sandy, reddish-brown-----	15	38
	Till, olive-gray-----	34	72
Tongue River Formation:			
	Shale, variegated greens, grays, and dark-browns, and dark-greenish-gray, carbonaceous, fine sand-----	28	100

155-89-35aaa

Altitude: 2,030 feet

Glacial drift:			
	Loam, sandy, black-----	2	2
	Sand, fine to medium, silty, yellowish-gray-----	3	5
	Till, dusky-yellow, oxidized-----	14	19
	Gravel, fine to coarse, sandy, angular to subrounded, most pebbles are iron stained-----	20	39
Tongue River Formation:			
	Leonardite, black-----	2	41
	Shale, variegated grays and greens, contains a few black and brown carbonaceous beds-----	19	60

155-90-3aaa

Altitude: 2,135 feet

Glacial drift:			
	Loam, pebbly, black-----	1	1
	Till, dusky-yellow, oxidized-----	9	10
	Till, moderate-olive-brown, oxidized-----	35	45
	Till, olive-gray; contains a few streaks of peaty clay, and small particles of wood and roots-----	169	214
	Sand, fine to very coarse, gravelly, poorly sorted; interval is predominantly coarse sand-----	7	221
Tongue River Formation:			
	Shale, silty and sandy, variegated-----	19	240

155-90-12ddd

Altitude: 2,090 feet

Glacial drift:			
	Loam, silty and pebbly, yellowish-gray-----	2	2
	Silt, clayey and clay, yellowish-gray, oxidized-----	21	23
	Clay, olive-gray-----	60	83
	Till, olive-gray; contains a few thin lenses of gravel-----	75	158
	Gravel, fine to coarse, moderately well-sorted in lenses-----	22	180
Tongue River Formation:			
	Shale, sandy, brown, carbonaceous-----	4	184
	Sand, light-greenish-gray, with black and brown carbonaceous streaks-----	5	189
	Shale, sandy and silty, light-olive-gray to light-greenish-gray-----	11	200

155-92-23ccc

Altitude: 2,274 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, pebbly, black-----	1	1
	Clay, gravelly, yellowish-gray and dusky-yellow (oxidized till?)-----	5	6
	Till, reddish-dusky-yellow, oxidized-----	22	28
	Till, moderate-olive-brown to light-olive-gray-----	31	59
	Gravel, fine to medium, sandy, subangular, iron stained-----	2	61
	Till, olive-gray-----	83	144
	Silt, clayey, sandy, light-olive-gray, calcareous-----	5	149
	Gravel, fine to coarse, angular to subrounded, iron stained-----	5	154
	Clay, sandy, white, calcareous-----	2	156
Tongue River Formation:			
	Sandstone, fine, dark-greenish-gray, calcareous cement-----	3	159
	Sand, fine, greenish-gray-----	14	173
	Shale, silty, light-olive-gray-----	7	180

155-93-5bdd
N.D.G.S. auger hole

Till, oxidized-----	28	28
Silty clay, with pebbles, till(?)-----	32	60
Silty, very fine sand, grayish-----	3	63
Clay, gray, purplish-----	2	65
Silty sand-----	1	66
Clay, greenish-----	3	69

155-93-10baa
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,395 feet

Sandy brown till, small boulders and gravel-----	26	26
Blue till-----	66	92
Gray clay with green tint-----	39	131
Hard coal-----	.5	131.5
Gray clay with green tint-----	3.5	135
Silty gray clay-----	57	192
Hard coal-----	1	193
Gray clay-----	17	210

155-93-10bbb

Altitude: 2,416 feet

Road fill-----	4	4
Glacial drift:		
Till, yellowish-gray to moderate-olive-brown, oxidized	17	21
Gravel, fine to medium, sandy, poorly sorted, sub- angular, iron stained-----	15	36
Fort Union Group:		
Shale, light-gray to yellowish-gray, bentonitic-----	24	60

155-93-13aaa

Altitude: 2,365 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, silty, pebbly, black-----	1	1
	Till, yellowish-gray to reddish-brown, oxidized-----	6	7
	Till, dusky-yellow grading to moderate-olive-brown and light-olive-gray, oxidized-----	43	50
	Till, olive-gray-----	52	102
Fort Union Group:			
	Sand, very fine, clayey and silty, yellowish-green---	8	110
	Shale, silty and sandy, light-gray, light-olive-gray and medium-gray-----	42	152
	Sand, fine, silty, dark-greenish-gray-----	8	160
	Shale, silty, greenish-gray and brownish-black-----	18	178
	Lignite, black, fissile-----	2	180
	Clay, black, carbonaceous-----	2	182
	Shale, silty, light-gray-----	3	185
	Lignite, black-----	2	187
	Shale, silty, greenish-gray-----	10	197
	Sand, clayey to silty, greenish-gray-----	29	226
	Sandstone, fine, light-greenish-gray, calcareous cement-----	2	228
	Sand, light-greenish-gray, well-sorted, subrounded---	59	287
	Shale, silty, greenish-gray, platy-----	5	292
	Sand, light-greenish-gray, well-sorted, subrounded---	32	324
	Clay, gray-----	5	329
	Sand, and carbonaceous shale, variegated, interbedded-	11	340

155-93-23aaa

(Log from E. H. Prather)

Topsoil-----	3	3
Gravel-----	34	37
Sand and gravel-----	3	40
Gray clay-----	18	58
Gray clay-----	12	70
Brown sandy clay and gravel-----	13	83
Yellow clay-----	24	107
Brown clay and gravel-----	12	119
Gravel, sand-----	2	121
Gray clay, gravel-----	9	130
Brown clay, gravel, some coal-----	12	142
Gray clay-----	42	184
Gray sandy clay-----	29	213
Gray sand, water-----	2	215

155-94-5bbb

Altitude: 2,232 feet

Glacial drift:			
	Loam, silty, black-----	1	1
	Till, reddish-brown, oxidized-----	17	18
	Till, moderate-olive-brown, partially oxidized-----	28	46
Fort Union Group:			
	Lignite, black, fissile-----	4	50
	Shale, medium-gray, light-gray, light-olive-gray, greenish-gray and yellow-gray, bentonitic-----	30	80

155-94-31dad

Altitude: 2,005 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, silty, black-----	1	1
	Till, grades from dark-yellowish-gray through dusky-yellow to light-olive-gray, oxidized-----	24	25
Fort Union Group:			
	Limestone, gray-----	4	29
	Shale, silty, reddish-yellow-brown; contains some lignite-----	11	40
	Sand, very fine to fine, clayey, medium-gray to dark-greenish-gray, micaceous and lignitic; and light-gray, bentonitic shale-----	20	60

155-94-32bcb

Altitude: 2,025 feet

Glacial drift:			
	Loam, silty, black-----	1	1
	Till, yellowish-gray, oxidized-----	4	5
	Till, moderate-olive-brown-----	15	20
	Till, olive-gray-----	25	45
Fort Union Group:			
	Silt, medium-light-gray, calcareous; contains lenses of white and gray limestone-----	5	50
	Silt, brown, lignitic-----	5	55
	Silt, medium-light-gray, calcareous-----	6	61
	Shale, dark-greenish-gray; lignitic from 65 to 72 ft.	19	80

156-89-6aab

Altitude: 2,138 feet

Glacial drift:			
	Loam, silty, black-----	1	1
	Silt, sand, and gravel, yellowish-gray to reddish-brown-----	7	8
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	8	16
	Clay, light-olive-gray and olive-gray, laminated; contains lenses of silt, and very fine sand, also some gypsum crystals-----	28	44
	Sand, light-gray, well-sorted, subrounded, lignitic-----	8	52
	Gravel, fine and medium, moderately well-sorted, subangular to subrounded-----	4	56
	Clay, silty, light-olive-gray and olive-gray, laminated-----	80	136
	Till, olive-gray-----	13	149
	Sand, medium, well-sorted, subrounded-----	6	155
	Gravel, fine, sandy, moderately well-sorted, subrounded-----	39	194
	Sand, medium; contains many lignite chips of various sizes-----	74	268
	Gravel, fine to coarse, moderately well-sorted; predominantly limestone pebbles, but also contains as much as 20 percent pyrite, marcasite, and pyritiferous lignite-----	9	277
Fort Union Group:			
	Shale, silty, light-gray-----	4	281
	Silt, white to medium-gray-----	5	286
	Shale, silty, medium-gray; interbedded with white bentonitic, silty shale-----	14	300

156-89-19ccal
(Log from E. H. Prather)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Gray clay-----	5	5
	Brown clay-----	5	10
	Gray clay, rocks and gravel-----	69	79
	Rock, gray clay, gravel (small seep of water)-----	16	95
	Gray clay, rock and gravel-----	123	218
	Gravel and sand (water)-----	4	222

156-89-24daa

Altitude: 2,180 feet

Glacial drift:			
	Gravel, fine to very coarse, sandy, reddish-brown, poorly sorted, angular to subrounded-----	25	25
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	4	29
	Till, olive-gray-----	24	53
	Silt, clayey, olive-gray; contains very fine sand lenses-----	24	77
Fort Union Group:			
	Sand, fine, yellowish-green, micaceous, oxidized----	18	95
	Shale, variegated yellow, gray, green, and black----	10	105
	Lignite, black-----	1	106
	Sand, clayey, dark-greenish-gray-----	14	120

156-90-3bba

Altitude: 2,268 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	14	14
	Till, moderate-olive-brown, oxidized-----	9	23
	Gravel, clayey, iron-stained, poorly sorted-----	14	37
	Till, moderate-olive-brown and olive-gray, partly oxidized-----	16	53
	Till, gravelly, olive-gray-----	7	60
	Till, olive-gray-----	40	100
	Till, moderate-olive-brown, oxidized-----	10	110
	Till, olive-gray-----	32	142
Fort Union Group:			
	Shale, silty and sandy, medium-gray to dark-greenish-gray, interbedded with thin bentonite and siltstone lenses-----	31	173
	Lignite, black-----	3	176
	Shale, dark-gray-----	4	180

156-90-3bdc
(Log from E. H. Prather)

	Gray clay and gravel-----	19	19
	Sand and gravel-----	25	44
	Gray clay and rock-----	43	87
	Gravel-----	1	88

156-90-4abb

Altitude: 2,225 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, clayey and gravelly, brown, poorly sorted-----	6	6
	Gravel, fine to medium, brown, well-sorted-----	6	12
	Till, moderate-olive-brown-----	11	23
	Sand, fine, clayey to silty, olive-gray-----	12	35
	Gravel, fine to coarse, moderately well-sorted in lenses, angular to subrounded-----	24	59
	Clay, sandy, olive-gray, till(?)-----	5	64
	Clay, olive-gray-----	5	69
	Till, olive-gray-----	39	108
Fort Union Group:			
	Shale, silty, light-greenish-gray-----	13	121
	Limestone, gray-----	3	124
	Clay, sandy, dark-greenish-gray to olive-gray; contains carbonaceous streaks-----	12	136
	Lignite, black, fissile-----	4	140

156-90-4bab

Altitude: 2,320 feet

Glacial drift:			
	Gravel, fine to coarse, sandy-----	24	24
	Till, olive-gray-----	10	34
	Boulder, granitic-----	3	37
	Till, moderate-olive-brown to light-olive-gray, oxidized-----	30	67
	Till, olive-gray-----	23	90
	Silt, clayey to sandy, olive-gray-----	16	106
Fort Union Group:			
	Shale, medium-gray-----	6	112
	Lignite, black, fissile-----	2	114
	Shale, medium-bluish-gray-----	20	134
	Lignite, black, fissile-----	2	136
	Shale, sandy, dark-greenish-gray-----	4	140

156-90-15bbb

Altitude: 2,176 feet

Glacial drift:			
	Gravel, fine to coarse, poorly sorted, subangular to subrounded-----	14	14
	Till, moderate-olive-brown-----	17	31
	Till, olive-gray-----	39	70
Fort Union Group:			
	Shale, silty to sandy, medium-gray and light-greenish-gray-----	10	80
	Sandstone, fine, light-greenish-gray-----	1	81
	Shale, silty, greenish-gray-----	19	100

156-90-19dac
(Log from E. H. Prather)

Geologic source	Material	Thickness (feet)	Depth (feet)
	Brown clay-----	2	2
	Sand and gravel-----	13	15
	Brown clay-----	31	46
	Muddy sand and gravel-----	38	84
	Gray clay, sand and gravel-----	24	108
	Gray shale-----	42	150
	Gray sandy shale-----	2	152
	Gravel and sand-----	2	154
	Gray water sand-----	3	157

156-90-19ddd

Altitude: 2,161 feet

Glacial drift:			
	Silt, black-----	1	1
	Silt, sandy, yellowish-gray to reddish-brown-----	6	7
	Till, yellowish-gray, oxidized-----	23	30
	Till, olive-gray-----	35	65
	Till, olive-gray; contains thin lenses of sand-----	10	75
	Till, olive-gray-----	63	138
	Sand, coarse, gravelly, light-brown, subrounded-----	4	142
	Till, olive-gray-----	18	160
Fort Union Group:			
	Shale, silty, medium-gray, brownish-gray, and brownish-black, carbonaceous-----	13	173
	Sand, fine, light-greenish-gray to greenish-gray; contains some brown carbonaceous streaks-----	7	180

156-90-26bbc

Altitude: 2,155 feet

Glacial drift:			
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	12	12
	Till, olive-gray-----	57	69
Fort Union Group:			
	Shale, silty, light-olive-gray to olive-gray, laminated; contains streaks of white bentonitic shale-----	51	120

156-91-2ccc

Altitude: 2,184 feet

Glacial drift:			
	Sand, medium to coarse, well-sorted-----	10	10
	Till, moderate-olive-brown, oxidized-----	14	24
	Clay, olive-gray; contains lenses of silty clay and sandy clay and a few rocks, till(?)-----	116	140
	Silt, sandy and clayey, olive-gray, lignitic-----	24	164
	Till, olive-gray-----	14	178
	Gravel, fine to medium, sandy-----	34	212
Fort Union Group:			
	Shale, silty, greenish-gray-----	10	222
	Sand, clayey, olive-gray-----	11	233
	Shale, medium-gray-----	7	240

156-91-3cbb

Altitude: 2,220 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray to dusky-yellow, oxidized-----	10	10
	Till, moderate-olive-brown-----	15	25
	Till, olive-gray-----	108	133
	Gravel, moderate-olive-brown-----	3	136
	Till, olive-gray-----	25	161
	Gravel, fine, sandy, subangular to subrounded, pre-dominantly limestone pebbles-----	2	163
	Till, olive-gray-----	52	215
Fort Union Group:			
	Shale, silty to sandy, light-greenish-gray to light-olive-gray-----	15	230
	Limestone, gray-----	2	232
	Sand, very fine, silty, light-olive-gray; contains a white sandy clay bed-----	8	240

156-91-4cbc

(Log from Paulson, 1954)

Glacial drift:			
	Clay, yellowish-gray-----	7	7
	Clay, medium-gray, silty, uniform. Appears to be lake deposits-----	55	62
	Till, medium-gray, sand; few pebbles-----	126	188
	Gravel, fine, and very coarse sand. Hard drilling---	24	212
	Till(?), samples consist mostly of very coarse sand and carbonaceous clay-----	12	224
Fort Union Group:			
	Shale, light-gray-----	6	230

156-91-4ccc

(Log from Paulson, 1954)

Glacial drift:			
	Clay, gray-----	3	3
	Sand-----	1	4
	Clay, gray, and gravel-----	5	9
	Till, yellowish-gray-----	7	16
	Till, gray-----	38	54
	Sand, fine, and clay, gray. About 50 percent sand---	28	82
	Sand and gravel, cleaner than material from 54 to 82 ft.-----	9	91
	Till, gray-----	55	146
Fort Union Group:			
	Lignite-----	1	147
	Shale, light-gray, sandy-----	13	160

156-91-5aaa
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, yellowish-gray-----	16	16
	Till, yellowish-gray-----	25	41
	Sand, fine, clayey-----	15	56
	Till, gray. Boulders at 72 and 78 ft.-----	25	81
Fort Union Group:			
	Lignite-----	1	82
	Shale, light-gray-----	5	87
	Lignite-----	3	90

156-91-5cbb

Altitude: 2,240 feet

Glacial drift:			
	Till, yellowish-gray to dusky-yellow, oxidized-----	26	26
	Till, dusky-yellow, oxidized-----	12	38
	Till, moderate-olive-brown, oxidized-----	12	50
	Till, olive-gray-----	45	95
	Till, white, pink and salmon colored, oxidized-----	18	113
	Till, olive-gray-----	23	136
	Clay, sandy, white, calcareous-----	1	137
	Sandstone, greenish-gray-----	1	138
	Till, olive-gray-----	52	190
Fort Union Group:			
	Shale, silty, light-olive-gray-----	24	214
	Lignite, black, fissile-----	3	217
	Shale, light-gray to black, carbonaceous-----	3	220

156-91-5daa

Altitude: 2,180 feet

Glacial drift:			
	Loam, silty, black-----	2	2
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	12	14
	Till, olive-gray-----	11	25
	Clay, light-olive-gray; interbedded with silt and fine, sandy clay-----	35	60
	Till, olive-gray-----	18	78
	Sand, very fine, clayey, olive-gray-----	7	85
	Till, olive-gray-----	34	119
	Clay, silty, olive-gray-----	11	130
	Till, olive-gray-----	56	186
	Gravel, fine, sandy, subangular to subrounded; predominantly limestone, remainder principally lignite and shale pebbles-----	18	204
	Till, olive-gray; contains a few thin sand and gravel lenses-----	154	358
	Sand, fine, clayey, light-olive-gray, calcareous (possibly Fort Union sediments)-----	14	372
Fort Union Group:			
	Silt, light-olive-gray, with thin beds of brownish-black, carbonaceous sand-----	11	383
	Lignite-----	7	390
	Shale, silty, light-gray; contains thin black carbonaceous clay and lignite beds-----	16	406
	Lignite, clayey, black, oily-----	3	409
	Sand, fine, clayey, greenish-gray to black-----	11	420

156-91-9bbb

Altitude: 2,260 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray and dusky-yellow, oxidized-----	14	14
	Sand, fine to medium, brown, well-sorted, subrounded-	5	19
	Till, olive-gray-----	6	25
	Silt, moderate-olive-brown and light-olive-gray, laminated-----	27	52
	Till, olive-gray-----	78	130
Fort Union Group:			
	Sand, clayey, white, yellowish-gray, yellowish-green, and dusky-yellow-----	29	159
	Shale, silty, greenish-gray-----	10	169
	Lignite, black, fissile-----	5	174
	Shale, medium-gray-----	6	180

156-91-9dad

Altitude: 2,292 feet

Glacial drift:			
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	38	38
	Till, olive-gray-----	22	60
	Silt, moderate-olive-brown, calcareous-----	20	80
	Silt, sandy, moderate-olive-brown, calcareous-----	22	102
	Till, olive-gray-----	64	166
Fort Union Group:			
	Sand, very fine to fine, clayey, yellowish-green, oxidized-----	15	181
	Shale, silty, medium-gray-----	24	205
	Lignite, black, fissile-----	2	207
	Shale, silty, medium-gray-----	13	220

156-91-10bbb

Altitude: 2,303 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, pebbly, dark-yellow-brown-----	1	1
	Till, yellowish-gray, oxidized-----	6	7
	Silt, clayey to sandy with some pebbles and rocks, yellowish-gray, oxidized-----	14	21
	Sand, very fine to fine, well sorted, subrounded, some silty streaks, dry-----	19	40
	Silt, clayey, sandy in upper portion, dusky-yellow to moderate-olive-brown, oxidized-----	14	54
	Sand, very fine and fine, very silty with streaks of clay, light-olive-gray to olive-gray-----	18	72
	Clay, silty, olive-gray-----	7	79
	Silt, clayey, olive-gray; contains streaks of very fine sand-----	18	97
	Sand, very fine and fine, interbedded with silt and clay, light-olive-gray to olive-gray-----	11	108
	Sand, medium, well-sorted, subrounded, quartzose-----	6	114
	Gravel, fine to coarse, sandy, moderately well-sorted in lenses, generally subangular, about 25 percent well rounded-----	17	131
	Till, very sandy and gravelly, olive-gray-----	12	143
	Till, silty, olive-gray, contains many specks of lignite, pebbles mainly limestone-----	113	256
	Till, olive-gray-----	36	292
	Sand, fine, medium-gray, moderately sorted-----	11	303
	Clay, silty, olive-gray, till(?)-----	5	308
	Sand, with gravel-----	10	318
Sentinel Butte Formation(?):			
	Silt, light-gray, highly calcareous-----	4	322
	Shale, medium-gray-----	4	326
	Sand, fine, greenish-gray, slightly friable-----	4	330
	Shale, olive-gray and dark-greenish-gray-----	4	334
	Sand, fine, greenish-gray to dark-greenish-gray, carbonaceous-----	6	340

156-91-11cdc

(Log from Paulson, 1954)

Glacial drift:			
	Till, pale-yellowish-brown, sandy-----	27	27
	Till, medium-gray-----	55	82
	Till, moderate-yellowish-brown-----	6	88
	Till, light-gray-----	43	131
Fort Union Group:			
	Clay, light-gray, sandy-----	9	140

156-91-13baa
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Alluvium and glacial drift:			
	Soil, dark-brown-----	1	1
	Clay, gray-----	2	3
	Clay, grayish-white. Contains alkaline salts-----	4	7
	Till, yellowish-gray-----	4	11
	Till, gray; much sand and gravel-----	112	123
	Sand and gravel, hard, drills like cemented gravel---	12	135
Fort Union Group:			
	Shale, light-gray-----	4	139
	Shale, dark-brown-----	1	140

156-91-14aaa

Altitude: 2,197 feet

	Road fill-----	9	9
Glacial drift:			
	Till, moderate-olive-brown, oxidized-----	20	29
	Till, olive-gray-----	25	54
	Sand, medium to very coarse, gravelly, subangular to subrounded-----	9	63
	Till, olive-gray-----	177	240
Fort Union Group:			
	Silt, olive-gray and light-olive-gray, calcareous----	20	260
	Sand, fine, silty, olive-gray, calcareous-----	20	280
	Sandstone, light-olive-gray, calcareous cement-----	4	284

156-91-16acb

(Log from Paulson, 1954)

Glacial drift:			
	Soil-----	1	1
	Till, yellowish-gray-----	18	19
	Till, light-gray-----	35	54
	Till, yellowish-gray-----	27	81
Fort Union Group:			
	Shale, gray, sandy-----	9	90

156-91-16bbb

(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-brown-----	1	1
	Till, yellowish-gray-----	42	43
	Till, light-gray, sandy-----	21	64
	Sand, medium; much clay-----	5	69
	Till, light-gray, sandy-----	33	102
	Till, yellowish-gray-----	24	126
	Till, gray, hard-----	11	137
Fort Union Group:			
	Shale, light-gray-----	3	140

156-91-16cca
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, brown-----	2	2
	Till, yellowish-gray-----	16	18
	Sand-----	2	20
	Till, yellowish-gray-----	18	38
	Sand and gravel-----	10	48
	Till, yellowish-gray-----	29	77
	Till, gray, harder than above-----	29	106
Fort Union Group:			
	Shale, light-gray, sandy-----	9	115
	Shale, light-gray, clayey-----	30	145
	Shale, light-gray, hard-----	12	157
	Lignite-----	2	159
	Shale, light-gray, clayey-----	49	208
	Indurated rock, probably concretion-----	1	209
	Shale, light-gray, hard-----	39	248
	Shale, brown-----	2	250

156-91-19aaa

Altitude: 2,317 feet

Glacial drift:			
	Gravel, sand, silt, and clay, yellowish-gray and dusky-yellow, interbedded, oxidized-----	11	11
	Till, moderate-olive-brown, oxidized-----	11	22
	Till, olive-gray-----	41	63
	Clay, olive-gray (no inclusions)-----	9	72
	Till, olive-gray-----	12	84
	Till, olive-gray and gravel-----	10	94
Fort Union Group:			
	Shale, yellowish-gray, yellowish-green, and light-gray, interbedded-----	26	120

156-91-20ddd
(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-brown-----	1	1
	Till, yellowish-gray-----	20	21
	Sand and gravel-----	6	27
	Till, yellowish-gray-----	33	60
	Till, light-gray-----	6	66
Fort Union Group:			
	Shale, light-gray-----	4	70

156-91-21cba2
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil-----	1	1
	Clay with cobbles (till)-----	13	14
	Sand, medium to coarse-----	4	18
	Gravel, fine, clayey-----	4	22
	Sand, medium to coarse; mostly shale fragments-----	8	30
	Sand, medium to coarse; mostly shale fragments, clayey-----	8	38
	Clay and sand-----	27	65
Fort Union Group:			
	Clay, gray, tough-----	49	114
	Sand, clayey-----	4	118
	Clay, gray-----	35	153
	Clay, brown-----	7	160
	Clay, gray, sandy-----	10	170
	Sand, gray, clayey; hard and soft layers-----	5	175
	Sandstone, gray, fine-----	25	200

156-91-21cca1
(Log from Paulson, 1954)

Glacial drift:			
	Soil, black-----	2	2
	Till, yellowish-gray-----	45	47
Fort Union Group:			
	Shale, yellowish-gray-----	11	58
	Shale, light-gray-----	12	70

156-91-21cca2
(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-brown-----	2	2
	Till, yellowish-gray-----	2	4
	Sand-----	3	7
	Till, yellowish-gray-----	42	49
Fort Union Group:			
	Shale, yellowish-gray-----	5	54
	Shale, light-gray-----	6	60

156-91-22ded
(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-yellowish-brown-----	3	3
	Till, yellowish-gray-----	25	28
Fort Union Group:			
	Shale, light-gray-----	12	40

156-91-22ddc
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Alluvium and glacial drift:			
	Soil, dark-brown-----	1	1
	Clay, brown-----	2	3
	Sand, very coarse-----	2	5
	Gravel, very fine to coarse; average diameter about $\frac{1}{4}$ inch-----	5	10
	Clay, carbonaceous, dark-brown; contains bits of vegetation-----	4	14
Fort Union Group:			
	Shale, light-gray-----	6	20

156-91-22ddd1
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil-----	1	1
	Clay-----	2	3
	Sand, very coarse-----	2	5
	Till(?), yellowish-gray, much very coarse sand-----	5	10
	Till, yellowish-gray-----	5	15
	Till or lake clay, grayish-orange, contains small amount of pebbles or sand (could also be weathered shale, more orange than oxidized till)-----	7	22
Fort Union Group:			
	Shale, light-gray (streak of dark brown clay and lignite from 24-26 ft.)-----	8	30

156-91-22ddd2
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil, dark-brown-----	1	1
	Clay, brown-----	2	3
	Sand, fine to medium-----	4	7
	Till, yellowish-gray-----	13	20
	Till, yellowish-gray, much sandier than above-----	27	47
Fort Union Group:			
	Shale, light-gray, sandy-----	3	50

156-91-23ccc
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil, dark-brown-----	1	1
	Clay, yellowish-gray-----	2	3
	Sand, medium to coarse-----	2	5
	Sand, very coarse-----	3	8
	Gravel, very fine to coarse; average diameter about $\frac{1}{4}$ inch-----	8	16
	Till, yellowish-gray-----	58	74
Fort Union Group:			
	Shale, brown-----	2	76
	Shale, light-gray-----	1	77
	Lignite-----	1	78
	Shale, light-gray-----	2	80

156-91-23ccd
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Alluvium and glacial drift:			
	Soil, dark-brown, sandy-----	1	1
	Clay, gray-----	2	3
	Sand and gravel-----	5	8
	Till, yellowish-gray, sandy-----	80	88
Fort Union Group:			
	Lignite-----	1	89
	Shale, light-gray, sandy-----	11	100

156-91-27bbb
(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-brown-----	1	1
	Clay, light-gray, and gravel-----	2	3
	Sand-----	1	4
	Till, yellowish-gray, very gravelly-----	16	20
	Till, yellowish-gray, streak of carbonaceous clay from 44 to 46 ft.-----	41	61
Fort Union Group:			
	Shale, light-gray-----	11	72
	Lignite-----	2	74
	Shale, light-gray, hard-----	25	99
	Lignite-----	2	101
	Shale, light-gray, hard-----	12	113
	Lignite-----	1	114
	Shale, light-gray, hard-----	14	128
	Shale, light-gray, sandy-----	32	160
	Sandy shale or sand, light-gray (about 50 percent sand)-----	57	217
	Shale, gray, clayey-----	24	241
	Lignite and carbonaceous clay-----	2	243
	Shale, light-gray, clayey-----	37	280

156-91-27bcc
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil-----	1	1
	Clay, gray-----	2	3
	Sand, very coarse-----	7	10
	Gravel, medium-----	7	17
	Till, light-olive-gray, much gravel-----	28	45
Fort Union Group:			
	Sandstone, very fine, very friable, yellowish-gray---	12	57
	Clay, light-gray-----	3	60

156-91-27cbb
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Alluvium and glacial drift:			
	Soil, brown, sandy-----	1	1
	Clay, brown-----	2	3
	Gravel-----	2	5
	Cobbles; average diameter 2 to 3 inches-----	5	10
	Sand and gravel-----	4	14
	Till, yellowish-gray, sandy-----	64	78
Fort Union Group:			
	Shale, light-gray-----	12	90

156-91-27ccb
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil-----	1	1
	Clay-----	3	4
	Sand, very coarse, and gravel-----	6	10
	Gravel, very fine to coarse-----	6	16
	Till, medium-gray-----	12	28
	Till, yellow, gray, and orange (streaked); very sandy, appears to be a weathered zone, shows evidence of greater weathering than in the overlying till; contains limonitic nodules-----	21	49
Fort Union Group:			
	Shale, light-gray-----	11	60

156-91-27ccc
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Sand and gravel-----	5	5
	Gravel-----	4	9
	Till, medium-gray-----	13	22
	Gravel-----	4	26
	Till, medium-gray-----	3	29
Fort Union Group:			
	Shale, light-gray, core, about 5 percent recovery----	11	40

156-91-28aba
(Log from Paulson, 1954)

Glacial drift:			
	Till, yellowish-gray-----	60	60
Fort Union Group:			
	Clay, yellowish-gray, silty-----	10	70
	Clay, light-gray-----	10	80
	Silt, pale-brown-----	10	90
	Silt, yellowish-gray-----	20	110
	Silt, dark-brown, carbonaceous-----	10	120
	Silt, light-gray-----	10	130
	Clay, dark-brown, carbonaceous-----	10	140
	Clay, light-gray, silty-----	10	150
	Sand, very fine, clayey, loosely consolidated-----	12	162
	Sand, very fine to fine, relatively clean, loosely consolidated-----	11	173
	Sand, very fine, clayey-----	27	200

156-91-28bacl
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Clay, yellow, sandy-----	76	76
Fort Union Group:	Clay or shale, gray-----	32	108
	Shale, green-----	6	114
	Shale, gray-----	4	118
	Shale, gray, sandy-----	42	160
	Sandstone, fine-----	2	162
	Shale, gray, sandy-----	8	170
	Sandstone, fine, hard-----	1	171
	Shale, gray, sandy-----	14	185
	Sandstone, fine, hard-----	3	188
	Shale, gray, sandy-----	17	205
	Sandstone, hard-----	2	207
	Shale, gray, sandy-----	28	235
	Shale, brown, sandy-----	3	238
	Shale, gray-----	1	239

156-91-28bac2
(Log from Paulson, 1954)

Glacial drift:	Soil, dark-brown-----	1	1
	Till, yellowish-gray, sandy-----	71	72
Fort Union Group:	Shale, light-gray-----	20	92
	Lignite-----	2	94
	Shale, light-gray-----	23	117
	Sand and sandy clay, light-gray, and thin layers of hard sandstone-----	73	190
	Sand, cleaner than from 117 to 190 ft., but samples still contain much clay; washed sample obtained from pits consisted mostly of medium grained, angular sand, about 75 percent or more quartz; remainder consisted mainly of basic igneous rock fragments-----	46	236
	Lignite-----	1	237
	Shale, light-gray; core obtained from 240 to 250 ft. with about 60 percent recovery. Consisted mostly of light-gray clay-siltstone and 1 ft. of very fine, dirty sandstone-----	37	274
	Lignite-----	1	275
	Shale, light-gray, with hard layers-----	75	350

156-91-28ccc
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness</u> (feet)	<u>Depth</u> (feet)
Alluvium and glacial drift:			
	Soil-----	1	1
	Sand, medium to coarse-----	12	13
	Till, yellowish-gray-----	32	45
Fort Union Group:			
	Shale, yellowish-gray-----	95	140
	Shale, light-gray-----	20	160
	Sand, light-gray, very fine to fine, much clay-----	52	212
	Lignite-----	2	214
	Clay and sand, very fine, light-gray-----	23	237
	Lignite-----	3	240
	Clay, sandy, gray; indurated rock at 243 ft.-----	8	248
	Shale, light-gray, not sandy-----	16	264
	Lignite-----	3	267
	Shale, light-gray, with hard layers at 293 ft. and 296 ft.-----	54	301
	Lignite-----	2	303
	Shale, light-gray-----	12	315
	Lignite-----	2	317
	Shale, light-gray-----	11	328
	Lignite-----	3	331
	Shale, light-gray-----	19	350

156-91-29bbb
(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-brown-----	1	1
	Till, yellowish-gray, sandy-----	45	46
	Till, grayer than above-----	10	56
	Till, yellowish-gray, sandy-----	24	80
Fort Union Group:			
	Clay, yellowish-gray-----	5	85
	Clay, very light-purplish-gray, sandy-----	5	90
	Clay, yellowish-gray, sandy-----	13	103
	Clay shale, light-gray, alternating with layers of sandy clay-----	92	195
	Clay, very sandy, light-gray-----	29	224
	Sandstone, very fine, light-gray, dirty-----	4	228
	Sand, very clayey, light-gray-----	18	246
	Sandstone, fine, dirty-----	3	249
	Sand, very clayey (50 percent or more clay)-----	41	290
	Clay, light-gray, sandy-----	5	295
	Clay, gray-----	21	316
	Lignite-----	2	318
	Clay, light-gray-----	9	327
	Clay, brownish-gray-----	8	335
	Lignite-----	3	338
	Clay, gray-----	12	350

156-91-32bad
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Sand-----	5	5
	Sand and gravel-----	7	12
	Till, yellowish-gray-----	26	38
	Till, gray-----	15	53
Fort Union Group:			
	Shale, light-gray, sandy-----	27	80

156-91-32bda1
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Alluvium and glacial drift:			
	Sand-----	4	4
	Gravel-----	10	14
	Till, yellowish-gray-----	14	28
	Till, medium-gray-----	28	56
Fort Union Group:			
	Shale, light-gray-----	14	70

156-91-32bda2
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil and slopewash, dark-brown, clayey-----	3	3
	Till, yellowish-gray-----	6	9
Fort Union Group:			
	Shale, light-gray, clayey-----	3	12
	Shale, light-gray, sandy-----	8	20

156-91-33aca
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil, dark-brown-----	2	2
	Clay, sand, and gravel-----	3	5
	Sand, very coarse-----	4	9
Fort Union Group:			
	Shale, clayey, yellowish-gray-----	11	20

156-91-33bad
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil, brown, sandy-----	1	1
	Clay, light-tan-----	1	2
	Sand-----	5	7
	Till, yellowish-gray-----	49	56
Fort Union Group:			
	Shale, light-gray-----	4	60

156-91-33bbc
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil, dark-gray, clayey-----	1	1
	Clay, moderate-yellow, uniform; probably lake deposits-----	14	15
	Sand, medium to coarse-----	7	22
Fort Union Group:			
	Shale, light-gray-----	8	30

156-91-33bbd
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Alluvium and glacial drift:			
	Soil, dark-brown, clayey-----	3	3
	Clay, yellowish-gray, with few pebbles-----	6	9
	Sand, medium to coarse-----	9	18
Fort Union Group:			
	Shale, light-gray, sandy-----	2	20

156-91-33bda2
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil, dark-brown, clayey-----	1	1
	Clay, sand and gravel-----	2	3
	Gravel, fine to coarse; average size about 3/8 inch; consists of limestone (about 1/2); granite (1/4); basic igneous concretions, and shale (1/4)-----	18	21
Fort Union Group:			
	Shale, light-gray, sandy-----	29	50

156-91-33cab
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil, dark-brown-----	1	1
	Till, yellowish-gray-----	32	33
	Sand, fine-----	7	40
	Sand or sandy clay, yellowish-gray, soft-----	15	55
	Sand, coarser than from 40 to 55 ft.-----	5	60
Fort Union Group:			
	Shale, dark-gray, clayey-----	20	80

156-91-33dad
(Log from Paulson, 1954)

Glacial drift:			
	Soil, brown-----	1	1
	Till, yellowish-gray-----	35	36
	Till, medium-gray-----	3	39
	Sand and gravel-----	1	40
	Till, medium-gray-----	38	78
Fort Union Group:			
	Shale, gray, sandy-----	32	110
	Shale, yellowish-gray-----	19	129
	Shale, light-gray, clayey-----	11	140

156-91-34bbb
(Log from Paulson, 1954)

Alluvium and glacial drift:			
	Soil and slopewash-----	3	3
	Clay, tan-----	1	4
	Sand and gravel-----	4	8
Fort Union Group:			
	Shale, light-gray-----	12	20

156-91-34bb
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Alluvium and glacial drift:	Soil, dark-brown, sandy-----	1	1
	Clay, tan-----	2	3
	Sand, coarse-----	10	13
	Till, light-gray-----	9	22
Fort Union Group:	Sand, mostly medium-grained, relatively well-sorted and clean-----	20	42
	Shale, light-gray-----	8	50

156-92-5aaa

Altitude: 2,358 feet

Glacial drift:	Till, yellowish-gray to reddish-brown, oxidized-----	13	13	
	Gravel, fine and medium, reddish-brown, moderately well-sorted, subangular to subrounded; predominantly iron-stained limestone and black shale pebbles-----	12	25	
	Sand, medium to coarse, light-reddish-brown, moderately well-sorted, subrounded-----	11	36	
	Till, light-olive-gray, partially oxidized-----	17	53	
	Clay, olive-gray to dark-olive-gray-----	23	76	
	Sand, coarse with fine gravel, light-brownish-gray, subangular-----	7	83	
	Till, moderate-olive-brown, oxidized-----	35	118	
	Till, olive-gray-----	18	136	
	Fort Union Group:	Shale, sandy, light-olive-gray-----	8	144
		Lignite, black, fissile-----	5	149
Shale, medium-gray-----		11	160	

156-92-19aba

Altitude: 2,290 feet

Glacial drift:	Loam, silty, black-----	1	1
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	14	15
	Till, light-olive, oxidized; contains many oxidized (Fort Union) shale inclusions-----	34	49
	Till, olive-gray-----	12	61
Fort Union Group:	Shale, light-yellowish-green-----	8	69
	Shale, medium-gray and greenish-gray; contains a thin lignite bed at about 72 ft.-----	11	80

156-92-20ddd
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, yellowish-gray-----	3	3
	Sand-----	6	9
	Till, yellowish-gray-----	25	34
	Till, gray-----	36	70
	Till, yellowish-gray-----	30	100
Fort Union Group:			
	Shale, yellowish-gray-----	2	102

156-92-22ccc
(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-brown-----	1	1
	Till, yellowish-gray-----	17	18
	Till, gray-----	14	32
	Sand, coarse-----	6	38
	Till, gray-----	46	84
	Till, yellowish-gray-----	2	86
Fort Union Group:			
	Clay, light-gray-----	4	90
	Clay, yellowish-gray-----	10	100

156-92-23ccc
(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-brown-----	1	1
	Till, light-yellowish-gray-----	34	35
	Sand, fine, clayey-----	6	41
	Clay, gray-----	5	46
	Sand, clayey-----	4	50
	Clay, dark-gray-----	6	56
	Sand, clayey-----	8	64
	Till, gray-----	38	102
	Till, yellowish-gray-----	20	122
Fort Union Group:			
	Shale, yellowish-gray, sandy-----	8	130

156-92-23ddd
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, dark-brown-----	1	1
	Till, yellowish-gray-----	30	31
	Sand, medium to coarse-----	4	35
	Gravel, medium-----	5	40
	Gravel, fine to coarse; average diameter about 1/4 inch-----	12	52
	Till, gray-----	5	57
	Gravel, medium; average diameter about 3/8 inch-----	11	68
	Till, gray and tan-----	7	75
	Sand, very fine, brown, streaked with black carbonaceous zones-----	5	80
	Clay, dark-brown to black (as in soil), carbonaceous; pieces of carbonized wood-----	5	85
	Till, gray, very sandy-----	16	101
	Till, yellowish-gray-----	7	108
	Till, medium-dark-gray and brown-----	36	144
Fort Union Group:			
	Clay, light-gray, sandy-----	16	160

156-92-24cbb
(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-brown-----	1	1
	Till, yellowish-gray, sandy-----	18	19
	Till, medium-gray, sandy-----	10	29
	Sand, fine to medium-----	7	36
	Till, medium-gray-----	49	85
	Till, pale-yellowish-gray-----	18	103
	Till, medium-gray, gravelly-----	27	130
	Till or bedrock, medium-gray, sandy clay; few pebbles-----	37	167
Fort Union Group:			
	Shale, light-gray, moderately sandy-----	5	172

156-92-24ddd
(Log from Paulson, 1954)

Glacial drift:			
	Soil, dark-brown-----	1	1
	Clay, yellowish-gray, sandy-----	2	3
	Sand-----	3	6
	Till, yellowish-gray, sandy-----	22	28
	Till, gray-----	90	118
	Till, yellowish-gray-----	8	126
	Till, gray-----	28	154
Fort Union Group:			
	Shale, yellowish-gray-----	6	160

156-92-26aca
(Log from Paulson, 1954)

Glacial drift:			
	Clay, yellowish-gray, lake deposits-----	12	12
	Till, yellowish-gray-----	3	15
	Sand-----	1	16
	Till, yellowish-gray-----	26	42
	Till, gray-----	11	53
	Gravel, fine-----	4	57
	Till, gray-----	13	70

156-92-26add
(Log from Paulson, 1954)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, dark-brown-----	1	1
	Clay, yellowish-gray, lake deposit-----	13	14
	Till, yellowish-gray, clayey-----	14	28
	Till, gray-----	48	76
	Till, yellowish-gray, bouldery-----	38	114
Fort Union Group:			
	Clay, yellowish-gray, sandy-----	21	135

156-92-36add

Altitude: 2,328 feet

Glacial drift:			
	Loam, gravelly, dark-brown-----	1	1
	Sand, fine to coarse, reddish-brown, subrounded-----	7	8
	Till, yellowish-gray, oxidized-----	6	14
	Till, dusky-yellow, oxidized-----	19	33
	Till, moderate-olive-brown, oxidized-----	35	68
	Clay and sand, variegated, predominantly green and gray laminae (bedrock boulder?)-----	22	90
	Till, olive-gray-----	37	127
	Sand and silt, clayey, olive-gray, light-olive-gray, interbedded-----	39	166
	Gravel, fine and medium, dark-brown, moderately well-sorted, angular to subangular-----	8	174
Fort Union Group:			
	Shale, silty, light-olive-gray, calcareous-----	7	181
	Sand, dark-greenish-gray, calcareous-----	12	193
	Shale, silty, light-olive-gray to light-greenish-gray	7	200

156-93-6dcd

Altitude: 2,263 feet

Glacial drift:			
	Sand and gravel, iron-stained-----	8	8
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	5	13
	Till, olive-gray-----	32	45
Fort Union Group:			
	Shale, silty, brownish-black, organic-----	6	51
	Ignite, black-----	2	53
	Shale, silty, medium-gray-----	7	60
	Sand, fine, clayey, greenish-gray-----	7	67
	Shale, silty, greenish-gray, fissile-----	13	80

156-93-10bbb
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Sandy brown till-----	9	9
	Gravel - fair-----	5	14
	Blue till, small boulders-----	40	54
	Gray clay with green tint-----	6.5	60.5
	Hard coal-----	.5	61
	Gray silty clay with green tint-----	41	102
	Hard coal-----	2.5	104.5
	Gray clay with green tint-----	35.5	140
	Hard coal-----	4	144
	Gray silty clay with green tint-----	49	193
	Gray sandstone-----	.5	193.5
	Gray silty clay with green tint-----	16.5	210

156-93-11aaa

Glacial drift:			
	Till, yellowish-gray to dusky-yellow, oxidized-----	8	8
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	37	45
	Till, olive-gray-----	35	80
	Till, moderate-olive-brown, oxidized-----	20	100
	Till, olive-gray-----	36	136
	Till(?), predominantly reworked bedrock (Fort Union), clay and sandy clay with pebbles-----	14	150
Fort Union Group:			
	Shale, silty to sandy, greenish-gray-----	8	158
	Lignite, black, fissile-----	4	162
	Shale, reddish-brown-----	4	166
	Shale, silty and very fine sand, greenish-gray to light-gray-----	14	180

156-93-15ccc

Altitude: 2,300 feet

Glacial drift:			
	Gravel, fine, reddish-brown, moderately well-sorted, subangular to subrounded; contains medium to very coarse sand-----	5	5
	Till, yellowish-gray to dusky-yellow, oxidized-----	4	9
	Till, moderate-olive-brown, oxidized-----	7	16
	Till, olive-gray-----	26	42
Sentinel Butte Formation:			
	Shale, greenish-gray, noncalcareous-----	18	60

156-93-16ccc
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,300 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Sandy brown till with small boulders, some gravel----	37	37
	Silty gray clay with streaks of coal-----	29	66
	Gray clay with green tint-----	2	68
	Coal, hard-----	5	73
	Gray clay-----	8	81
	Silty gray clay-----	28.5	109.5
	Coal - fair-----	2.5	112
	Gray clay with green tint-----	21	133
	Gray sandstone-----	.5	133.5
	Silty gray clay with green tint-----	12	145.5
	Coal - fair-----	3	148.5
	Silty gray clay with green tint-----	16.5	165

156-93-25bbb
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,240 feet

	Sandy brown till-----	16	16
	Sandy blue till-----	92	108
	Blue till with some gravel and small boulders-----	12	120
	Blue till boulders-----	25	145

156-93-32bbb
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,365 feet

	Sandy brown till - small boulders-----	35	35
	White clay-----	20	55
	Blue silty clay-----	16	71
	Orange and gray silt, clay-----	9	80

156-94-3aa
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

<u>Geologic source</u>	<u>Material</u>	<u>Altitude: 2,120 feet</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Sandy brown till--some gravel and small boulders-----		29	29
	Boulder-----		1	30
	Brown till with small boulders-----		4	34
	Blue clay-----		14	48
	Woody coal-----		0.5	48.5
	Gray clay-----		37.5	86
	Woody coal-----		.5	86.5
	Gray clay-----		9.5	96
	Woody coal-----		.5	96.5
	Gray clay-----		13.5	110
	Fair coal-----		3	113
	Dark brown clay-----		28	141
	Very silty gray clay-----		35	176
	Gray clay-----		10	186
	Coal, woody-----		.25	186.25
	Gray clay-----		3.75	190
	Hard sandstone-----		.5	190.5
	Gray clay-----		19.5	210

156-94-5ccb
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

<u>Geologic source</u>	<u>Material</u>	<u>Altitude: 2,365 feet</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Sandy brown till - small boulders-----		26	26
	Blue till - small boulders-----		8	34
	Tan and orange clay-----		7	41
	Silty gray clay-----		23	64
	Coal, hard-----		3	67
	Silty gray clay with green tint-----		40	107
	Gray clay - green tint-----		32	139
	Coal, fair-----		1	140
	Gray clay - green tint-----		17	157
	Gray clay-----		14	171
	Coal - hard-----		4	175
	Gray clay with green tint-----		32	207
	Gray clay-----		18	225

156-94-10bba
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,260 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Sandy brown till-----	27	27
	Silty brown clay-----	9	36
	Woody coal-----	.5	36.5
	Brown silty clay-----	6.5	43
	Gray clay-----	13	56
	Woody coal-----	.5	56.5
	Silty blue clay-----	11	67.5
	Woody coal-----	1	68.5
	Gray clay-----	2.5	71
	Hard gray sandstone-----	2	73
	Gray clay-----	6	79
	Woody coal-----	3	82
	Gray clay-----	6	88
	Woody coal-----	2.5	90.5
	Gray clay-----	6.5	97
	Woody coal-----	1.5	98.5
	Gray clay with green tint-----	55.5	154
	Gray silty clay-----	16	170
	Woody coal-----	1	171
	Gray clay with green tint-----	14	185
	Woody coal-----	1.5	186.5
	Gray clay-----	23.5	210

156-94-12aaa
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,260 feet

	Sandy brown till - small boulders-----	37	37
	Blue till - small boulders-----	62	99
	Silty gray clay-----	16	115
	Lost circulation - drilled like coal-----	5	120
	Gray clay with green tint-----	15	135
	Gray clay-----	53	188
	Coal - fair-----	4.5	192.5
	Gray clay with green tint-----	17.5	210

156-94-12ddd
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,195 feet

	Sandy brown till, small boulders-----	19	19
	Blue till, small boulders-----	40	59
	Large boulder-----	1	60
	Blue till, small boulders-----	38	98
	Blue clay-----	55.5	153.5
	Streak of woody coal-----	.5	154
	Silty gray clay with green tint-----	17	171
	Gray clay with green tint-----	38	209
	Coal, hard-----	1	210

156-94-16dba

Altitude: 2,050 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, sandy, black-----	1	1
	Sand, very fine to fine, dark-gray, well-sorted, subrounded-----	4	5
	Clay, silty and silt, yellowish-gray-----	14	19
	Sand, fine and medium, interbedded with lenses of gray sandy clay and silt-----	16	35
	Gravel, fine to medium, sandy; many pebbles are iron-stained-----	8	43
	Clay, sandy, light-gray to light-olive-gray, calcareous-----	5	48
	Gravel, fine to medium-----	9	57
Fort Union Group:			
	Sand, very fine to fine, light-greenish-gray to greenish-gray; contains some brown carbonaceous streaks-----	23	80

156-94-19ddd

(Log from Great Northern Railway and Baukol-Moonan Inc.)

Altitude: 2,332 feet

Sandy brown till-----	14	14
Gravel-----	7	21
Brown till-----	17	38
Blue till, some floating coal-----	40	78
Green clay-----	2	80
Gray clay-----	3	83
Coal, fair-----	.5	83.5
Gray clay-----	9.5	93
Hard coal-----	7	100
Gray clay-----	11	111
Gray sandstone-----	.5	111.5
Gray clay-----	41.5	153
Coal, hard-----	1.5	154.5
Gray clay-----	55.5	210

156-94-24ddd

(Log from Great Northern Railway and Baukol-Moonan Inc.)

Altitude: 2,215 feet

Sandy brown till with small boulders-----	79	79
Gray clay with green tint-----	19.5	98.5
Hard coal-----	1.5	100
Gray clay, green tint-----	21	121
Gray clay-----	17	138
Hard coal-----	3.5	141.5
Gray clay, green tint-----	7	148.5
Coal, fair-----	1.5	150
Gray silty clay, green tint-----	21	171
Green clay-----	16	187
Gray clay-----	23	210

156-94-24cbb

Altitude: 2,165 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Till, moderate-olive-brown, oxidized-----	21	21
Fort Union Group(?):	Lignite, fractured (may be reworked)-----	5	26
	Clay, yellowish-brown-----	11	37
	Lignite, slack(?); lost circulation at 38 ft.-----	1	38
	Missing-----	2	40

156-94-24cbd

Altitude: 2,173 feet

Glacial drift:	Loam, dark-brown-----	1	1
	Till, yellowish-gray to brown, oxidized-----	6	7
	Till, moderate-olive-brown, oxidized-----	31	38
	Clay, silty, yellowish-greenish-gray, partially oxidized-----	9	47
	Clay, silty, olive-gray, calcareous-----	8	55
	Sand, coarse, well-sorted, subangular-----	4	59
	Clay, silty, medium-gray, olive-gray and olive-black, calcareous-----	64	123
	Clay, silt, and fine to medium sand, interbedded-----	18	141
	Sand, medium to coarse, gravelly-----	33	174
	Gravel, fine, sandy, subangular-----	17	191
Fort Union Group(?):	Shale, medium-gray; contains thin bentonitic seams---	23	214
	Shale, silty, light-gray-----	6	220

157-88-36bbb

Altitude: 2,342 feet

Glacial drift:	Clay, silty, yellowish-gray, oxidized-----	7	7
	Clay, silty, yellowish-gray to moderate-olive-brown, oxidized-----	31	38
	Till, moderate-olive-brown, oxidized-----	40	78
	Till, olive-gray-----	88	166
	Till, olive-gray; contains numerous lenses of fine to medium sandy gravel-----	49	215
	Till, olive-gray-----	30	245
	Silt, clayey and sandy, olive-gray-----	17	262
	Till, moderate-olive-brown, oxidized-----	19	281
	Till, very sandy, moderate-olive-brown, oxidized-----	19	300
	Till, olive-gray-----	20	320
Fort Union Group:	Sand, very fine, clayey to silty, olive-gray, calcareous, micaceous-----	8	328
	Shale, light-to medium-gray-----	4	332
	Sand, clayey, dark-greenish-gray-----	8	340

157-89-20adc

Altitude: 2,172 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, pebbly, black-----	1	1
	Till, yellowish-gray, oxidized-----	5	6
	Till, moderate-olive-brown, oxidized-----	24	30
	Till, olive-gray; contains streaks of moderate-olive-brown oxidized till-----	23	53
	Till, olive-gray, contains a few thin gravel and sand lenses-----	22	75
	Silt, light-olive-gray to olive-gray; grades downward into olive-gray to dark-greenish-gray, very fine, silty sand-----	13	88
	Sand, fine to medium; contains a few lenses of dark-greenish-gray, very fine, clayey sand and silt. May be a preglacial post Fort Union deposit-----	75	163
Fort Union Group:			
	Sand, very fine to fine, greenish-gray; contains black and brown carbonaceous zones and is interbedded with carbonaceous clay-----	22	185
	Shale, silty and sandy, medium-gray, light-greenish-gray to dark-greenish-gray and brownish-black-----	15	200

157-89-30dcb
(Log from E. H. Prather)

Brown shale-----	5	5
Brown sand-----	25	30
Sand and gravel-----	8	38
Clay and gravel-----	14	52
Rolling sand (water)-----	22	74
Gray clay-----	6	80
Coal, water-----	2	82

157-90-14cad
(Log from E. H. Prather)

Topsoil-----	2	2
Gravel sand-----	8	10
Yellow sand-----	17	27
Gray clay-----	8	35
Brown sand-----	20	55
Brown sandy shale-----	4	59
Coal, water-----	5	64
Light-gray clay-----	5	69
Gray sandy shale-----	1	70

157-90-15bbb

Altitude: 2,270 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Gravel, fine and medium, sandy, subrounded-----	4	4
	Clay, sandy, yellowish-gray-----	2	6
	Gravel, sandy, poorly sorted-----	23	29
	Gravel, fine and medium, sandy, moderately well-sorted in lenses-----	12	41
	Till, moderate-olive-brown to olive-gray, partially oxidized-----	9	50
Fort Union Group:	Shale, silty, and clayey, fine sand; various shades of yellow, green, and gray-----	20	70
	Shale, silty to sandy, medium-gray to dark-greenish-gray; contains black and brown lignitic lenses----	10	80

157-90-22dda

Altitude: 2,200 feet

Glacial drift:	Sand, gravel, and cobbles, poorly sorted, heavily iron stained to 36 ft.-----	40	40
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157-90-33bbb

Altitude: 2,227 feet

Glacial drift:	Till, yellowish-gray, oxidized-----	7	7
	Gravel, reddish-brown, subangular, iron stained-----	6	13
	Till, olive-gray-----	24	36
Fort Union Group:	Clay and silt, variegated, partially oxidized-----	20	56
	Shale, greenish-gray; contains lignite seams-----	24	80

157-90-34acd1

(Log from E. H. Prather)

Brown clay and gravel-----	22	32
Gray shale, sand and rocks, trace of water-----	13	45
Gray shale and gravel-----	9	54
Gravel-----	2	56
Brown sand and gravel-----	14	70
Black sand and coal-----	4	74
Gray shale, gravel and sand-----	13	87
Gray sandy shale-----	26	113
Gray shale-----	13	126
Coal and water-----	2	130

157-91-11ddd

Altitude: 2,320 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, pebbly, black-----	1	1
	Till, moderate-olive-brown, oxidized-----	26	27
	Till, olive-gray; contains oxidized moderate-olive-brown streaks-----	15	42
	Till, olive-gray-----	13	55
	Gravel, fine and medium, sandy, subangular to sub-rounded-----	4	59
	Till, olive-gray-----	28	87
	Silt, clayey, and very fine sand, olive-gray-----	26	113
	Till, olive-gray-----	22	135
Fort Union Group:			
	Shale, medium-gray, and greenish-gray, contains brownish-black carbonaceous layers-----	16	151
	Sandstone, greenish-gray-----	3	154
	Shale, medium-gray, calcareous-----	6	160

157-91-35baa

(Log from Paulson, 1954)

Glacial drift:			
	Soil, black-----	2	2
	Clay, yellowish-gray-----	6	8
	Till, yellowish-gray-----	34	42
Fort Union Group:			
	Shale-----	8	50

157-91-36ddd

Altitude: 2,200 feet

Glacial drift:			
	Sand, fine, silty, dark-brownish-gray-----	6	6
	Till, clay, very silty, dusky-yellow to moderate-olive-brown, oxidized-----	26	32
	Till, silty, olive-gray, lignitic-----	40	72
	Gravel, fine and medium, sandy, moderately well-sorted, subangular and subrounded-----	8	80
	Till, silty, olive-gray-----	11	91
	Sand, fine, light-greenish-gray, carbonaceous-----	10	101
	Clay, silty, medium-gray, some occasional lignite or pebbles-----	11	112
	Clay, silty, dark-greenish-gray-----	9	121
	Till, dark-brownish-gray and olive-gray-----	49	170
	Gravel, fine to very coarse, some cobbles, generally subrounded-----	22	192
Fort Union Group:			
	Clay, highly carbonaceous, oily and lignitic, leonardite(?)-----	4	196
	Shale, medium-to light-gray, slightly hard, calcareous-----	4	200

157-92-5baa

Altitude: 2,210 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, silty, black-----	1	1
	Clay, sandy, dusky-yellow, oxidized-----	7	8
	Clay, silty, dusky-yellow to moderate-olive-brown, oxidized-----	20	28
	Till, olive-gray-----	24	52
Fort Union Group:			
	Sand, medium, dark-greenish-gray, well-sorted, contains some thin beds of sandstone and many lignite grains-----	56	108
	Shale, brownish-black, carbonaceous-----	4	112
	Lignite, black, hard-----	2	114
	Shale, silty, medium-gray-----	6	120

157-92-5bbb

Altitude: 2,213 feet

Glacial drift:			
	Loam, silty, black-----	1	1
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	7	8
	Clay, silty, yellowish-greenish-gray-----	8	16
	Lignite, detrital-----	2	18
	Clay, silty, olive-gray-----	49	67
	Till, olive-gray-----	36	103
	Sand, coarse, well-sorted-----	3	106
Fort Union Group:			
	Shale, medium-gray to brownish-black-----	3	109
	Lignite, black, fissile-----	2	111
	Shale, silty to sandy, medium-gray to greenish-gray--	9	120

157-92-16ddd1

Altitude: 2,204 feet

Glacial drift:			
	Loam, gravelly, black-----	1	1
	Sand, medium to very coarse with fine to coarse gravel, poorly sorted, subangular to subrounded---	9	10
	Till, moderate-olive-brown to light-olive-gray, oxidized-----	17	27
	Gravel, fine to coarse, poorly sorted, angular to subrounded-----	6	33
	Till, olive-gray; contains several thin gravel streaks-----	13	46
	Silt, clayey, olive-gray, calcareous-----	5	51
	Gravel, fine to coarse, sandy, poorly sorted, angular to subrounded-----	14	65

157-92-16ddd2

Altitude: 2,204 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, clayey to gravelly, yellowish-gray, oxidized---	20	20
	Gravel, fine to coarse, poorly sorted, angular and subangular-----	10	30
	Till, olive-gray; contains a few thin gravel layers--	13	43
	Till, olive-gray-----	19	62
	Till, olive-gray; contains a few thin sand and gravel layers-----	27	89
	Till, olive-gray-----	29	118
	Clay, black, oily (swamp clay?); strong odor-----	38	156
	Clay, black, oily; contains many crystals of mirabolite-----	19	175
	Clay, black, oily (swamp clay?); strong odor-----	36	211
	Till, olive-gray to light-olive-gray-----	47	258
	Till, olive-gray; contains a few thin gravel layers--	40	298
	Till, olive-gray; inclusions consist principally of bedrock (Fort Union) shales and carbonaceous material-----	8	306
	Till, very gravelly, olive-gray-----	16	322
Fort Union Group:			
	Siltstone, light-olive-gray and yellow, red, and green stained, very fine sand-----	6	328
	Shale, sandy, light-greenish-gray, contains brownish-black carbonaceous streaks-----	6	334
	Shale, silty, light-olive-gray and greenish-gray-----	10	344
	Sand(?) from drill and E-log-----	16	360

157-92-18dab

Altitude: 2,326 feet

Glacial drift:			
	Loam, dark-brown-----	1	1
	Till, yellowish-gray to dusky-yellow, oxidized-----	18	19
	Till, moderate-olive-brown-----	15	34
Fort Union Group:			
	Shale, silty to sandy, yellowish-green-----	18	52
	Lignite, black, fissile-----	1	53
	Shale, silty, yellowish-greenish-gray-----	4	57
	Lignite, black, fissile-----	1	58
	Shale, silty, medium-gray; locally lignitic-----	22	80

157-92-32dce

(Log from Great Northern Railway and Baukol-Noonan Inc.)

Altitude: 2,300 feet

	Sandy brown till, some gravel and small boulders-----	51	51
	Blue till-----	35	86
	White clay with gray tint-----	28	114
	Gray clay with green tint-----	17.5	131.5
	Hard coal-----	.5	132
	Gray silty clay with green tint-----	59	191
	Hard coal-----	.5	191.5
	Gray silty clay with green tint-----	18.5	210

157-93-lbbb

Altitude: 2,245 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, silty, yellowish-gray-----	3	3
	Till, dusky-yellow to moderate-olive-brown, oxidized-	16	19
	Sand, very fine and fine to medium, clayey to silty, dusky-yellow to yellowish-green, interbedded-----	29	48
Fort Union Group(?):			
	Clay, sandy, yellowish-green-----	10	58
	Sand, very fine to fine, clayey, medium-yellowish-green, oxidized-----	31	89
	Shale, light-to medium-gray-----	11	100

157-93-8daa1

(Log from Great Northern Railway and Baukol-Noonan Inc.)

Altitude: 2,290 feet

Gravel-----	7	7
Sandy blue till, small boulders-----	54	61
Blue and orange sand till - silt(?)-----	76	137
Silty blue till-----	58	195

157-93-1lbbb

(Log from Great Northern Railway and Baukol-Noonan Inc.)

Altitude: 2,335 feet

Sandy brown till, small rocks-----	29	29
Silt, brown and gray-----	6	35
Tan and gray clay-----	5	40
Woody coal-----	6.5	46.5
Gray clay, green tint-----	10.5	57
Soft coal-----	1	58
Silty gray clay-----	22	80
Brown clay-----	6	86
Hard gray clay with green tint-----	35	121

157-93-1lidaa

Altitude: 2,260 feet

Glacial drift:			
	Till, yellowish-gray to dusky-yellow, oxidized-----	25	25
Fort Union Group:			
	Shale, silty, medium-gray to greenish-gray-----	7	32
	Lignite, black, fissile-----	2	34
	Sand, very fine to fine, greenish-gray to brownish-black, well sorted, subrounded, carbonaceous in layers-----	26	60

157-93-15dccc3
(Log from E. H. Prather)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Brown sand and gravel, mixed clay-----	30	30
	Small trace of water-----	2	32
	Gray clay, rock and gravel-----	50	82
	Gravel (water)-----	13	95

157-93-21aaa

Glacial drift:			
	Clay, silty and sandy, yellowish-gray, oxidized-----	4	4
	Till, dusky-yellow, oxidized-----	18	22
	Till, moderate-olive-brown to light-olive-gray, partially oxidized-----	28	50
	Gravel, fine to medium, well-sorted, subrounded-----	2	52
	Till, olive-gray-----	10	62
	Silt, slightly sandy, yellowish-green (reworked bedrock?)-----	4	66
	Clay, yellowish-gray (reworked bedrock?)-----	3	69
	Gravel, fine and medium to very coarse sand, dark-brown, angular to subangular, heavily iron stained-----	6	75
Fort Union Group:			
	Silt, clayey to sandy, laminae of various light shades of gray, green, and yellow-----	21	96
	Shale, greenish-gray-----	5	101
	Silt, clayey and very fine sand, buff, laminated-----	16	117
	Shale, gray-----	3	120

157-93-28ccc

Altitude: 2,115 feet

Glacial drift:			
	Loam, sandy, black-----	1	1
	Silt, sandy, yellowish-gray, calcareous-----	1	2
	Gravel, fine and medium, sandy, subangular to sub-rounded-----	14	16
	Till, olive-gray-----	42	58
	Sand, fine to medium with some coarse, moderately well-sorted in lenses, subrounded-----	12	70
Fort Union Group:			
	Sand, very fine to fine, silty and clayey, light-olive-gray and olive-gray, micaceous and lignitic-----	40	110
	Leonardite, black, oily-----	11	121
	Sand, very fine, clayey to silty, olive-gray-----	15	136
	Shale, light-greenish-gray to greenish-gray-----	8	144
	Silt and very fine sand, clayey, light-greenish-gray, calcareous, interbedded-----	16	160

157-93-29aaa
 (Log from Great Northern Railway and
 Baukol-Moonan Inc.)

Altitude: 2,235 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Sandy brown till-----	21	21
	Sandy blue till with small boulders-----	86	107
	Silty blue till-----	51.5	158.5
	Coal, fair-----	3.5	162
	Silty gray clay with green tint-----	11	173
	Silty gray clay-----	7	180

157-93-32ccc
 (Log from Hall and Bruton)

	Surface sand-----	7	7
	Yellow clay-----	53	60
	Gray sandy clay-----	30	90
	Blue clay-----	80	170
	Soft sand-----	25	195
	Gravel and water-----	5	200

157-93-36baa

Altitude: 2,480 feet

Glacial drift:

	Clay and silt with pebbles, sand, gravel and cobbles, dusky-yellow and reddish-brown; possibly an ice disintegration deposit-----	52	52
	Till, olive-gray-----	44	96
	Sand, medium to coarse, gravelly, moderately well-sorted, subrounded-----	33	129
	Till, olive-gray-----	26	155
	Clay, silty, light-olive-gray to olive-gray, laminated-----	18	173
	Till, moderate-olive-brown, oxidized-----	26	199
	Till, olive-gray-----	77	276
	Clay, sandy, light-olive-gray; contains numerous lignite and limestone pebbles and lenses of sand--	30	306
Fort Union Group:	Shale, silty, light-greenish-gray to greenish-gray---	20	326
	Sand, fine, greenish-gray, micaceous, lignitic-----	14	340

157-94-6bc
 (Driller unknown)

	Gray clay-----	102	102
	Yellow clay-----	30	132
	Gray clay, gravel, water-----	19	151
	Gray clay-----	18	169
	Coal-----	2	171
	Gray clay-----	33	204
	Sand and water-----	6	210

157-94-9aab

Altitude: 2,280 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel, fine to coarse, sandy, poorly sorted-----	6	6
	Till, moderate-olive-brown, oxidized-----	27	33
Fort Union Group:			
	Shale, light-greenish-gray and olive-black-----	7	40

157-94-14abb

(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,290 feet

Sandy brown till, small boulders-----	43	43
Blue till, small boulders-----	4	47
Brown silt-----	16	63
Gray clay-----	9	72
Very silty gray clay-----	24	96
Hard coal-----	1.5	97.5
Hard gray clay with green tint-----	18.5	116
Coal, fair-----	.5	116.5
Silty gray clay-----	38.5	155
Coal, hard-----	5	160
Gray clay-----	33	193
Silty gray clay-----	32	225

157-94-17aaa

(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,275 feet

Till, sandy brown, some gravel-----	45	45
Clay, orange-----	4	49
Coal, soft-----	1	50
Clay, sandy brown-----	24	74
Sand, gray-----	14.5	88.5
Sandstone, concretion-----	.5	89
Sand, blue-----	43	132
Lignite, hard-----	3.5	135.5
Clay, sandy gray, green tint-----	44.5	180

157-94-20dec

(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,200 feet

Sandy brown till-----	27	27
Blue till-----	9	36
Blue clay-----	31	67
Sandy blue clay-----	12	79
Coal, hard-----	1	80
Gray clay-----	9	89
Sandy gray clay-----	46	135

157-94-23bab

Altitude: 2,290 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Till, reddish-brown to moderate-olive-brown, oxidized	23	23
Fort Union Group:	Shale, yellowish-green to light-greenish-gray and olive-gray-----	17	40

157-94-25dba

Altitude: 2,090 feet

Glacial drift:	Loam, sandy, black-----	1	1
	Sand, very fine, silty, dark-gray-----	5	6
	Silt, clayey, yellowish-gray-----	8	14
	Clay, yellowish-green, and yellowish-gray-----	17	31
	Sand, fine, gray-----	2	33
	Clay, silty, light-olive-gray-----	8	41
	Gravel, fine to medium, moderately well-sorted, sub-rounded-----	6	47
Fort Union Group:	Shale, silty, light-gray to light-greenish-gray-----	12	59
	Lignite, black-----	1	60

157-94-26daa

(Log from Great Northern Railway and Baukol-Moonan Inc.)

Altitude: 2,110 feet

Sandy brown till-----	19	19
Brown silt-----	2	21
Gray clay-----	10	31
Tan and orange clay-----	5.5	36.5
Limestone-----	.5	37
Gray clay-----	3	40
Gray clay with streaks of coal-----	28	68
Coal, fair-----	4	72
Gray clay-----	18	90

157-94-34add
(Log from E. H. Prather)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Gravel-----	2	2
	Brown clay and gravel-----	13	15
	Gravel-----	16	31
	Brown clay-----	13	44
	Brown sand, coal, fine gravel-----	7	51
	Sand and gravel, coal and trace of water-----	2	53
	Gray sandy clay-----	15	68
	Gray clay-----	25	93
	Fine gray sandy clay-----	7	100
	Gray sand and trace of coal, muddy-----	4	104
	Gray sandy clay-----	14	118
	Trace of coal, dry-----	1	119
	Gray clay-----	9	128
	Coal, dry-----	2	130
	Fine gray sand-----	9	139
	Coal-----	2	141
	Brown clay-----	2	143
	Gray clay-----	8	151
	Gray sandy clay-----	8	159
	Brown clay, mixed with coal-----	5	164
	Gray clay-----	22	186
	Gray clay with coal-----	2	188
	Gray sandy clay-----	9	197
	Gray clay, coal mixed-----	3	200
	Coal, water, slightly colored-----	2	202

158-88-17aba

Altitude: 2,260 feet

Glacial drift:			
	Till, reddish-brown to yellowish-gray, oxidized-----	10	10
	Gravel, fine to medium, reddish-brown-----	3	13
	Till, moderate-olive-brown, oxidized-----	16	29
	Till, olive-gray-----	73	102
	Gravel, medium, well-sorted, subangular-----	2	104
	Till, olive-gray-----	99	203
	Till, dusky-yellow, oxidized-----	28	231
Fort Union Group:			
	Sand, fine, greenish-gray, micaceous-----	29	260

158-88-32add

Altitude: 2,239 feet

Glacial drift:			
	Sand, medium to coarse, gravelly, reddish-brown; dry-----	10	10
	Till, dusky-yellow-----	6	16
	Till, olive-gray-----	211	227
	Clay, olive-gray to olive-black, and interbedded laminated, light-olive-gray to olive-gray, silt-----	36	263
	Sand, fine dark-greenish-gray, well-sorted, subrounded, lignitic-----	8	271
	Gravel, medium to very coarse-----	11	282
Fort Union Group:			
	Shale, white to medium-gray and brownish-black-----	6	288
	Lignite, black, fissile-----	4	292
	Shale, silty, medium-gray-----	8	300

158-89-19aaa1

Altitude: 2,315 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, dark-brown-----	1	1
	Till, yellowish-gray, oxidized-----	6	7
	Till, moderate-olive-brown, oxidized-----	11	18
	Till, olive-gray-----	25	43
	Sand, gravel, and cobbles-----	46	89
	Till, olive-gray-----	24	113
	Gravel, fine to medium, moderately well-sorted, sub-angular-----	4	117
	Till, moderate-olive-brown, oxidized-----	57	174
Fort Union Group:			
	Shale, silty and clayey sand, yellowish-gray to yellowish-green, oxidized-----	34	208
	Shale, silty, medium-gray-----	3	211
	Lignite, black, fissile-----	5	216
	Shale, silty, medium-gray to brownish-black, carbonaceous-----	4	220

158-89-19aaa2

Altitude: 2,315 feet

Glacial drift:			
	Silt, dark-brown-----	1	1
	Till, yellowish-gray, oxidized-----	6	7
	Till, moderate-olive-brown, oxidized-----	15	22
	Till, olive-gray-----	30	52
	Sand, gravel, and cobbles; (hole caved in)-----	28	80

158-89-22ccc

Altitude: 2,308 feet

Glacial drift:			
	Silt, sandy, yellowish-gray to reddish-brown, oxidized-----	6	6
	Till, dusky-yellow to moderate-olive-brown-----	22	28
	Till, olive-gray-----	178	206
	Till, olive-gray, very poor samples. Drill action and E-log indicate gravel and sand lenses-----	32	238
Fort Union Group(?):			
	Shale, sandy, very poor samples-----	29	267
	Sand, fine, dark-greenish-gray, poor sample-----	10	277
	Shale or clay, no sample, but mud pump pressure rose to 600 pounds-----	3	280

158-90-12ddd

Altitude: 2,270 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay, sandy, yellowish-gray, oxidized-----	7	7
	Till, moderate-olive-brown, oxidized-----	7	14
	Till, olive-gray-----	192	206
	Gravel, fine to medium, clayey, samples are about 50 percent till-----	20	226
	Till, olive-gray-----	20	246
	Gravel; contains lenses of silty and very fine sandy clay, samples are about 50 percent till-----	25	271
	Till, olive-gray-----	9	280
	Till, moderate-olive-brown, oxidized-----	19	299
Fort Union Group:			
	Sandstone, greenish-gray, calcareous cement-----	2	301
	Sand, fine, light-olive-gray to greenish-gray, inter- bedded with olive-gray silt, light-gray and medium- gray shale, and light-greenish-gray, silty shale---	39	340

158-90-13caa

(Log from E. H. Frather)

Brown clay, sand and gravel-----	42	42
Gray shale and rocks-----	26	68
Gray shale and gravel-----	24	92
Gray sandy shale and gravel-----	50	142
Gravel and sand rolling in-----	6	148
Gray clay and gravel-----	18	166
Brown clay, rock, and gravel-----	58	224
Gravel, sand and water-----	17	241

158-90-17bba

Altitude: 2,240 feet

Glacial drift:			
	Sand, medium to coarse, gravelly, subrounded-----	6	6
	Till, dusky-yellow, oxidized-----	13	19
	Till, olive-gray-----	55	74
	Gravel, fine to very coarse, sandy, poorly sorted, subangular to subrounded-----	22	96
Fort Union Group:			
	Shale, silty, light to medium-gray-----	7	103
	Sand, very fine, light-greenish-gray-----	17	120

158-90-29ccc

Altitude: 2,318 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray, oxidized-----	8	8
	Till, moderate-olive-brown, oxidized-----	23	31
	Till, olive-gray-----	59	90
	Till, moderate-olive-brown, oxidized-----	24	114
	Till, olive-gray-----	40	154
Fort Union Group:			
	Shale, silty, light-gray-----	21	175
	Lignite, black-----	3	178
	Shale, silty, greenish-gray-----	4	182
	Lignite, black, fissile-----	2	184
	Shale, light-greenish-gray-----	5	189
	Shale, sandy, greenish-gray-----	11	200

158-91-5c
(Log from E. H. Prather)

Brown clay-----	8	8
Gravel-----	4	12
Brown clay and gravel-----	34	46
Gravel-----	25	71
Brown sand and water-----	71	142
Gray shale-----	3	145

158-91-8bb
(Log from E. H. Prather)

Brown sandy shale-----	30	30
Yellow sand-----	78	108
Hard sandstone-----	6	114
Yellow sand-----	42	156
Yellow sand (partly red in color)-----	6	162

158-91-19ddd

Altitude: 2,359 feet

Glacial drift:			
	Till, yellowish-gray to reddish-brown, oxidized (reworked?)-----	9	9
	Till, moderate-olive-brown-----	55	64
	Sand, medium to coarse, yellowish-green, well-sorted-----	5	69
	Till, moderate-olive-brown-----	31	100
	Sand, silty and clayey, dusky-yellow to yellowish-green-----	32	132
Fort Union Group:			
	Sand, medium, yellowish-green, well-sorted, sub-angular, micaceous and lignitic-----	10	142
	Sandstone, greenish-gray-----	2	144
	Sand, medium, dark-greenish-gray-----	16	160

158-91-27add

Altitude: 2,328 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, clayey and sandy, yellowish-gray-----	4	4
	Gravel, sandy, reddish-brown-----	5	9
	Till, moderate-olive-brown and light-olive-gray, partly oxidized-----	11	20
	Sand, medium to very coarse, moderately well-sorted, subangular to subrounded-----	6	26
	Gravel, medium to coarse, moderately well-sorted, subrounded-----	6	32
	Till, olive-gray-----	60	92
	Gravel, fine to medium, sandy and clayey, poorly sorted, subangular-----	6	98
	Till, moderate-olive-brown-----	34	132
	Clay, silty to sandy with pebbles, variegated yellows, browns, grays, and greens-----	47	179
	Rocks-----	3	182
Fort Union Group:			
	Shale, silty, medium-gray and brownish-black, laminated-----	6	188
	Lignite, black, fissile-----	2	190
	Shale, olive-gray to olive-black-----	16	206

158-91-34bbb

Altitude: 2,332 feet

Glacial drift:			
	Loam, silty, dark-brownish-gray-----	1	1
	Till, yellowish-gray to dusky-yellow, oxidized-----	51	52
	Till, olive-gray-----	59	111
Fort Union Group:			
	Shale, light-greenish-gray, greenish-gray, and medium-gray, interbedded-----	39	140

158-92-29aaa

Altitude: 2,223 feet

Glacial drift:			
	Clay, black-----	1	1
	Gravel, fine to medium, sandy, subangular to sub- rounded-----	7	8
	Till, dusky-yellow, oxidized-----	20	28
	Gravel, fine to medium, sandy, moderately well-sorted in lenses, subangular, iron stained-----	8	36
	Clay, greenish-gray, laminated-----	14	50
	Sand, fine to very coarse, some gravel, well-sorted in lenses-----	47	97
Fort Union Group:			
	Sand, fine, dark-greenish-gray-----	17	114
	Clay, black, oily-----	2	116
	Lignite, black, fissile-----	2	118
	Shale, silty, light-olive-gray to brownish-gray-----	22	140

158-92-29ccb

Altitude: 2,230 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, sandy, black-----	2	2
	Sand, fine, dark-brownish-gray, well-sorted-----	3	5
	Clay, silty, dark-brownish-gray-----	3	8
	Sand, fine, reddish-brown, well-sorted-----	4	12
	Sand, fine to medium, clayey, light-olive-gray-----	10	22
	Silt, clayey, moderate-olive-brown, oxidized-----	9	31
	Silt and silty clay, olive-gray-----	10	41
	Till, olive-gray-----	13	54
Fort Union Group:			
	Shale, silty, light-olive-gray and light-greenish-gray, sandy and calcareous-----	7	61
	Sand, fine, dark-greenish-gray-----	3	64
	Shale, light-olive-gray and light-greenish-gray-----	6	70

158-92-31dcc

Altitude: 2,212 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, silty, black-----	1	1
	Clay, silty to sandy, dusky-yellow, oxidized-----	7	8
	Clay, silty, moderate-olive-brown, oxidized-----	20	28
	Clay, silty, light-olive-gray-----	19	47
Fort Union Group:			
	Sand, medium, yellowish-green, well-sorted, sub-angular-----	10	57
	Sand, medium, greenish-gray, well-sorted, subangular to subrounded-----	50	107
	Shale, silty, light-greenish-gray-----	3	110
	Lignite, black-----	2	112
	Shale, brownish-black, oily-----	4	116
	Limestone, gray-----	2	118
	Shale, medium-gray-----	2	120

158-93-2ccc

Altitude: 2,302 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, silty, black-----	1	1
	Silt, sandy, yellowish-gray-----	4	5
	Till, dusky-yellow-----	16	21
	Till, moderate-olive-brown-----	18	39
	Gravel, fine to medium, sandy, moderately well-sorted in lenses-----	13	52
	Till, pink to salmon colored, oxidized-----	11	63
	Till, olive-gray-----	28	91
	Silt and very fine sand, light-olive-gray to olive-gray, calcareous-----	17	108
	Clay, silty, olive-gray-----	6	114
	Gravel, fine to medium, sandy, dark-brown-----	5	119
Fort Union Group:			
	Shale, silty, variegated grays and greens-----	21	140

158-93-7abd

Altitude: 2,235 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Topsoil, sandy loam, black-----	1	1
	Sand, fine to coarse, gray, moderately well-sorted, subangular and subrounded-----	5	6
	Clay, variegated, with silt and fine sand, interbedded-----	10	16
	Gravel, fine and medium, sandy, light-brown, moderately sorted, subrounded, mostly limestone with some shale and granitics-----	7	23
	Clay, silty, variegated; contains a section of highly carbonaceous oily, sandy clay at about 30 ft.-----	16	39
Fort Union Group:	Sand, very fine to fine, dark-greenish-gray-----	11	50

158-93-8aaa

(Log from Great Northern Railway and Baukol-Moonan Inc.)

Altitude: 2,330 feet

Sandy brown till-----	4	4
Gravel-----	3	7
Sandy blue till-----	35	42
Blue till with floating coal-----	61	103
Gray clay-----	13	116

158-93-14cbc

(Log from E. H. Prather)

Brown clay, rock-----	28	28
Gravel and rock-----	13	41
Brown clay and gravel-----	8	49
Gray clay, rock and gravel-----	28	77
Gray sand, coal, water-----	3	80

158-93-16bbb

Altitude: 2,354 feet

Topsoil, pebbly loam, black-----	1	1
Till, silty, yellowish-gray, oxidized-----	8	9
Till, dusky-yellow to moderate-olive-brown, oxidized-----	12	21
Till, moderate-olive-brown, partially oxidized-----	21	42
Gravel, fine to coarse, clayey to sandy, angular to subrounded, poorly sorted, iron stained. Pebbles are mostly limestone, granitic rocks, and shale-----	20	62
Till, olive-gray-----	56	118
Sentinel Butte Formation:		
Sandstone, light-greenish-gray, calcareous, indurated-----	2	120
Shale, medium-gray-----	7	127
Shale, silty, greenish-gray-----	13	140

158-93-22ccd

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Brown clay, rock and gravel-----	62	62
	Brown sandy clay-----	51	113
	Gray clay-----	12	125
	Coal and water-----	2	127
	Gray clay-----	5	132

158-93-26aaa

Altitude: 2,310 feet

Glacial drift:	Silt, clayey, yellowish-gray, oxidized-----	4	4
	Till, dusky-yellow, oxidized-----	7	11
Fort Union Group:	Sand, very fine to fine, clayey, greenish-yellow-----	36	47
	Silt, light-gray; contains streaks of iron-stained claystone-----	9	56
	Shale, medium-gray-----	4	60

158-93-27bba

(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,430 feet

	Brown till, small boulders-----	93	93
	Silty white clay-----	6	99
	Blue clay-----	6	105

158-93-28bbb

(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,375 feet

	Sandy brown till-----	34	34
	Blue till-----	21	55
	White clay-----	17	72
	Blue clay-----	1	73
	Lots of gravel till-----	13	86

158-93-30abb

Altitude: 2,270 feet

Glacial drift:	Till, very gravelly, reddish-brown to moderate-olive-brown, oxidized-----	18	18
	Clay, silty, olive-gray-----	44	62
Sentinel Butte Formation:	Shale, medium-gray, lignitic-----	18	80

158-94-11bbb
 (Log from Great Northern Railway and
 Baukol Noonan Inc.)

Altitude: 2,415 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Sandy till, small boulders-----	21	21
	Blue till, small boulders-----	183	204
	Silty gray clay-----	21	225

158-94-11ccc

Altitude: 2,434 feet

Glacial drift:			
	Loam, silty, black-----	2	2
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	20	22
	Till, olive-gray-----	76	98
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	24	122
Fort Union Group:			
	Sand, very fine, silt and sandy clay, interbedded, yellowish-green and buff-----	47	169
	Shale, greenish-gray-----	11	180

158-94-16bbb

Altitude: 2,305 feet

Glacial drift:			
	Loam, silty and pebbly, black-----	2	2
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	16	18
	Till, olive-gray-----	15	33
	Clay, olive-gray to olive-black-----	3	36
	Till, olive-gray-----	5	41
	Sand, medium, gray, well-sorted-----	6	47
	Till, olive-gray-----	29	76
Fort Union Group:			
	Sand, very fine to fine, greenish-gray to dark- greenish-gray, calcareous-----	15	91
	Shale, light-to medium-gray and greenish-gray-----	9	100

158-94-21cdd

Altitude: 2,305 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, black-----	1	1
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	20	21
	Sand, medium to very coarse, gravelly-----	3	24
	Clay, silty, olive-gray-----	10	34
	Sand, medium to coarse, gray, well-sorted, rounded-----	4	38
	Gravel, fine to medium, sandy, subangular to sub-rounded-----	7	45
	Till, olive-gray-----	8	53
	Sand, medium to coarse, gray, moderately well-sorted, subangular to subrounded-----	5	58
	Clay, silty, light-olive-gray to olive-gray; interbedded with silt and very fine to fine sand-----	21	79
	Sand, very fine to fine, gray-----	11	90
	Till, olive-gray-----	40	130
Fort Union Group:			
	Shale, medium-gray to light-greenish-gray-----	9	139
	Lignite, black, fissile-----	12	151
	Shale, greenish-gray-----	9	160

158-94-26aaa

(Log from Great Northern Railway and Baukol-Moonan Inc.)

Altitude: 2,375 feet

	Sandy brown till, some gravel-----	22	22
	Blue till, small boulders-----	32	54
	Silty gray clay-----	37	91
	Sandy blue silt-----	5	96
	Coal, hard-----	2	98
	Silty gray clay, green tint-----	28	126
	Hard brown clay-----	10	136
	Coal, fair-----	1	137
	Gray clay, green tint-----	14	151
	Very silty gray clay with green tint-----	32	183
	Coal, hard-----	7	190
	Silty gray clay, green tint-----	20	210

158-94-30bbb

Altitude: 2,360 feet

Glacial drift:			
	Loam, silty, black-----	1	1
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	47	48
Fort Union Group:			
	Shale, yellowish-gray to light-gray, oxidized-----	25	73
	Shale, silty and sandy, medium-dark-gray, chocolate-brown and brownish-gray-----	7	80

BURSE COUNTY

159-90-4bcc

Altitude: 2,298 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel, fine to coarse, poorly sorted; contains thin lenses of dusky-yellow clay-----	18	18
	Till, moderate-olive-brown to olive-gray, partially oxidized-----	28	46
	Till, olive-gray-----	17	63
	Gravel, fine, sandy, moderately well-sorted-----	4	67
	Till, olive-gray-----	21	88
	Gravel, fine and medium, well-sorted, angular to subrounded-----	11	99
	Till, olive-gray-----	29	128
	Gravel, fine to coarse, poorly sorted-----	55	183
	Clay, silty clay, and sandy clay, light-olive-gray to olive-gray, interbedded-----	33	216
Fort Union Group:			
	Lignite, black, fissile-----	5	221
	Shale, light-greenish-gray-----	6	227
	Sand, fine, clayey, dark-greenish-gray, micaceous----	13	240

159-90-29ccc

Altitude: 2,300 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	4	4
	Till, moderate-olive-brown, oxidized-----	26	30
	Till, olive-gray-----	72	102
Fort Union Group:			
	Silt and very fine sand, clayey, dusky-yellow-----	10	112
	Clay, white, chalky-----	2	114
	Silt, clayey and very fine sand, olive-gray, micaceous-----	14	128
	Shale and silt, olive-gray, and greenish-gray, thin bedded-----	23	151
	Sand, very fine to fine, greenish-gray, micaceous----	9	160

159-90-35ddd

Altitude: 2,298 feet

Glacial drift:			
	Till, moderate-olive-brown, oxidized-----	49	49
	Till, olive-gray-----	138	187
	Gravel, clayey-----	20	207
	Clay, silty, light-olive-gray to olive-gray; contains a few sand grains and pebbles (may be till)-----	21	228
Fort Union Group:			
	Limestone, gray-----	2	230
	Sand, fine, clayey, micaceous, yellowish-green, oxidized-----	8	238
	Sand, fine to very fine, greenish-gray, carbonaceous-----	10	248
	Shale, light-olive-gray to greenish-gray; contains some black leonardite-----	12	260

159-91-12baa

Altitude: 2,290 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Clay and silt, white to black-----	8	8
	Till, moderate-olive-brown, oxidized-----	16	24
	Till, olive-gray-----	62	86
	Gravel, fine and medium, moderately well-sorted, angular to subrounded-----	4	90
	Till, olive-gray-----	4	94
Fort Union Group:			
	Sand, fine, clayey, greenish-gray and dark-greenish- gray; shale, silty, medium-gray and greenish-gray-----	26	120

159-91-30ddd

Altitude: 2,345 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, dusky-yellow to moderate-olive-brown-----	16	16
	Boulder, granitic-----	2	18
	Till, moderate-olive-brown, oxidized-----	18	36
	Till, olive-gray-----	31	67
	Boulder; dark-greenish-gray sandstone-----	2	69
	Sand, very fine, clayey, greenish-gray (probably a bedrock inclusion)-----	3	72
	Till, olive-gray-----	70	142
	Limestone, black; (boulder)-----	2	144
	Till, olive-gray-----	12	156
	Gravel, fine to coarse, moderately well-sorted, angular to subrounded-----	22	178
	Till, olive-gray-----	12	190
Fort Union Group:			
	Shale, silty, bright-greenish-gray and olive-gray---	21	211
	Lignite, black-----	2	213
	Shale, olive-black-----	7	220

159-91-33baa

Altitude: 2,282 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel, fine and medium, sandy, poorly sorted, iron stained-----	30	30
	Till, moderate-olive-brown, oxidized-----	15	45
	Gravel, sandy, moderately well-sorted in lenses-----	11	56
	Till, moderately-olive-brown to olive-gray, partially oxidized-----	27	83
	Till, gravelly, olive-gray-----	11	94
Fort Union Group:			
	Shale, greenish-gray-----	26	120

159-91-34bca

Altitude: 2,250 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel (road fill)-----	6	6
	Gravel, medium, sandy, moderately well-sorted, iron stained-----	20	26
	Clay, sandy and sandy silt, gray, interbedded; contains some dark organic clay-----	30	56
	Till, olive-gray-----	20	76
	Gravel, fine to medium, moderately well-sorted-----	17	93
	Sand, fine to medium; contains interbedded coarse sand, gravel, and silty and clayey sand-----	97	190
	Gravel, fine to medium, lignitic-----	29	219
	Gravel, fine to coarse; contains some interstitial silt or clay-----	141	360
Fort Union Group:			
	Shale, silty, light-gray to medium-gray and greenish-gray-----	40	400

159-92-17ada

Altitude: 2,335 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	6	6
	Silt, clayey and gravel, dusky-yellow to reddish-brown (till?)-----	10	16
	Till, moderate-olive-brown, oxidized-----	13	29
	Till, olive-gray; contains a few lenses of fine sand-----	73	102
Fort Union Group:			
	Shale, silty, light-greenish-gray-----	2	104
	Sand, very fine, clayey, greenish-gray-----	3	107
	Shale, sandy, medium-gray to brownish-black-----	4	111
	Lignite, black, fissile-----	3	114
	Shale, light-to medium-gray-----	6	120

159-92-17add

Altitude: 2,271 feet

Glacial drift:			
	Clay, silty, yellowish-gray, oxidized-----	11	11
	Till, moderate-olive-brown to light-olive-gray-----	23	34
	Gravel, fine to medium, sandy, moderately well-sorted-----	5	39
	Till(?)-----	1	40

159-92-24aaa

Altitude: 2,350 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	10	10
	Till, gravelly, reddish-brown-----	15	25
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	50	75
	Sand, fine, clayey, yellowish-green, oxidized; probably reworked bedrock sand-----	40	115
Fort Union Group:			
	Sandstone, greenish-gray; calcium carbonate cement---	7	122
	Sand, fine, dark-greenish-gray, well-sorted, sub-rounded, micaceous-----	18	140

159-92-32abb

Altitude: 2,280 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, silty, black-----	1	1
	Sand, medium to coarse-----	2	3
	Clay, silty to sandy, dark-brownish-gray-----	9	12
	Till, moderate-olive-brown, oxidized-----	15	27
	Till, olive-gray-----	41	68
Fort Union Group:			
	Shale, silty, light-olive-gray and light-greenish-gray, interbedded with very fine to fine calcareous sand-----	22	90

159-92-34abb

(Log from E. H. Prather)

Brown clay-----	30	30
Brown sand and rock-----	44	74
Brown rolling sand-----	44	118
Brown sand (water)-----	14	132
Hard shell-----	1	133
Brown sand-----	22	155
Gray sand-----	22	177
Gray shale-----	2	179
Gray sand and water-----	1	180

159-93-10ddd

Altitude: 2,356 feet

Glacial drift:			
	Loam, sandy, black-----	1	1
	Sand, medium to coarse, gravelly, iron stained, dry--	20	21
	Gravel, fine to coarse, sandy-----	12	33
	Till, olive-gray-----	7	40
	Gravel, fine to medium, sandy-----	9	49
	Clay, silt, and sand, variegated white, yellows, greens, and black-----	33	82
	Till, dark-brownish-gray-----	14	96
	Till, olive-gray-----	86	182
Fort Union Group:			
	Shale, silty, light-olive-gray; very fine to fine sand and fine, dark-greenish-gray, carbonaceous sand-----	38	220

159-93-12ccc

Altitude: 2,330 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, grayish-brown, oxidized-----	24	24
	Till, moderate-olive-brown, oxidized-----	32	56
	Till, olive-gray-----	8	64
	Till, moderate-olive-brown, oxidized-----	14	78
	Sand, medium, yellowish-green, well-sorted-----	18	96
Fort Union Group:			
	Sand, fine to medium, clayey, dusky-yellow, micaceous	14	110
	Sand, clayey, dark-greenish-gray, fine to medium, micaceous-----	23	133
	Leonardite, black-----	3	136
	Sand, fine to medium-----	4	140

159-93-21ccc

(Log from Great Northern Railway and Baukol-Moonan Inc.)

Altitude: 2,215 feet

Sandy brown till-----	3	3
Gravel-----	2	5
Sandy brown till-----	31	36
Blue till-----	23	59
Lost circulation-----	1	60
Blue till, some floating coal-----	57	117
Gray clay-----	17	134
Coal-----	.17	134.17
Silty gray clay-----	22.83	157
Gray sandstone-----	1	158
Gray clay-----	22	180

159-93-28baa

Altitude: 2,200 feet

Glacial drift:			
	Gravel, fine to coarse, sandy, poorly sorted, iron stained-----	18	18
	Till, moderate-olive-brown, oxidized-----	3	21
	Sand, light-gray-----	4	25
	Clay, silty, olive-gray; contains a few pebbles-----	4	29
	Sand, medium to coarse, well-sorted, subrounded-----	8	37
	Clay, sandy, olive-gray-----	8	45
	Till, olive-gray-----	28	73
	Clay, silty, light-olive-gray to olive-gray, laminated-----	17	90
	Sand, clayey, olive-gray to dark-greenish-gray-----	8	98
Fort Union Group:			
	Clay, silty, light-olive-gray, calcareous-----	17	115
	Shale, light-greenish-gray-----	8	123
	Shale, sandy, light-olive-gray to brownish-gray-----	17	140

159-93-29bbb

Altitude: 2,161 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, sandy, black-----	1	1
	Clay, sandy, yellowish-gray, oxidized-----	4	5
	Gravel, fine to medium, sandy-----	4	9
	Till, moderate-olive-brown, oxidized-----	30	39
	Till, olive-gray-----	29	68
	Sand, fine, well-sorted, subrounded-----	9	77
	Till, olive-gray-----	37	114
Fort Union Group:			
	Shale, light-greenish-gray and light-olive-gray-----	26	140

159-93-33aaa

(Log from E. H. Prather)

	Brown clay and rock-----	20	20
	Missing-----	8	28
	Gray clay, gravel and rock-----	21	49
	Gravel (water)-----	1	50

159-93-34baa

Altitude: 2,203 feet

Glacial drift:			
	Clay, silty, moderate-olive-brown-----	8	8
	Till, moderate-olive-brown, oxidized-----	9	17
	Till, olive-gray-----	40	57
	Gravel, fine to medium, moderately well-sorted-----	10	67
	Till, olive-gray-----	10	77
	Sand, fine to medium, well-sorted, lignitic-----	14	91
	Clay, silty to sandy; contains a few thin gravel lenses-----	40	131
Fort Union Group:			
	Shale, silty, light-olive-gray to light-greenish-gray	14	145
	Shale, light-olive-gray to brownish-black-----	15	160

159-93-36aaa

Altitude: 2,258 feet

Glacial drift:			
	Loam, sandy, black-----	1	1
	Till, yellowish-gray, oxidized-----	8	9
	Till, moderate-olive-brown, oxidized-----	20	29
	Till, olive-green-----	26	55
	Sand, fine to medium, greenish-gray, well-sorted-----	6	61
	Clay, medium-bluish-gray-----	5	66
	Sand, medium, greenish-gray-----	7	73
	Clay, silty, medium-bluish-gray-----	3	76
	Sand, medium, greenish-gray, well-sorted-----	14	90
Fort Union Group:			
	Shale, medium-gray-----	9	99
	Lignite, black-----	8	107
	Shale, medium-gray to greenish-gray-----	13	120

159-94-5aaa

Altitude: 2,350 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel, fine to medium, sandy-----	2	2
	Till, yellowish-gray and reddish-brown, oxidized----	16	18
	Sand, medium, yellowish-green, well-sorted, sub- rounded-----	2	20
	Silt and very fine sand, dusky-yellow-----	13	33
	Silt, clayey, dusky-yellow-----	15	48
	Silt and very fine sand, dusky-yellow to yellowish- green-----	10	58
	Sand, fine to medium, yellowish-green, well-sorted----	19	77
	Silt, moderate-olive-brown-----	5	82
	Sand, clayey silt, and sandy clay, greenish-gray, interbedded-----	22	104
Fort Union Group:			
	Shale, silty, variegated grays and greens-----	36	140

159-94-21bbb

Altitude: 2,200 feet

Glacial drift:			
	Gravel, fine to coarse, sandy, poorly sorted-----	15	15
	Till, moderate-olive-brown-----	18	33
	Till, olive-gray; contains thin lenses of lignitic medium sand at 72, 84, and 99 ft.-----	68	101
Fort Union Group:			
	Silt and very fine sand, white to light-greenish-gray	9	110
	Sand, very fine and fine, greenish-gray-----	10	120

159-94-23ddc

Altitude: 2,195 feet

Glacial drift:			
	Loam, sandy, black-----	1	1
	Silt, clayey to sandy, yellowish-gray to moderate- olive-brown-----	6	7
	Till, olive-gray-----	14	21
	Gravel, fine and medium, sandy-----	20	41
	Till, light-olive-gray to olive-gray-----	54	95
Fort Union Group:			
	Sand, fine, light-greenish-gray to greenish-gray----	15	110

159-94-24bbb
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,275 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Sandy brown till, small boulders-----	62	62
	Blue till, some floating coal-----	13	75
	Blue till-----	62	137
	Silty gray clay with streaks of coal-----	26	163
	Gray clay, green tint-----	8	171
	Gray sandstone-----	.5	171.5
	Silty gray clay-----	33.5	205
	Coal, hard-----	4.5	209.5
	Silty gray clay-----	22.5	232

159-94-34bbb
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,350 feet

	Sandy brown till-----	17	17
	Blue till, small boulders, some floating coal-----	166	183
	Gray silty clay-----	3.5	186.5
	Gray sandstone-----	.5	187
	Silty gray clay-----	23	210

159-94-34ccc

Altitude: 2,420 feet

Glacial drift:			
	Loam, dark-brown-----	2	2
	Till, light-olive-gray-----	7	9
	Till, moderate-olive-brown, oxidized-----	40	49
	Till, olive-gray-----	17	66
	Silt, clayey, light-olive-gray, laminated-----	16	82
	Till, olive-gray-----	59	141
	Gravel, medium to coarse-----	3	144
	Till, olive-gray-----	20	164
Fort Union Group:			
	Silt and sandy clay, dusky-yellow to reddish-brown---	13	177
	Shale, silty, light-gray-----	14	191
	Sand and sandstone, fine, light-greenish-gray-----	5	196
	Shale, light-gray-----	4	200

160-90-lbcc
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,010 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Sandy brown till-----	18	18
	Brown and blue till, some gravel-----	2	20
	Woody coal seam-----	1	21
	Gray silty till with floating coal-----	12	33
	Woody coal-----	2	35
	Gray clay-----	5	40
	Gray clay with green tint-----	27	67
	Gray clay, no green tint-----	31	98
	Brown woody coal-----	6	104
	Gray clay-----	19	123
	Brown woody coal-----	2	125
	Gray clay-----	13.5	138.5
	Brown woody coal streak-----	1.5	140
	Gray clay with blue tint-----	5	145
	Coal streak-----	1	146
	Dark brown clay-----	5	151
	Gray clay-----	14	165

160-90-3bbb
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,040 feet

	Brown till-----	30	30
	Blue till-----	1	31
	Boulders and gravel-----	2	33
	Till-----	12	45
	Till, silty blue-----	40	85
	Blue clay-----	25	110
	Sandy blue clay-----	5	115
	Hard sandstone-----	2	117
	Blue clay-----	31	148
	Dark brown clay and pencil seam of coal-----	2	150
	Blue clay-----	10	160
	Coal-----	3	163
	Blue clay-----	17	180

160-90-7ddd

Altitude: 2,025 feet

	Road fill-----	5	5
Glacial drift:	Till, moderate-olive-brown, oxidized-----	14	19
	Till, olive-gray-----	31	50
	Till, olive-gray, contains a few thin lenses of medium to coarse sand-----	22	72
Port Union Group:	Shale, greenish-gray and reddish-brown-----	3	75
	Lignite, black, fissile-----	3	78
	Shale, light-greenish-gray-----	6	84
	Sand, very fine, clayey, light-greenish-gray-----	6	90

160-90-10ddd1

Altitude: 2,071 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Till, yellowish-gray to dusky-yellow-----	16	16
	Sand, medium to coarse, well-sorted, subrounded-----	20	36
	Sand, medium, well-sorted, subrounded, lignitic-----	15	51
Fort Union Group:	Sand, dark-greenish-gray, well-sorted, subangular to subrounded, micaceous and lignitic-----	11	62
	Sand, clayey, dark-greenish-gray-----	3	65
	Sand, medium, dark-greenish-gray-----	4	69
	Sandstone, fine, greenish-gray, fine, calcium-carbonate cement-----	3	72
	Sand, fine to medium, greenish-gray-----	8	80

160-90-10ddd2

(Log from Great Northern Railway and Baukol-Noonan Inc.)

Altitude: 2,070 feet

Brown till with gravel-----	15	15
Sandy blue till with some gravel and floating coal---	19	34
Boulder till-----	5	34.5
Dark brown till-----	9.5	44
Sandy blue till with some gravel and floating coal---	49	93
Limestone rock-----	2	95
Blue clay with dark streaks-----	5	100
Light-blue clay-----	36	136
Light-blue clay with green tint, very little sand---	43	179
Light-blue clay-----	11	190

160-90-11abb

(Log from Great Northern Railway and Baukol-Noonan Inc.)

Altitude: 2,053 feet

Brown sand till-----	34	34
Blue till-----	18	52
Bedrock, gray clay-----	23	75

160-90-12bcc

(Log from Great Northern Railway and Baukol-Noonan Inc.)

Altitude: 2,059 feet

Sandy brown till-----	27	27
Sandy blue till-----	23	50
Bedrock, blue clay-----	4.5	54.5
Coal, hard-----	6	60.5
Gray clay, green tint-----	14.5	75

160-90-13bcc
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,064 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Brown till, floating coal-----	27	27
	Blue clay-----	29	56
	Limestone-----	2.5	58.5
	Gray clay-----	4.5	63
	Coal-----	.5	63.5
	Silty gray clay-----	11.5	75

160-90-14cbc
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,100 feet

	Brown till-----	25	25
	Blue till, floating coal-----	29.5	54.5
	Coal, hard-----	4.5	59
	Sandy army green clay-----	16	75

160-90-14ddd
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,085 feet

	Sandy brown till, floating coal-----	21	21
	Blue sandy till, floating coal-----	4	25
	Loose coal, drilled soft; till-----	4	29
	Blue till-----	3.5	32.5
	Hard tan rock-----	.5	33
	Blue till-----	12	45
	Blue clay-----	15	60
	Gray clay-----	11	71
	Coal-----	6	77
	Gray clay with green tint-----	36	113
	Tan sandstone-----	.5	113.5
	Gray clay with green tint-----	21.5	135

160-90-15bdd
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,100 feet

	Brown till-----	20	20
	Blue till, floating coal, some sand-----	39	59
	Blue sand, till-----	16	75

160-90-17add
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,150 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Brown sandy till, some gravel-----	21	21
	Blue till, some gravel and floating coal-----	21.5	42.5
	Gray sandstone-----	.5	43
	Blue till, some gravel and floating coal-----	8	51
	Boulder, till-----	1	52
	Blue till, some gravel and floating coal-----	2	54
	Gray clay-----	4.5	58.5
	Coal, fair-----	5	63.5
	Brown clay-----	4.5	68
	Gray clay with green tint-----	24	92
	Coal, hard-----	7	99
	Brown clay-----	2	101
	Silty gray clay with green tint-----	65	166
	Hard sandstone-----	1.5	167.5
	Silty gray clay with green tint-----	12.5	180

160-90-21bdd
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,173 feet

	Brown till-----	25	25
	Blue till-----	28	53
	Gray clay-----	9	62
	Gray clay, green tint-----	6	68
	Gray clay-----	3	71
	Limestone-----	.25	71.25
	Gray clay-----	8.25	79.50
	Coal, hard-----	6	85.50
	Gray clay-----	18	103.50
	Coal, hard-----	4.5	108
	Silty gray clay-----	27	135

160-90-22ccd
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,170 feet

	Brown till-----	29	29
	Large boulder-----	1	30
	Brown till-----	18	48
	Bedrock, brown clay-----	6	54
	Blue clay-----	2	56
	Gray sandstone-----	1	57
	Blue clay-----	19	76
	Gray clay, green tint-----	6	82
	Gray clay-----	4	86
	Coal, hard-----	7	93
	Sandy gray clay-----	12	105
	Sandstone-----	.5	105.5
	Sandy gray clay-----	7.5	113
	Coal, hard-----	4	117
	Gray clay-----	18	135

160-90-23ccc
(Log from Great Northern Railway and
Baukol-Woodman Inc.)

Altitude: 2,135 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Brown till-----	20	20
	Blue till-----	29.5	49.5
	Coal, hard-----	5	54.5
	Gray clay-----	19.5	74
	Gray clay, green tint-----	11	85
	Gray clay-----	8	93
	Coal, hard-----	6	99
	Army green clay-----	6	105

160-90-24dda
(Log from Great Northern Railway and
Baukol-Woodman Inc.)

Altitude: 2,085 feet

	Sandy brown till with some gravel-----	27	27
	Blue sandy till, some gravel-----	4	31
	Boulder, till-----	.5	31.5
	Blue clay, some gravel-----	17.5	49
	Gray clay with green tint-----	16	65
	Limestone-----	1	66
	Gray clay with green tint-----	12.5	78.5
	Coal, fair to hard-----	9	87.5
	Hard blue clay with green tint-----	32.5	120

160-90-25add
(Log from Great Northern Railway and
Baukol-Woodman Inc.)

Altitude: 2,126 feet

	Brown till, some gravel-----	22	22
	Brown till with gravel and floating coal-----	2	24
	Brown sand till-----	2	26
	Brown till with some gravel-----	7	33
	Boulders, till-----	3	36
	Brown and blue clay till-----	9	45
	Sand-----	1	46
	Blue-brown till-----	1	47
	Sand-----	3	50
	Blue till with gravel with small seams of coal-----	5	55
	Bedrock, clay, blue-----	5	60
	Coal-----	7.5	67.5
	Gray clay with a green tint-----	46.5	114
	Coal-----	5.5	119.5
	Gray clay with green tint-----	52.5	172

160-90-25bbb
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,118 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Brown till-----	20	20
	Blue till-----	30	50
	Blue clay-----	11	61
	Coal, hard-----	4	65
	Gray clay-----	61	126
	Sandy gray clay-----	14	140

160-90-25ddd
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,135 feet

	Sandy brown till-----	52	52
	Bedrock, blue clay-----	2	54
	Coal, hard-----	5	59
	Sandy gray clay-----	6	65
	Coal, hard-----	5	70
	Gray clay-----	3	73
	Coal-----	.5	73.5
	Gray clay-----	3.5	77
	Coal-----	.5	77.5
	Gray clay, green tint-----	15.5	93
	Gray clay-----	23.5	116.5
	Coal, hard-----	5.5	122
	Gray clay, green tint-----	13	135

160-90-26bcc
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 2,160 feet

	Sandy brown till, floating coal-----	20	20
	Sand, blue till, floating coal-----	21	41
	Gray and blue clay-----	10	51
	Coal, hard-----	6.5	57.5
	Dark-brown clay-----	3.5	61
	Coal, hard-----	4	65
	Dark-brown clay-----	5	70
	Gray clay with green tint-----	28	98
	Coal, hard-----	5	103
	Dark-brown clay-----	2	105
	Green clay-----	5	110
	Gray clay with green tint-----	55	165

160-90-26ddd
(Log from Great Northern Railway and
Baukol-Woman Inc.)

Altitude: 2,143 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Brown till with some gravel-----	25	25
	Blue till with some gravel-----	10	35
	Gray clay with green tint-----	3	38
	Coal-----	5	43
	Gray clay-----	5	48
	Coal, hard-----	4.5	52.5
	Gray clay with green tint-----	16.5	69
	Sandstone, gray-----	.5	69.5
	Gray clay with green tint-----	15.5	85
	Dark-brown clay-----	9	94
	Coarse, sandy blue clay-----	14.5	108.5
	Coal, drilled hard-----	6	114.5
	Sandy gray clay-----	5.5	169
	Gray sandstone-----	1	170
	Gray sandy clay-----	25	195

160-90-36bcc
(Log from Great Northern Railway and
Baukol-Woman Inc.)

Altitude: 2,180 feet

	Brown till-----	34	34
	Blue till, floating coal-----	31	65
	Blue clay-----	15	80
	Silty blue clay-----	21	101
	Limestone-----	.5	101.5
	Gray clay-----	3.5	105
	Coal, hard-----	5	110
	Sandy gray clay-----	40	150

160-91-13acd1 and 2

Altitude: 2,240 feet

<u>Glacial drift:</u>			
	Loam, black-----	1	1
	Till, yellowish-gray, oxidized-----	4	5
	Clay, silty to sandy, dusky-yellow to moderate-olive-brown, oxidized-----	19	24
	Till, moderate-olive-brown-----	23	47
	Till, olive-gray-----	21	68
	Sand, medium, well-sorted, subrounded-----	14	82
	Till, olive-gray-----	29	111
	Sand, medium, well-sorted, subrounded-----	4	115
	Till, olive-gray-----	49	164
	Sand, medium and coarse, well-sorted, subrounded-----	9	173
	Till, olive-gray-----	23	196
	Sand, medium and coarse, gravelly, subrounded-----	47	243
	Clay, silty to sandy, olive-gray-----	18	261
	Sand, coarse, subangular to subrounded-----	4	265
	Clay, silty, olive-gray-----	5	270
	Till, olive-gray to dark-olive-gray-----	28	298
	Gravel, fine to coarse, sandy, poorly sorted-----	11	309
	Clay, sandy, white, calcareous-----	4	313
	Sand, medium to coarse, gravelly, moderately well-sorted in lenses, subrounded-----	34	347
	Gravel, fine to coarse, poorly sorted, boulder at bottom-----	13	360

160-91-24bba

Altitude: 2,233 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, black-----	1	1
	Till, yellowish-gray, oxidized-----	8	9
	Till, moderate-olive-brown, oxidized-----	27	36
	Till, olive-gray-----	13	49
	Sand, gravel, and boulders (much caving)-----	11	60

160-91-24bbb

Altitude: 2,265 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	6	6
	Till, dusky-yellow to moderate-olive-brown-----	19	25
	Gravel, fine and medium, sandy, moderately well-sorted in lenses, subangular to subrounded-----	15	40
	Clay, olive-gray to olive-black-----	44	84
	Sand, medium, moderately well-sorted, lignitic-----	18	102
	Clay, silt, and sand, interbedded-----	139	241
	Silt, clayey, light-olive-gray-----	15	256
	Clay, silty, olive-gray-----	27	283
	Clay, silt, sand, and detrital lignite, interbedded-----	51	334
	Silt, very fine sand, silty clay, olive-gray, lignitic-----	65	399
	Gravel, fine to coarse, sandy, poorly sorted, angular to subrounded-----	22	421
Fort Union Group:			
	Shale, silty, light to medium-gray-----	11	432
	Shale, medium-gray to light-greenish-gray-----	5	437
	Lignite-----	3	440
	Shale, medium-gray to light-greenish-gray-----	3	443
	Lignite-----	2	445
	Shale, medium-gray to light-greenish-gray-----	5	450
	Shale, light-greenish-gray-----	10	460

160-91-35bca
(Log from E. H. Prather)

Yellow sand-----	30	30
Gray sandy shale-----	127	157
Gray sand and clay-----	28	185
Gray sand and some water-----	2	187
Gray shale-----	16	203
Gray shale and gravel-----	2	205
Gray sandy shale-----	21	226
Gray shale and gravel-----	11	237
Muddy gray sand and shale-----	48	285
Gray shale, boulders at 295 ft., some coal and gravel-----	28	313
Sandstone-----	6	319
Gray sand, streaks of coal and water-----	2	321

160-92-7ccc

Altitude: 2,425 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray, oxidized-----	16	16
	Till, moderate-olive-brown, oxidized-----	41	57
	Till, olive-gray-----	59	116
	Till, moderate-olive-brown, oxidized-----	27	143
	Till, olive-gray-----	26	169
Fort Union Group:			
	Sand, clayey, black, carbonaceous-----	6	175
	Shale, silty, light-gray-----	14	189
	Lignite, black, fissile-----	8	197
	Shale, silty, medium-gray-----	3	200

160-92-17bab

Glacial drift:			
	Loam, gravelly, blackish-brown-----	1	1
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	12	13
	Till, moderate-olive-brown to light-olive-gray, partially oxidized-----	6	19
	Till, olive-gray-----	16	35
	Silt and clay, light-olive-gray to olive-gray, laminated-----	20	55
	Gravel, fine to medium, sandy, well-sorted in lenses, subangular to subrounded-----	6	61
	Silt, clayey, olive-gray, massive-----	10	71
	Sand, fine to medium, well-sorted, subrounded, lignitic-----	6	77
	Sand, fine, clayey-----	14	91
	Till, olive-gray-----	12	103
Fort Union Group:			
	Shale, light-gray to greenish-gray and brownish-black; contains a few thin seams of lignite-----	17	120

160-92-20ddd

Altitude: 2,346 feet

Glacial drift:			
	Loam, pebbly, black-----	2	2
	Till, dusky-yellow to reddish-brown, oxidized-----	12	14
	Till, moderate-olive-brown, oxidized-----	11	25
	Till, light-olive-gray to olive-gray-----	10	35
	Till, gravelly, olive-gray-----	11	46
	Gravel, fine and medium, sandy, moderately well-sorted in lenses, subangular to subrounded-----	5	51
	Till, olive-gray-----	11	62
	Clay, silty and sandy with pebbles, moderate-olive-brown, oxidized; either laminated or contains large laminated clay boulders-----	8	70
	Till, olive-gray; contains some oxidized streaks-----	15	85
Fort Union Group:			
	Shale, light-olive-gray, yellowish-gray, brownish-gray and cream colored, interbedded-----	12	97
	Sand, fine, clayey, dark-greenish-gray-----	5	102
	Lignite, black, fissile-----	2	104
	Shale, black, oily-----	3	107
	Sand, clayey, dark-greenish-gray-----	5	112
	Shale, silty, light-olive-gray-----	4	116
	Sand, fine, dark-greenish-gray-----	4	120

160-92-35ada

Altitude: 2,395 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, silty, black-----	1	1
	Gravel, fine to coarse, sandy, poorly sorted-----	8	9
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	21	30
	Till, olive-gray-----	12	42
Fort Union Group:			
	Silt, clayey, white, calcareous-----	3	45
	Sand, medium, clayey, dark-greenish-yellow to light-olive; contains many lignite flakes-----	17	62
	Silt and sandy clay, variegated yellows, light-greens, light-grays, and red; poor samples-----	58	120

160-93-14ddc

Altitude: 2,385 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray, oxidized-----	9	9
	Till, moderate-olive-brown, oxidized-----	39	48
	Till, olive-gray-----	25	73
	Gravel, fine and medium, moderately well-sorted, subangular to subrounded, iron stained-----	4	77
	Boulder, limestone-----	2	79
	Till, moderate-olive-brown and buff colored, oxidized-----	19	98
	Till, olive-gray-----	65	163
	Silt, clayey, olive-gray-----	17	180
	Gravel, fine and medium, dark-brown, moderately well-sorted; pebbles are siliceous-----	4	184
Fort Union Group:			
	Silt, clayey, greenish-gray, calcareous-----	4	188
	Sand, very fine to fine, light-greenish-gray-----	6	194
	Shale, greenish-gray to medium-gray-----	6	200

160-94-7ddd

Altitude: 2,267 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Gravel, fine to coarse, sandy, poorly sorted, iron stained-----	12	12
	Silt, sandy, dusky-yellow-----	7	19
	Gravel, fine to coarse, sandy-----	6	25
	Till, moderate-olive-brown, oxidized-----	10	35
	Till, olive-gray-----	16	51
	Gravel, fine and medium, sandy, well-sorted in lenses, subangular to subrounded-----	21	72
	Till, olive-gray-----	24	96
	Sand, fine to medium, well-sorted, subrounded, lignitic-----	4	100
	Clay, silty, light-olive-gray to olive-gray-----	10	110
	Sand, fine to medium, moderately well-sorted-----	4	114
	Till, moderate-olive-brown-----	20	134
	Till, olive-gray-----	123	257
Fort Union Group:			
	Shale, silty and sandy, variegated; most common colors are light-olive-gray and light-greenish-gray-----	23	280

160-94-12bbd
(Log from E. H. Prather)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Rocks, clay, and gravel-----	10	10
	Rocks, gravel-----	10	20
	Blue clay-----	3	23
	Gray sandy shale-----	72	95
	Sand (some gravel)-----	20	115
	Gray sandy shale-----	25	140
	Gray shale-----	15	155
	Gray sandy shale-----	10	165
	Sand (some gravel)-----	7	172
	Sand (water)-----	8	180

160-94-20ccc

Altitude: 2,318 feet

Glacial drift:			
	Sand, fine to medium, and thin lenses of buff colored sandy silt-----	7	7
	Till, dusky-yellow, oxidized-----	5	12
	Sand, medium and coarse, subrounded-----	6	18
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	4	22
	Till, olive-gray-----	11	33
	Silt, clayey, olive-gray-----	8	41
	Gravel, fine to medium, sandy, subangular to sub-rounded-----	5	46
	Till, olive-gray-----	13	59
Fort Union Group:			
	Lignite, black, fractured-----	4	63
	Shale, silty and sandy, light-olive-gray to greenish-gray; contains some carbonaceous streaks-----	17	80

160-94-31add

(Log from E. H. Prather)

	Brown clay, rock, and gravel-----	81	81
	Brown sand, muddy-----	4	85
	Brown clay-----	12	97
	Brown sandy clay-----	10	107
	Brown sand and water, sandy-----	3	110
	Brown clay-----	6	116
	Brown and gray sand and water-----	11	127
	Brown clay-----	3	130

160-94-34bbb

Altitude: 2,393 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	4	4
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	26	30
	Till, olive-gray-----	52	82
Fort Union Group:			
	Shale, silty, light-to medium-gray-----	11	93
	Lignite, black, fissile-----	3	96
	Shale, light-to medium-gray-----	4	100

161-89-4aaa1
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsail, dark-brown, clay, sandy-----	2	2
	Clay, grayish-tan (till)-----	9	11
	Sand, coarse, clayey-----	7	18
Fort Union Group:			
	Clay, light-gray-----	4	22

161-89-4aaa2
(Log from Jensen, 1962)

Glacial drift:			
	Clay, gravelly, yellowish-gray, (till)-----	42	42
	Clay, gravelly, light-gray, (till)-----	11	53
Fort Union Group:			
	Clay, light-gray-----	7	60

161-89-4ccc
(Log from Jensen, 1962)

Glacial drift:			
	Clay, sandy, gravelly, yellowish-gray, (till)-----	21	21
	Sand-----	2	23
	Clay, gravelly, yellowish-brown (till)-----	9	32
	Clay, bouldery, medium-gray (till)-----	7	39
Fort Union Group:			
	Clay, gray-----	9	48
	Lignite-----	2	50

161-89-4ddd
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 1,950 feet

Till, brown clay with little sand and boulders-----	23	23
Till, blue clay and boulders with some floating coal-	27	50
Till, blue clay with some floating coal and small rocks-----	29	79
Till, boulders-----	2	81
Till, blue clay with very little floating coal-----	9	90
Till, blue clay with some gravel-----	16	106
Till, blue clay-----	4	110
Till, large boulder-----	1	111
Till, blue clay with some gravel-----	25	136
Coal, hard-----	3.5	139.5
Gray clay with brown streaks-----	12.5	152
Rock-----	1	153

161-89-5aad
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil-----	1	1
	Clay, light-brown, pebbly, highly calcareous (till)---	19	20
	Clay, same as above but containing much very coarse sand (till)-----	14	34
	Clay, sandy, gray; sand, coarse (till)-----	26	60
	Clay, pebbly, dark-gray (till)-----	12	72
Port Union Group:			
	Clay, sandy, light-gray-----	8	80
	Lignite-----	5	85
	Clay, gray-----	8	93
	Lignite-----	4	97
	Clay, gray-----	2	99
	Lignite-----	3	102
	Clay, sandy, light-gray-----	40	142
	Lignite-----	4	146
	Clay, light-gray-----	47	193
	Siltstone, gray-----	4	197
	Clay, light-gray-----	20	217
	Core 210-220 ft.; 6½ ft. recovery. Silt and very fine sand, light-tan, micaceous (1.2 ft.) clay, light-gray to medium-gray intercalated with thin seams of lignite (5.3 ft.)		
	Lignite-----	2	219
	Clay, light-gray-----	1	220
	Sand, very fine, clayey-----	12	232
	Core 220-230 ft., 2 ft. recovery. Clay light-gray with thin seams of very fine sand which contain fossil fish scales and gastropods.		
	Core 230-240 ft., 5 ft. recovery. Clay light-olive gray, very dense and uniform.		
	Clay, light-olive-gray and light-tan-----	15	247
	Lignite-----	2	249
	Clay, light-gray-----	35	284
	Lignite-----	1	285
	Clay, light-gray-----	1	286
	Siltstone and shale, poor sample-----	5	291
	Clay, light-gray-----	11	302
	Shale, hard, brown-----	2	304
	Clay, very light-gray-----	56	360
	Sand, very fine, with clay, sandy, gray-----	16	376
	Clay, very light-gray-----	5	381
	Sand, very fine, with clay, sandy, gray-----	13	394
	Clay, light-gray-----	2	396
	Lignite-----	3	399
	Clay, light-gray-----	3	402
	Lignite-----	5	407
	Clay, brown-----	5	412
	Lignite-----	6	418
	Clay, light-yellowish-gray-----	12	430
	Clay, light-gray-----	14	444
	Lignite-----	1	445
	Clay, medium-gray-----	31	476
	Clay, brown, with thin seams of lignite-----	6	482
	Clay, sandy, gray-----	15	497
	Clay, brown-----	7	504
	Clay, light-gray-----	24	528
	Clay, very sandy, light-gray-----	5	533
	Clay, light-gray-----	5	538
	Sand, medium to coarse, ("salt and pepper")-----	15	553
	Clay, medium-gray-----	47	600

161-89-5a1
(Log from LaRocque and others, 1963a)

Altitude: 1,957 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil-----	2	2
	Clay, yellow-----	13	15
	Sand and gravel-----	3	18
	Clay, hard, gray-----	3	21
	Clay, with stones-----	7	28
Fort Union Group:			
	Shale and lignitic shale-----	15	43
	Sandstone, gray-----	8	51
	Shale, hard, blue-----	27	78
	Lignite-----	3	81
	Shale, soft, with thin lignite beds-----	41	122
	Lignite-----	4	126
	Shale, hard, brown-----	4	130
	Shale, very hard, gray-----	20	150
	Limestone, gray-----	2	152
	Shale, hard, gray-----	43	195
	Shale, soft-----	10	205
	Shale, hard gray, with thin lignite beds-----	208	413
	Shale, sandy, gray with thin lignite beds; water-----	17	430
	Lignite-----	3	433
	Shale, very hard, with thin lignite beds-----	41	474
	Shale, hard, gray-----	2	476
	Shale, very hard with soft layers-----	87	563
	Shale, gray, and gray sandstone, fine; small amount of water (cased out)-----	5	568
	Limestone-----	5	573
	Shale, gray, with thin beds of fine sandstone, gray--	51	624
	Shale, very hard to hard-----	46	670
	Shale, sandy, soft-----	25	695
	Sandstone, hard-----	3	698
	Sandstone, soft; water and small amount of gas-----	4	702
	Shale, hard, gray-----	8	710

161-89-5bbb
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, dark-brown-----	1	1
	Clay, gravelly, yellowish-gray (till)-----	22	23
	Clay, gravelly, light-gray, and coal fragments (till)	10	33
Fort Union Group:			
	Shale, light-gray-----	7	40

161-89-5bcc
(Log from Jensen, 1962)

Glacial drift:			
	Soil, silty, brown-----	2	2
	Clay, pebbly, tan (till)-----	10	12
	Clay, gravelly, yellow (till)-----	5	17
Fort Union Group:			
	Clay, gray-----	1	18
	Lignite-----	3	21

161-89-5cad1
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, sandy, tan (till)-----	2	3
	Clay, sandy, gray (till)-----	2	5
Fort Union Group:			
	Lignite-----	.5	5.5
	Lignite, black, and interbedded light-gray clay-----	8.5	14
	Sand, very fine, light-gray, clay-----	3	17

161-89-5cad2
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, sandy, pebbly, tan (till)-----	15	16
Fort Union Group:			
	Lignite-----	1	17

161-89-5cb
(Log from LaRocque and others, 1963a)

Altitude: 1,945 feet

Glacial drift:			
	Soil-----	2	2
	Clay, sandy, yellow-----	8	10
	Gravel and fine sand-----	7	17
	Clay, sandy, gray-----	5	22
Fort Union Group:			
	Clay, sandy, gray with some gravel-----	5	27
	Lignite-----	4	31
	Clay, sandy, gray-----	14	45
	Lignite-----	2	47
	Clay, sandy, gray-----	6	53
	Lignite-----	3	56
	Sand, gray, and clay-----	9	65

161-89-5cbel
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, dark-brown-----	1	1
	Clay, pebbly, tan (till)-----	20	21
Fort Union Group:			
	Clay, silty, gray-----	17	38
	Lignite-----	1	39
	Clay, light-gray; a little gypsum-----	13	52
	Sand, very fine, silty, light-gray-----	10	62
	Clay, light-gray; lignite-----	5	67

161-89-5cbc2
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, sandy, black-----	2	2
	Clay, yellowish-tan, pebbly (till)-----	12	14
	Clay, pebbly, gray (till)-----	2	16
Fort Union Group:			
	Lignite-----	1	17
	Clay, silty, light-gray-----	4	21

161-89-5cda1
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, brown-----	2	2
	Clay, sandy, tan (till)-----	1	3
	Sand, medium-----	2	5
	Clay, sandy, pebbly, tan (till)-----	6	11
Fort Union Group:			
	Lignite, black; and interbedded gray sandy clay-----	6	17

161-89-5cda2
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, black-----	2	2
	Clay, sandy, pebbly, tan (till)-----	3	5
	Clay, sandy, pebbly, gray (till)-----	4	9
Fort Union Group:			
	Lignite-----	4	13
	Clay, light-gray-----	4	17

161-89-5dab
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, black-----	1	1
	Clay, sandy, gravelly, light-buff (till)-----	23	24
Fort Union Group:			
	Clay, sandy, light-gray-----	10	34
	Lignite-----	5	39
	Clay, light-gray-----	21	60
	Clay, light-gray, sand-----	15	75
	Sand, fine, clayey, light-gray-----	9	84
	Lignite-----	3	87
	Clay, sandy, light-gray-----	7	94
	Lignite-----	2	96
	Clay, carbonaceous, smooth, dark-brown-----	1	97
	Clay, sandy, light-gray-----	3	100

161-89-6bbb

Altitude: 1,960 feet

Road fill-----	6	6
Glacial drift:		
Fill, moderate-olive-brown-----	20	26
Fort Union Group:		
Shale, silty, light- to medium-gray; fine, sand-----	14	40

161-89-6daal
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, sandy, black-----	0.5	0.5
	Clay, sandy, yellow (till)-----	3.5	4
	Sand and gravel-----	1	5
	Clay, sandy, yellow (till)-----	2	7
	Sand and gravel-----	3	10
Fort Union Group:			
	Lignite-----	.5	10.5
	Clay, silty, gray-----	6.5	17

161-89-6daa2
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, silty, gray (till)-----	2	3
	Clay, silty, tan (till)-----	1	4
	Sand, coarse, clayey-----	2	6
Fort Union Group:			
	Lignite-----	2.5	8.5
	Clay, gray-----	3.5	12

161-89-8ccc
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 1,960 feet

Till, brown sandy clay with dark-brown streaks and gravel-----	24	24
Till, boulders-----	1	25
Till, brown and gray clay with some gravel-----	4	29
Till, boulders-----	1	30
Till, gray clay with some gravel-----	7	37
Till, boulders-----	3	40
Till, changed to blue clay with floating coal-----	9	49
Till, boulders-----	1	50
Till, blue clay and some gravel-----	8	58
Till, light-blue clay and floating coal-----	17	75
Till, boulders-----	7	82
Till, light-blue clay with gravel-----	46	128
Bedrock, coarse blue clay-----	25	153
Sand rock-----	1	154
Dark blue clay-----	8	162
Soft coal-----	8	170
Brown clay-----	1	171
Gray clay with dark-brown streaks-----	9	180

161-89-9bcc
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, dark-brown-----	1	1
	Clay, sandy, yellowish-gray (till)-----	18	19
	Clay, gravelly, light-olive-gray (till)-----	7	26
	Sand-----	2	28
	Clay, bouldery, medium-gray (till)-----	64	92
	Clay, sandy, dark-yellowish-orange, many limonitic shale pebbles (till)-----	3	95
Fort Union Group:			
	Lignite-----	3	98
	Clay, light-gray-----	17	115

161-89-9cdd
(Log from Great Northern Railway and Baukol-Moonan Inc.)

Altitude: 1,955 feet

Till, sandy brown clay with some gravel-----	33	33
Till, blue and brown clay with some gravel-----	9	42
Till, blue sand with floating coal and gravel-----	41	83
Till, lots of gravel with little blue clay-----	2	85
Till, blue clay and some gravel-----	5	90
Till, blue clay and some gravel, very little floating coal-----	45	135
Till, blue clay with floating coal-----	30	165

161-89-11daa
(Log from Jensen, 1962)

Glacial drift:			
	Clay, very bouldery, yellowish-gray (till)-----	34	34
	Clay, very bouldery, light-gray (till)-----	43	77
	Clay, sandy, yellowish-gray (till)-----	13	90
	Clay, light to medium gray (till)-----	120	210
	Clay, hard, light-olive gray (till)-----	40	250
	Clay, gravelly, yellowish-gray (till)-----	5	255
Fort Union Group(?):			
	Clay, sandy, light-gray, samples consist of cavings--	72	327

161-89-14ddd
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, dark-brown-----	1	1
	Clay, gravelly, yellowish-gray (till)-----	39	40
	Clay, sandy, light-gray (till)-----	90	130
Fort Union Group:			
	Lignite-----	4	134
	Clay, shaley, light-gray-----	6	140

161-89-16bbb
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsail, black-----	1	1
	Clay, sandy, light grayish-tan (till)-----	17	18
	Clay, sandy and gravelly, gray (till)-----	42	60
	Clay, sandy, yellowish-brown (till)-----	10	70
	Clay, gravelly, yellowish-brown and gray (till)-----	30	100
	Clay, sandy, gravelly, gray (till)-----	30	130
	Clay, sandy, medium-gray (till)-----	132	262
	Sand, very coarse-----	2	264
	Clay, gravelly, light-gray (till)-----	20	284
Fort Union Group:			
	Lignite-----	2	286
	Clay, shaley, light-gray-----	9	295

161-89-16bbb
(Log from Jensen, 1962)

Glacial drift:			
	Topsail, dark-brown-----	2	2
	Clay, yellowish-gray-----	4	6
	Clay, sandy, yellowish-gray (till)-----	17	23
	Sand, fine, clayey-----	7	30
	Sand, fine to medium-----	5	35
	Sand and gravel, possibly some clay-----	2	37
	Clay, gravelly, medium-gray (till)-----	25	62
	Gravel, fine granular, hard drilling-----	4	66
	Clay, gravelly, medium-gray (till)-----	15	81
	Sand and gravel-----	9	90
	Granule gravel-----	6	96
	Clay, gravelly, gray (till)-----	5	101
	Sand, fine to coarse with some gravel-----	4	105
	Gravel, granular, pebbly-----	5	110
	Clay, sandy, light-gray (till)-----	70	180

161-89-16bcc
(Log from Jensen, 1962)

Glacial drift:			
	Clay, gravelly, yellowish-gray (till)-----	22	22
	Sand, fine to coarse-----	8	30
	Clay, gravelly, medium-gray (till)-----	22	52
	Sand, medium and coarse, gravelly-----	3	55
	Clay, gravelly, medium-gray (till)-----	11	66
	Sand, clayey, boulders-----	6	72
	Clay, bouldery, medium-gray (till)-----	61	133
	Sand, clayey-----	4	137
	Clay, sandy, gray (till)-----	4	141
	Sand and gravel (reported by drillers), samples show mostly clay-----	26	167
Fort Union Group:			
	Clay, light-gray (samples probably not very representative)-----	71	238
	Lignite-----	2	240
	Clay, light-gray-----	60	300

161-89-16cbc
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, dark-brown-----	1	1
	Clay, sandy, yellowish-gray (till)-----	3	4
	Clay, gravelly, yellowish-gray (till)-----	31	35
	Clay, bouldery, light-gray (till)-----	57	92
	Gravel, fine to medium, clayey-----	15	107
Fort Union Group:			
	Clay, very sandy, very light-gray-----	13	120

161-89-16ccc
(Log from Jensen, 1962)

Glacial drift:			
	Soil, dark-brown-----	1	1
	Clay, gravelly, yellowish-gray (till)-----	31	32
	Clay, gravelly, light-gray (till)-----	49	81
Fort Union Group:			
	Clay, sandy, light-gray-----	12	93
	Lignite-----	7	100

161-89-20add
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, dark-brown-----	2	2
	Clay, sandy, yellowish-gray (till)-----	24	26
	Clay, sandy, light-gray (till)-----	36	62
	Clay, gravelly, grayish-yellow (till)-----	8	70
Fort Union Group:			
	Clay, light-gray-----	10	80

161-89-27bbb
Altitude: 1,974 feet

Glacial drift:			
	Loam, silty, black-----	1	1
	Till, yellowish-gray to dusky-yellow, oxidized-----	20	21
	Till, yellowish-gray, oxidized; contains lenses of medium sand-----	16	37
	Till, light-olive-gray-----	16	53
	Till, bluish-gray-----	7	60
	Sand, fine to medium, clayey-----	7	67
	Till, olive-gray-----	16	83
Fort Union Group:			
	Shale, medium- to dark-gray and various shades of green-----	11	94
	Lignite, black, fissile-----	2	96
	Sand, fine, greenish-gray; micaceous, lignitic and calcareous-----	4	100

161-89-30bda2
(Log from A. Sagness)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Clay-----	14	14
	Fine sand and water-----	7	21
	Clay and rocks-----	17	38
	Coarse sand and water-----	5	43
	Rocks and yellow clay-----	7	50
	Blue clay and small gravel-----	63	113
	Coal, no water-----	4	117
	Blue clay-----	31	148
	Coal, no water-----	3	151
	Clay-----	15	166
	Coal-----	3	169
	Blue clay-----	9	178
	Coal-----	2	180
	Sand, salt and pepper-----	5	185
	Coal-----	1.5	186.5
	Blue clay or shale-----		186.5

161-89-33aaa
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 1,944 feet

	Till, brown sandy clay with boulders-----	22	22
	Till, dark-blue clay with some brown clay, boulders and some floating coal-----	8	30
	Till, blue clay, not so sandy, some boulders-----	40	70
	Till, blue clay with boulders and floating coal-----	35	105

161-89-36dd
(Log from LaRocque and others, 1963a)

Altitude: 1,963 feet

Glacial drift:

	Soil, sandy, brown-----	1	1
	Clay, sandy, brown, with some gravel-----	14	15
	Clay, sandy, gray, with some gravel-----	33	48
	Clay, sandy, gray, with strips of limestone-----	4	52
	Boulder, granite-----	1	53
	Clay, sandy, gray, with boulders and small strips of limestone-----	12	65
	Clay, sandy, gray, with some gravel-----	17	82
	Clay, sandy, gray, with strips of brown sandy clay with some gravel and lignite-----	13	95
	Boulder, granite-----	1	96
	Clay, sandy, gray, with some gravel and lignite fragments-----	44	140
	Clay, sandy, gray, with small strips of gravel-----	6	146
	Clay, sandy, gray, with small strips of lignite and gravel-----	19	165
	Lignite, hard, with small strips of gravel-----	5	170
	Lignite, hard-----	9	179
	Lignite, hard, with small strips of gravel-----	30	209
	Lignite, hard, with strips of gravel and gray sandy clay-----	15	224
	Clay, sandy, gray, small strips of lignite-----	34	258
	Boulders and gravel, small strips of lignite-----	32	290
	Boulders and gravel-----	20	310
Fort Union Group:			
	Lignite and some gravel (wash-down)-----	4	314
	Clay, sandy, gray-----	1	315

161-90-1bbb

Altitude: 1,955 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, silty, dark-brown-----	1	1
	Till, yellowish-gray, oxidized-----	6	7
	Till, moderate-olive-brown, oxidized-----	16	23
	Till, olive-gray-----	15	38
Fort Union Group:			
	Shale, silty, light-gray, light-olive-gray, and light-greenish-gray-----	22	60

161-90-8bbb

(Log from Great Northern Railway and Baukol-Noonan Inc.)

Altitude: 1,962 feet

Till, clay and sand-----	19	19
Till, blue clay, floating coal-----	6	25
Till, blue clay, little gravel-----	5	30
Till, layer rock, light-gray, hard-----	3	33
Till, gray clay with little gravel-----	19	52
Coal, till-----	2	54
Till, gray clay and silty-----	1	55
Gray sandy clay-----	25	80
Soft rock, light-gray-----	2	82
Gray clay with a green tint-----	28	110
Coal, drilled hard-----	4	114
Gray sandy clay-----	6	120
Gray clay, not so sandy-----	27	147
Coal, drilled hard-----	7	154
Dark-gray clay-----	11	165

161-90-11bbb

(Log from Great Northern Railway and Baukol-Noonan Inc.)

Altitude: 1,950 feet

Sandy brown till with some gravel-----	13	13
Blue till with floating coal and gravel-----	24	37
Sandy blue clay with a green tint-----	8	45

161-90-13add

Altitude: 1,970 feet

Geologic source	Material	Thickness (feet)	Depth (feet)
Glacial drift:			
	Silt, clayey to sandy, dusky-yellow; contains pebbles-----	8	8
	Sand, medium to coarse, gravelly, subangular to subrounded-----	10	18
	Clay, silty, moderate-olive-brown to olive-gray; contains numerous streaks and lenses of medium to very coarse sand, oxidized-----	14	32
	Till, olive-gray-----	9	41
	Gravel, fine to medium, sandy, moderately well-sorted, subangular to subrounded-----	7	48
	Clay, silty to sandy, olive-gray, contains thin gravel lenses-----	9	57
	Till, olive-gray; contains numerous lignite chips----	8	65
	Sand, fine to medium, silty, subrounded, lignitic----	4	73
	Gravel, medium, brown, subrounded-----	4	77
	Clay, sandy, light-olive-gray-----	5	82
	Gravel, sandy, subrounded-----	4	86
	Clay, sandy, olive-gray-----	8	94
	Gravel, fine to medium, brown-----	2	96
	Clay, sandy, olive-gray-----	5	101
	Gravel, fine to medium, brown-----	3	104
	Silt, clayey, olive-gray-----	2	106
	Gravel, fine to medium, brown-----	3	109
	Clay, silty to sandy, olive-gray; contains thin lenses of gravel-----	13	122
	Sand, medium to coarse, locally silty-----	14	136
	Clay, silty to sandy, olive-gray-----	11	147
	Sand, medium to coarse, well-sorted-----	4	151
	Clay, silty to sandy, olive-gray-----	11	162
	Gravel, coarse-----	3	165
	Clay, light-olive-gray-----	3	168
	Gravel, medium, well-sorted-----	8	176
	Clay, olive-gray-----	2	178
	Sand, fine, silty-----	3	181
	Clay, silty, olive-gray-----	12	193
	Silt, clayey, light-olive-gray, calcareous-----	12	205
	Sand, fine, olive-gray to greenish-gray; contains brown carbonaceous streaks-----	9	214
	Silt, clayey to sandy, olive-gray, calcareous-----	10	224
	Till, olive-gray; contains a few sand and gravel lenses-----	57	281
	Clay, olive-gray to olive-black-----	10	291
	Silt, sandy, light-olive-gray-----	10	301
	Sand, coarse, well-sorted, subrounded-----	6	307
	Silt, clayey, light-olive-gray, calcareous-----	4	311
	Sand, fine, lignitic-----	3	314
	Sand, coarse, well-sorted-----	9	323
	Gravel, fine and medium, sandy, moderately well-sorted-----	18	341
	Clay, light-gray, calcareous-----	6	347
	Clay, silty, light-olive-gray-----	3	350
	Sand, fine, greenish-gray-----	4	354
	Lignite, black, rounded, (apparently detrital)-----	6	360
	Clay, sandy, brownish-black, carbonaceous; contains lignite-----	36	396
	Sand, very fine or silt (from drill action); lignite circulating in drilling fluid-----	62	458
	Clay, white and medium-gray, calcareous-----	7	465
	Silt or very fine sand (from drill action)-----	31	496
	Gravel, medium and coarse-----	6	502
	Sand, coarse; contains limestone and lignite pebbles-	5	507
	Clay, silty, olive-gray-----	3	510
	Sand, coarse, brown, well-sorted-----	5	515

161-90-13add, Continued

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Fort Union Group:			
	Sand, fine, clayey, light-greenish-gray-----	1	516
	Sandstone, fine, light-greenish-gray-----	2	518
	Silt, sandy, light-olive-gray, calcareous-----	5	523
	Sand, fine, light-olive-gray, micaceous-----	6	529
	Shale, silty, light-gray-----	3	532
	Shale, greenish-gray-----	4	536
	Shale, medium-gray-----	4	540

161-90-22bbb
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 1,990 feet

Brown clay with boulders-----	30	30
Brown clay with blue streaks-----	15	45
Till, brown clay with floating coal-----	6	51
Till, layer rock, white with light-gray-----	1.5	52.5
Till, blue sandy clay-----	22.5	75
Till, boulders-----	2	77
Till, blue clay with some boulders-----	5	82
Coarse blue silt-----	43	125
Rock-----	2	127
Blue silty clay-----	1	128
Hard sand-----	5	133
Coal-----	8	141
Gray clay-----	4	165

161-90-25bbb
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 1,980 feet

Till, brown sandy clay-----	20	20
Till, brown sandy clay with floating coal-----	8	28
Till, brown clay, gravel-----	2	30
Till, blue clay and gravel-----	5	35
Till, blue clay, boulders-----	4	39
Till, blue clay with some small rocks and floating coal-----	66	105

161-90-32add

Altitude: 2,080 feet

Glacial drift:			
	Loam, sandy, black-----	2	2
	Sand, fine to medium, dark-brown, well-sorted-----	4	6
	Clay, silty, white, calcareous; clay, dark-brownish- black, carbonaceous-----	6	12
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	23	35
	Till, olive-gray (bluish tint)-----	26	61
	Sand, medium to very coarse, gravelly, well-sorted in lenses, subrounded-----	14	75
	Gravel, fine to coarse, poorly sorted-----	5	80
	Till, olive-gray-----	22	102
Fort Union Group:			
	Shale, silty, light-gray, calcareous-----	18	120

161-90-34ccc
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 1,956 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Till, brown clay with gravel-----	15	15
	Till, brown clay with floating coal-----	5	20
	Till, blue clay with gravel-----	15	35
	Till, boulders-----	2	37
	Till, blue clay with some gravel-----	27	64
	Till, boulder-----	1	65
	Till, blue clay with some sand and some gravel-----	24	89
	Till, boulder-----	1	90
	Till, blue clay with sand and gravel-----	12	102
	Gray, silky clay-----	12	114
	Coal-----	2	116
	Gray clay-----	4	120

161-91-1ccc
(Log from Great Northern Railway and
Baukol-Moonan Inc.)

Altitude: 1,965 feet

	Till, sand with some gravel-----	19	19
	Lost circulation-----	1	20
	No returns-----	5	25
	Till, blue-gray clay with gravel-----	5	30
	Till, blue clay with floating coal-----	5	35
	Till, blue clay with little sand-----	40	75
	Dark gray clay, bedrock-----	7	82
	Coal-----	8	90
	Gray clay-----	15	105

161-91-2aa
(Log from LaRocque and others, 1963a)

Altitude: 1,957 feet

Glacial drift:	Soil-----	1	1
	Clay, sandy, yellow, with some gravel-----	18	19
	Clay, sandy, yellow, with fine sand and some gravel--	5	24
	Clay, brown, with some gravel-----	6	30
	Gravel, with yellow sandy clay-----	3	33
Fort Union Group:	Clay, sandy, gray-----	10	43
	Lignite-----	10	53
	Sand, gray-----	39	92
	Lignite-----	3	95

161-91-13bbb
(Log from Great Northern Railway and
Baukol-Noonan Inc.)

Altitude: 2,005 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Till, brown clay, some sand-----	15	15
	Till, boulders-----	15	30
	Till, floating coal, blue clay-----	10	40
	Till, blue clay with boulders-----	5	45
	Till, blue clay-----	16	61
	Till, coal-----	1	62
	Till, blue clay, silty-----	13	75
	Gray clay, silty-----	20	95
	Dark-gray clay, silty-----	5	100
	Coal-----	6	106
	Light-gray clay, silty-----	12	118
	Dark-gray clay, silty-----	15	133
	Coal-----	7	140
	Gray clay with little silt-----	25	165

161-92-35cac
(Log from D. Tandeski)

	Brown clay and gravel-----	32	32
	Gravel-----	2	34
	Brown sand and gravel-----	11	45
	Gray shale and gravel-----	20	65
	Gray shale-----	26	91
	Brown clay-----	4	95
	Gray shale and gravel-----	50	145
	Gray sandy shale-----	35	180
	Brown sand-----	17	197
	Brown clay-----	12	209
	Green shale-----	15	224
	Gray sandy shale-----	14	238
	Coal, sand and water-----	4	242

161-92-35ccc

Altitude: 2,400 feet

	Road fill-----	6	6
Glacial drift:	Gravel, fine to medium, sandy; heavy iron stained to 21 ft.-----	32	38
	Till, olive-gray-----	20	58
	Gravel, fine, sandy-----	2	60
	Till, olive-gray-----	6	66
	Gravel, medium, well-sorted-----	3	69
	Till, olive-gray-----	9	78
	Gravel, fine to coarse, sandy, subangular to sub-rounded-----	10	88
	Sand, coarse, well-sorted, subrounded, lignitic-----	5	93
	Sand, medium, slightly clayey, well-sorted, lignitic-----	29	122
	Till, olive-gray-----	20	142
	Clay, dark-greenish-gray-----	6	148
	Till, olive-gray-----	7	155
	Gravel, fine to medium, dark-brown-----	3	158
Fort Union Group:	Silt and very fine clayey sand, yellowish-green, micaceous, oxidized-----	20	178
	Shale, silty, light-olive-gray to greenish-gray and brownish-black-----	22	200

161-93-10cdc

Altitude: 2,435 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray, oxidized-----	7	7
	Till, yellowish-gray to moderate-olive-brown-----	11	18
	Gravel, fine and medium, iron stained-----	3	21
	Till, moderate-olive-brown, oxidized-----	12	33
	Till, olive-gray-----	14	47
	Till, olive-gray; contains many thin sand and gravel lenses-----	30	77
	Gravel, fine and medium, sandy; contains lenses of gray silty and sandy clay-----	53	130
	Till, olive-gray-----	39	169
	Gravel, medium, well-sorted, subrounded-----	5	174
	Till, olive-gray-----	50	224
Fort Union Group:			
	Sand, very fine, silty, clayey, light-olive-gray, micaceous-----	17	241
	Shale, silty, light-gray-----	7	248
	Sand, clayey, black, carbonaceous-----	6	254
	Lignite, black-----	3	257
	Shale, medium-gray-----	3	260

161-93-21baa

Altitude: 2,410 feet

Glacial drift:			
	Loam, silty, black-----	2	2
	Till, yellowish-gray and dusky-yellow-----	9	11
	Till, moderate-olive-brown to light-olive-gray, partly oxidized-----	50	61
	Till, olive-gray-----	64	125
	Gravel, fine to medium, moderately well-sorted, sub-angular to subrounded-----	4	129
	Till, olive-gray; granitic boulder at 168 ft.-----	55	184
	Gravel, medium-----	3	187
	Till, olive-gray-----	20	207
Fort Union Group:			
	Shale, medium-gray-----	7	214
	Lignite, black-----	3	217
	Sand, fine, clayey, dark-greenish-gray, carbonaceous-----	8	225
	Silt, light-greenish-gray; light-brownish-gray silt; and silt, light-brownish-gray; clay, sandy, greenish-gray-----	24	249
	Shale, silty, light to medium-gray-----	11	260

161-94-2aaa

(Log from E. H. Prather)

	Brown clay, rock, gravel-----	69	69
	Gray clay, rock, gravel-----	14	83
	Brown sand, gas, little water-----	14	97
	Gray clay, boulders, rock and gravel-----	122	219
	Yellow clay-----	9	228
	Brown clay, coal mixed-----	11	239
	Gray sandy clay-----	23.5	262.5
	Loose coal, sand mixed, water-----	1.5	264

162-88-31cdc
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, dark-brown-----	1	1
	Clay, sandy, yellow to gray-----	2	3
	Clay, sandy, yellowish-gray (till)-----	7	10
	Sand, medium to coarse, clean-----	12	22
	Clay, gravelly, medium-gray (till)-----	62	84
	Clay, very sandy, yellowish-gray (till)-----	11	95
	Clay, bouldery, light-gray (till)-----	38	133
	Gravel, granular-----	3	136
	Clay, gravelly, gray (till)-----	22	158
	Gravel and boulders-----	25	183
	Clay, sandy, bouldery, yellowish-gray (till)-----	22	205
	Clay, gravelly, medium-gray (till)-----	95	300
Fort Union Group:			
	Clay, shaley, light-gray. Poor samples-----	3	303

162-88-34aaa

Altitude: 1,886 feet

Glacial drift:			
	Till, dusky-yellow, oxidized; contains several thin lenses of iron stained, fine to medium sand-----	34	34
	Till, olive-gray; contains some thin lenses of fine to medium sand-----	19	53
	Till, olive-gray-----	39	92
	Sand, medium, moderately well-sorted, subrounded-----	18	110
	Till, olive-gray-----	16	126
	Sand, medium to coarse, moderately well sorted; contains some interstitial clay-----	16	142
	Till, olive-gray-----	76	218
Fort Union Group:			
	Lignite, black-----	3	221
	Clay, black, oily-----	4	225
	Shale, silty, medium-gray to light-greenish-gray-----	15	240

162-89-3bbb

Altitude: 1,918 feet

Glacial drift:			
	Till, dusky-yellow to reddish-brown, oxidized; contains a few lenses of sand and gravel-----	26	26
	Till, olive-gray-----	101	127
	Sand, medium to coarse, slightly clayey-----	9	136
	Till, olive-gray-----	40	176
	Sand, medium to coarse, clayey, dark-brown, carbonaceous-----	6	182
	Sand, fine to very coarse, gravelly, dark-brown, poorly sorted; predominantly siliceous grains and pebbles-----	36	218
	Clay, sandy, light-gray, calcareous-----	8	226
	Sand and gravel, dark-brown; predominantly siliceous rocks-----	10	236
Fort Union Group:			
	Shale, light- to medium-gray, and black; contains a thin bed of lignite-----	18	254
	Shale, sandy, light-greenish-gray-----	10	264
	Limestone, tan-----	5	269
	Shale, medium-gray-----	11	280

162-89-4bbb
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, very sandy and gravelly, tan (till)-----	11	12
	Sand, fine to very coarse, and some fine gravel-----	7	19
	Clay, sandy, pebbly, tan (till)-----	17	36
	Clay, sandy, pebbly, gray (till)-----	84	120
	Clay, sandy, hard, gray, numerous boulders (till)----	95	215
	Clay, sandy, hard, gray; cavings predominant in samples (till)-----	69	284

162-89-8aaa
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, yellow, sandy-----	3	4
	Clay, sandy, gravelly, tan (till)-----	10	14
	Clay, sandy, pebbly, bouldery (till)-----	24	38
	Gravel, medium to coarse-----	12	50
	Clay, sandy, boulders, gray (till)-----	171	221
	Sand, medium and coarse, clayey, gray-----	11	232
	Clay, sandy, gray, with lignite fragments (till)----	22	254
	Clay, smooth, grayish-brown (till)-----	11	265
	Clay, sandy, gray, lignite fragments (till)-----	72	337
	Clay, sandy, yellowish-brown (till)-----	8	345
	Clay, sandy, gray, sand and gravel, cavings in samples (till)-----	65	410
Fort Union Group:			
	Clay, gray-----	5	415
	Clay, shaley, black-----	5	420
	Clay, smooth, gray-----	10	430

162-89-13cc
(Log from LaRocque and others, 1963a)

Altitude: 1,910 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil-----	1	1
	Clay, sandy, yellow-----	4	5
	Clay, sandy, yellow, with some gravel-----	11	16
	Clay, sandy, gray, with some gravel-----	5	21
	Sand, fine and gravel-----	2	23
	Clay, sandy, gray, with some gravel-----	15	38
	Gravel-----	2	40
	Clay, sandy, gray, with some boulders-----	3	43
	Boulder-----	1	44
	Clay, sandy, gray, with some gravel and boulders-----	4	48
	Clay, sandy, gray, with some gravel and lignite fragments-----	44	92
	Sand, fine-----	1	93
	Clay, sandy, gray, with some gravel and lignite fragments-----	3	96
	Boulder, granite-----	2	98
	Clay, sandy, gray, with some gravel-----	7	105
	Clay, sandy, gray, with some gravel and lignite fragments-----	40	145
	Gravel-----	1	146
	Clay, sandy, gray, with small strips of gravel and lignite fragments-----	16	162
	Gravel and lignite fragments, with strips of gray, sandy clay-----	6	168
	Clay, sandy, gray, with small strips of gravel and lignite fragments-----	17	185
Fort Union Group:			
	Lignite-----	3	188
	Lignite, with strips of white clay-----	30	218
	Clay, white, with strips of lignite-----	20	238
	Limestone, gray-----	3	241
	Sand, gray-----	9	250

162-89-16bbc
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, sandy, light-gray-----	2	3
	Sand, fine to medium-----	1	4
	Clay, yellow, with interbedded sand and gravel (till)	6	10
	Clay, sandy, pebbly, tan (till)-----	8	18
	Clay, sandy, pebbly, dark-gray (till)-----	26	44
	Clay, pebbly, yellow (till)-----	1	45
	Clay, pebbly, dark-gray (till)-----	45	90
	Clay, sandy, and very gravelly, dark-gray (till)-----	90	180
	Clay, sandy, tan (till)-----	12	192
	Clay, very sandy, tan and gray. A lot of coarse sand and gravel (till)-----	17	209
Fort Union Group:			
	Clay, smooth, light-green-----	9	218

162-89-21bbb
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, sandy, pebbly, tan (till)-----	17	18
	Clay, sandy, pebbly, brown (till)-----	12	30
	Clay, sandy, pebbly, gray (till)-----	128	158
Fort Union Group:			
	Clay, sandy, gray-----	12	170

162-89-25aaa

Altitude: 1,925 feet

Glacial drift:			
	Till, moderate-olive-brown, oxidized-----	33	33
	Gravel, fine and medium, well-sorted-----	2	35
	Till, moderate-olive-brown, oxidized-----	18	53
	Till, olive-gray; contains a contorted bedrock boulder between 75 and 86 ft.-----	46	99
	Gravel, medium, well-sorted; pebbles are predominant- ly limestone-----	4	103
	Sand, coarse, well-sorted-----	3	106
	Till, olive-gray-----	15	121
Fort Union Group:			
	Silt, clayey, light-olive-gray, calcareous; locally carbonaceous-----	19	140
	Shale, silty, light-gray-----	2	142
	Lignite, black, fissile-----	2	144
	Shale, gray-----	2	146
	Lignite-----	3	149
	Shale, medium-gray-----	7	156
	Sand, fine, greenish-gray, subrounded-----	4	160

162-89-28dd

(Log from LaRocque and others, 1963a)

Altitude: 1,941 feet

Glacial drift:			
	Soil-----	3	3
	Clay, yellow-----	10	13
	Clay, sandy, gray, with some gravel-----	38	51
	Sand, fine and gravel-----	4	55
	Clay, sandy, gray, with some gravel-----	11	66
	Clay, sandy, gray, with some strips of limestone-----	6	72
	Clay, sandy, gray, with some gravel-----	28	100
	Limestone and "sand" rock-----	1	101
	Clay, sandy, gray, with some gravel and lignite fragments-----	14	115
Fort Union Group:			
	Clay, gray-----	5	120
	Lignite-----	2	122
	Light clay, gray-----	23	145

162-89-29aaa
(Log from Jensen, 1962)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, pebbly, tan (till)-----	23	24
	Clay, gravelly, tan (till)-----	16	40
	Clay, sandy, tan (till)-----	6	46
	Sand, cemented, tan-----	5	51
	Clay, sandy, gravelly, tan (till)-----	2	53
	Clay, sandy, pebbly, bluish-gray (till)-----	51	104
	Sand, fine silty, clayey, light-gray-----	13	117
	Clay, sandy, pebbly, bluish-gray (till)-----	50	167
	Gravel and rock fragments, predominantly dolomitic--	4	171
	Gravel, fine, mixed with clay-----	4	175
	Clay, sandy, pebbly, bluish-gray (till)-----	33	208
Fort Union Group:			
	Lignite-----	1	209
	Clay, sandy, gray-----	7	216
	Clay, sandy, brown-----	4	220
	Clay, sandy, gray-----	10	230

162-89-33bbb
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, brown-----	1	1
	Clay, gravelly, tan-----	2	3
	Sand, fine-----	1	4
	Clay, sandy, pebbly, tan (till)-----	26	30
	Clay, sandy, bouldery, gray (till)-----	16	46
Fort Union Group:			
	Lignite-----	2	48
	Clay, gray-----	30	78
	Clay, very sandy, light-gray-----	2	80

162-89-35ccc
(Log from Jensen, 1962)

Glacial drift:			
	Clay, sandy, yellowish-gray (till)-----	17	17
	Clay, bouldery, medium-gray (till)-----	64	81
Fort Union Group:			
	Clay, shaley, sandy, light-gray-----	5	86
	Lignite-----	4	90

162-89-35ddd
(Log from Jensen, 1962)

Glacial drift:			
	Clay, sandy, yellowish-gray (till)-----	34	34
	Clay, sandy, bouldery, medium-gray (till)-----	66	100
	Gravel-----	4	104
	Clay, bouldery, medium-gray (till)-----	12	116
Fort Union Group:			
	Clay, shaley, light-gray-----	4	120

162-90-1aab
(Log from LaRocque and others, 1963a)

Altitude: 1,932 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, clayey, dark-brown-----	1.3	1.3
	Clay, dark-brown-----	.8	2.1
	Clay, calcareous, grayish-brown to yellowish-brown, with limonitic mottling and lignite fragments-----	2.4	4.5
	Clay, calcareous to depth of 10 ft., olive-brown with limonitic mottling, lignite fragments and thin sand lenses-----	15.5	20
	Clay, slightly silty, olive-brown, with limonitic mottling and thin sand lenses-----	4	24

162-90-1ada
(Log from LaRocque and others, 1963a)

Altitude: 1,935 feet

	Soil, sandy and clayey, light-gray to brown, with small amount of salt-----	2.6	2.6
	Clay, silty and sandy, olive-brown-----	.9	3.5
	Sand, fine, yellowish-brown-----	.1	3.6
	Clay, silty and sandy, olive-brown, with limonitic mottling-----	3.4	7
	Clay, olive-brown, with limonitic mottling; water seep at 17.6 ft.-----	14	21

162-90-1add
(Log from LaRocque and others, 1963a)

Altitude: 1,934 feet

	Soil, clayey and silty, brown to grayish-brown-----	3	3
	Clay, silty, calcareous, brown, with limonitic mottling and salt pockets-----	1.5	4.5
	Clay, calcareous, olive-brown, with limonitic mottling and lignite fragments-----	2.9	7.4
	Clay, silty, calcareous, olive-brown, with limonitic mottling and lignite fragments-----	2.6	10

162-90-lbaa
(Log from LaRocque and others, 1963a)

Altitude: 1,938 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty and clayey, brown, with salt pockets below depth of 1 ft.-----	2.3	2.3
	Clay, silty, varved, grayish-brown, with salt pockets	1	3.3
	Sand, fine, clayey, stratified, varved, light-olive-brown, with salt pockets and limonitic mottling---	3.3	6.6
	Sand, poorly sorted, yellowish-brown-----	.4	7
	Clay, silty, olive-brown, with salt pockets and limonitic mottling-----	3	10
	Clay, sandy, olive-brown, with lignite fragments-----	16	26

162-90-lbab
(Log from LaRocque and others, 1963a)

Altitude: 1,939 feet

	Soil, silty and clayey, brown-----	1.3	1.3
	Clay, silty, olive-brown, with limonitic mottling----	4.6	5.9
	Clay, very sandy, olive-brown, with limonitic mottling and lignite fragments-----	3.6	9.5
	Clay, sandy, olive-brown, with limonitic mottling----	5.5	15
	Clay, very compact, olive-brown, with limonitic mottling-----	5	20
	Sand, silty, olive-brown-----	4	24

162-90-lbcc
(Log from LaRocque and others, 1963a)

Altitude: 1,938 feet

	Soil, silty and sandy, grayish-brown to brown-----	3.1	3.1
	Sand, medium, clayey, dark-yellowish-brown-----	.4	3.5
	Clay, silty, pebbly, olive-brown, with lignite fragments-----	6.5	10
	Clay, slightly sandy and pebbly, grayish-brown, with limonitic mottling-----	10	20
	Sand, coarse, poorly sorted, yellowish-brown; contains water-----	2	22

162-90-ldad
(Log from LaRocque and others, 1963a)

Altitude: 1,934 feet

	Soil, clayey and sandy, dark-brown-----	2	2
	Clay, calcareous, olive-brown, with salt pockets, varved from depths of 3.3 ft. to 4.5 ft., lignite fragments and limonitic mottling-----	8	10
	Clay, silty, olive-brown, with limonitic mottling----	5	15
	Clay, sandy, and silty, olive-brown, with limonitic mottling; water seep at 18 ft.-----	5	20
	Clay, olive-brown, with salt pockets and limonitic mottling-----	4	24

162-90-1dbb
(Log from LaRocque and others, 1963a)

Altitude: 1,929 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty and clayey, grayish-brown, with limonitic mottling-----	1.1	1.1
	Clay, black-----	1.4	2.5
	Clay, calcareous, olive-brown, with limonitic mottling and lignite fragments-----	7.5	10
	Silt, light-brown; moist-----	.2	10.2
	Sand, coarse with some gravel, poorly sorted, brown; saturated-----	2.3	12.5
	Clay, very dense and pebbly, olive-brown, with lignite fragments, gypsum crystals and salt pockets-----	1.5	14

162-90-1dcc
(Log from LaRocque and others, 1963a)

Altitude: 1,938 feet

	Soil, silty and clayey-----	1.5	1.5
	Clay, silty, light-gray, with limonitic mottling-----	1.1	2.6
	Clay, silty, brown, with limonitic mottling-----	1.1	3.7
	Clay, brown, with limonitic mottling-----	1.4	5.1
	Clay, brown, with limonitic mottling and salt pockets	3.9	9
	Sand and clay, silty, brown, stratified with salt pockets-----	.5	9.5
	Clay, brown, with limonitic mottling and salt pockets	.5	10
	Clay, pebbly, olive-brown, with limonitic mottling; becomes more pebbly with depth-----	8	18
	Clay, pebbly, olive-brown grading downward to gray, with limonite mottling-----	7	25

162-90-1ddd
(Log from LaRocque and others, 1963a)

Altitude: 1,941 feet

	Soil, silty and clayey-----	1.4	1.4
	Clay, very silty and sandy-----	.6	2
	Clay, silty, highly calcareous from 2 to 3 ft., pebbly, varved, olive-brown-----	2.5	4.5
	Sand, medium, pebbly, yellowish-brown-----	1.5	6
	Clay, gravelly and silty, olive-brown, with limonitic mottling-----	2	8
	Clay, silty and gravelly, olive-brown, varved with lignite fragments and limonitic mottling-----	2	10
	Clay, sandy and pebbly, tan to olive-brown, varved with lignite fragments and pockets of silt-----	3	13
	Sand, coarse, poorly sorted, clayey, light-brown, with lignite fragments; saturated from 14 to 15 ft.	2	15
	Clay, light-brown-----	1	16

162-90-2aad
(Log from LaRocque and others, 1963a)

Altitude: 1,933 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty and clayey, dark-brown-----	3	3
	Clay, silty, olive-brown, with salt pockets to depth of 10 ft., limonitic mottling and lignite fragments-----	17	20
	Clay, olive-brown, limonitic mottling-----	3	23

162-90-2aba
(Log from LaRocque and others, 1963a)

Altitude: 1,917 feet

	Soil, silty, dark-brown-----	1.5	1.5
	Clay, silty, varved, dark-grayish-brown-----	.8	2.3
	Silt, clayey, calcareous, gray-----	2.2	4.5
	Gravel, poorly sorted, olive-brown-----	.7	5.2
	Sand, fine, clayey, olive-brown-----	1	6.2
	Clay, silty, calcareous, olive-brown, with limonitic mottling-----	3.8	10
	Clay, olive-brown, with limonitic mottling and lignite fragments-----	12.5	22.5

162-90-2acc
(Log from LaRocque and others, 1963a)

Altitude: 1,937 feet

	Soil, silty and clayey, grayish-brown-----	1.1	1.1
	Clay, calcareous to depth of 6 ft., pebbly below depth of 5 ft., light-brown to olive-brown, with limonitic mottling and lignite fragments-----	14.9	16
	Clay, very compact, pebbly, dark-olive-brown, with salt pockets, lignite fragments, and limonitic mottling-----	8	24

162-90-2baa
(Log from LaRocque and others, 1963a)

Altitude: 1,937 feet

	Soil, silty and clayey, calcareous, brown to yellowish-brown-----	2.5	2.5
	Sand, medium, silty, yellowish-brown-----	2	4.5
	Clay, sandy, silty, laminated, pebbly, olive-brown---	1.6	6.1
	Gravel, poorly sorted, silty, olive-brown-----	.5	6.6
	Clay, silty, olive-brown, with limonitic mottling---	3.4	10
	Clay, silty and sandy, pebbly, olive-brown, with limonitic mottling-----	16	26

162-90-2bab
(Log from LaRocque and others, 1963a)

Altitude: 1,942 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, dark-brown-----	2.3	2.3
	Clay, silty, varved, pebbly, very compact, olive-brown, with limonitic mottling-----	3.7	6
	Clay, silty, light-olive-brown, with limonitic mottling and lignite fragments-----	1	7
	Clay, silty, olive-brown, with salt pockets-----	3	10
	Clay, olive-brown, with limonitic mottling and lignite fragments-----	14	24

162-90-2cbb
(Log from LaRocque and others, 1963a)

Altitude: 1,946 feet

	Soil, silty, dark-brown to grayish-brown-----	1.3	1.3
	Clay, silty, calcareous to depth of 5.5 ft., alkaline below 5.5 ft., olive-brown, with limonitic mottling-----	8.7	10
	Clay, very pebbly, olive-brown, with limonitic mottling-----	3	13
	Clay, pebbly, gray to buff, with lignite fragments and gypsum crystals-----	10.5	23.5
	Sand, medium-grained, silty, saturated, brown-----	3	26.5

162-90-2ccb
(Log from LaRocque and others, 1963a)

Altitude: 1,945 feet

	Soil, silty and clayey, brown-----	1.6	1.6
	Clay, silty, calcareous, sandy with depth, olive-brown, with limonitic mottling, lignite fragments and salt pockets-----	8.4	10
	Sand, fine, clayey, olive-brown-----	5	15
	Clay, silty and pebbly, olive-brown-----	8	23

162-90-2cdc
(Log from LaRocque and others, 1963a)

Altitude: 1,944 feet

	Soil, silty, dark-brown-----	1.5	1.5
	Sand, clayey, yellowish-brown-----	.8	2.3
	Clay, silty, olive-brown, with lignite fragments, limonitic mottling and salt pockets-----	17.7	20

162-90-2dad
(Log from LaRocque and others, 1963a)

Altitude: 1,941 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty and clayey, gray to brown-----	2.1	2.1
	Clay, silty, stratified, yellowish-brown-----	2.1	4.2
	Clay, very compact, calcareous, olive-brown, with lignite fragments and limonitic mottling-----	2	6.2
	Silt, sandy and clayey, yellowish-brown, with limonitic mottling-----	1.6	7.8
	Sand, fine, yellowish-brown-----	1	8.8
	Clay, silty and sandy, olive-brown, with limonitic mottling and lignite fragments-----	14.2	23

162-90-2dcc
(Log from LaRocque and others, 1963a)

Altitude: 1,945 feet

	Soil, silty, brown-----	1.3	1.3
	Sand, medium, silty, grayish-brown to yellowish-brown-----	3.7	5
	Sand, medium, silty, varved, olive-brown-----	1.5	6.5
	Sand, medium, silty, varved, yellowish-brown-----	1.7	8.2
	Silt, sandy, varved, yellowish-brown-----	1.8	10
	Clay, silty, moderately compact, olive-brown-----	7.5	17.5
	Clay, pebbly, very compact, olive-brown, with gypsum crystals-----	4.5	22
	Clay, olive-brown, interbedded with thin lenses of saturated silt-----	6	28

162-90-2ddc
(Log from LaRocque and others, 1963a)

Altitude: 1,938 feet

	Soil, silty and clayey, grayish-brown-----	1.9	1.9
	Clay, silty, calcareous, olive-brown, with limonitic mottling-----	1.8	3.7
	Clay, calcareous, olive-brown, with limonitic mottling, lignite fragments and salt pockets-----	6.3	10
	Clay, silty, olive-brown, with limonitic mottling----	5	15
	Sand, clayey, brown, with limonitic mottling-----	2	17
	Clay, silty, olive-brown, with limonitic mottling----	7	24

162-90-3aab
(Log from LaRocque and others, 1963a)

Altitude: 1,943 feet

	Soil, silty, dark-brown-----	2.4	2.4
	Clay, silty, calcareous, olive-brown, with limonitic mottling and lignite fragments-----	13.6	16

162-90-3aad
(Log from LaRocque and others, 1963a)

Altitude: 1,946 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, dark-grayish-brown to brown-----	1.2	1.2
	Clay, silty, calcareous, brown to olive-brown-----	2.5	3.7
	Clay, silty, calcareous, olive-brown with limonitic mottling-----	6.3	10

162-90-3baa
(Log from LaRocque and others, 1963a)

Altitude: 1,922 feet

	Soil, clayey and silty, brown-----	1.1	1.1
	Clay, very silty, calcareous to 2 ft., varved from 2 to 2.5 ft., boulders at 5 ft., yellowish-brown---	3.9	5
	Sand, fine-grained, well-sorted, light-brown; saturated from 13 to 13.5 ft.-----	8.5	13.5
	Clay, pebbly, unweathered, dark-brown-----	3.5	17

162-90-3bba
(Log from LaRocque and others, 1963a)

Altitude: 1,916 feet

	Soil, silty, dark-brown-----	0.8	0.8
	Silt, calcareous, organic, black-----	4.2	5
	Clay, olive-brown-----	.8	5.8
	Sand, fine-grained, clayey, grayish-brown-----	.3	6.1
	Gravel, clayey, brown-----	.3	6.4
	Clay, limonitic mottling, olive-brown-----	16.1	22.5

162-90-3bbb
(Log from LaRocque and others, 1963a)

Altitude: 1,921 feet

	Soil, silty, dark-brown-----	3	3
	Sand and gravel, poorly sorted-----	2	5
	Clay, friable, olive-brown, with lignite fragments, limonitic mottling-----	15	20
	Clay, olive-brown, as above but more moist and plastic-----	4	24

162-90-3bbc
(Log from LaRocque and others, 1963a)

Altitude: 1,923 feet

	Soil, clayey and silty, brown-----	2.3	2.3
	Clay, silty, calcareous, grayish-brown-----	.7	3
	Unsampled-----	7	10
	Clay, silty, olive-brown, with limonitic mottling---	6	16
	Clay, very compact, olive-brown, with limonitic mottling-----	6.8	22.8

162-90-3bdd
(Log from LaRocque and others, 1963a)

Altitude: 1,946 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty and clayey, grayish-brown-----	1.5	1.5
	Clay, silty, calcareous to 3 ft., salt pockets below 3 ft., olive-brown-----	8	9.5
	Sand, silty, laminated, yellowish-brown-----	.5	10
	Clay, pebbly, buff-colored, with crystals of gypsum and limonitic mottling-----	4	14
	Clay, silty and sandy, pebbly, grades to unweathered material with depth-----	12	26

162-90-3cbb
(Log from LaRocque and others, 1963a)

Altitude: 1,939 feet

	Soil, silty, brown to yellowish-brown-----	1.9	1.9
	Clay, dark-yellowish-brown-----	1.1	3
	Clay, silty, very compact, olive-brown-----	7	10
	Clay, pebbly, olive-brown-----	6	16
	Silt, sandy, light-brown-----	2	18
	Clay, sandy, pebbly, olive-brown-----	3.5	21.5
	Clay, sandy, unweathered, olive-brown to gray-----	10.5	32

162-90-3ccb
(Log from LaRocque and others, 1963a)

Altitude: 1,942 feet

	Soil, silty, dark-brown-----	0.5	0.5
	Soil, sandy and clayey, dark-brown-----	2	2.5
	Clay, silty, olive-brown, with limonitic mottling and lignite fragments-----	12.5	15
	Clay, silty and pebbly, olive-brown-----	7.5	22.5

162-90-3ccc
(Log from LaRocque and others, 1963a)

Altitude: 1,945 feet

	Soil, silty to clayey, dark-brown-----	1.5	1.5
	Clay, silty, olive-brown, with salt pockets and limonitic mottling-----	8.5	10
	Clay, pebbly, olive-brown, with lignite fragments---	14	24

162-90-3cdc
(Log from LaRocque and others, 1963a)

Altitude: 1,940 feet

	Soil, silty, brown to yellowish-brown-----	1.8	1.8
	Clay, olive-brown, with limonitic mottling-----	1.9	3.7
	Silt, sandy, grayish-brown, with limonitic mottling--	2.4	6.1
	Silt, sandy, laminated, yellowish-brown, with limonitic mottling and salt pockets-----	1.6	7.7
	Clay, sandy, olive-brown, with limonitic mottling and lignite fragments-----	15.3	23

162-90-3dce
(Log from LaRocque and others, 1963a)

Altitude: 1,939 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, dark-brown-----	2	2
	Clay, silty, calcareous from 2.5 to 4 ft., olive-brown, with limonitic mottling-----	8	10
	Clay, sandy, olive-brown-----	4	14

162-90-3ddc
(Log from LaRocque and others, 1963a)

Altitude: 1,943 feet

	Soil, clayey and silty, brown-----	1.5	1.5
	Clay, calcareous, sandy, grayish-brown-----	1.5	3
	Clay, sandy, olive-brown, with salt pockets and limonitic mottling-----	7	10
	Clay, olive-brown, with limonitic mottling and lignite fragments-----	9	19

162-90-9aad
(Log from LaRocque and others, 1963a)

Altitude: 1,940 feet

	Soil, silty, black-----	0.8	0.8
	Clay, silty, brownish-gray, with limonitic mottling--	2.5	3.3
	Silt, sandy, brown to gray, with limonitic mottling--	.7	4
	Clay, olive-brown, with salt pockets and limonitic mottling-----	6	10

162-90-10aaa
(Log from LaRocque and others, 1963a)

Altitude: 1,950 feet

	Soil, silty, olive-brown-----	3	3
	Silt, yellowish-brown, sandy-----	.5	3.5
	Clay, silty, olive-brown, with limonitic mottling and salt pockets-----	6.5	10
	Clay, very compact and pebbly, olive-brown-----	8	18
	Sand, medium, clayey, light-brown-----	2	20

162-90-10bcc
(Log from LaRocque and others, 1963a)

Altitude: 1,950 feet

	Soil, silty and clayey, dark-grayish-brown-----	1.5	1.5
	Clay, silty, olive-brown, with limonitic mottling, salt pockets, and lignite fragments-----	8.5	10
	Clay, pebbly, olive-brown, with lignite fragments and limonitic mottling-----	12	22

162-90-10caa
(Log from LaRocque and others, 1963a)
Altitude: 1,946 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, brown-----	1.1	1.1
	Clay, silty, grayish-brown, with limonite fragments--	2.9	4
	Gravel, sandy and silty, stratified, olive-brown----	2	6
	Clay, silty, olive-brown-----	4	10
	Clay, sandy, olive-brown; contains very thin lenses of fine sand-----	2	12
	Clay, pebbly, dark-brown-----	2	14

162-90-10cbc
(Log from LaRocque and others, 1963a)
Altitude: 1,950 feet

	Soil, silty, brown-----	1.7	1.7
	Clay, silty, olive-brown, with salt pockets-----	13.3	15
	Sand, clayey, stratified, olive-brown-----	1	16
	Clay, silty, olive-brown-----	6.5	22.5

162-90-10ccc
(Log from LaRocque and others, 1963a)
Altitude: 1,948 feet

	Soil, silty, calcareous, grayish-brown-----	3	3
	Clay, silty, olive-brown, with salt pockets and limonitic mottling-----	3	6
	Sand, medium, yellowish-brown-----	.3	6.3
	Clay, silty, olive-brown, with limonitic mottling and salt pockets-----	2.7	9
	Clay, pebbly, laminated, olive-brown, with gypsum crystals and salt pockets-----	8	17
	Clay, shaly cleavage, olive-brown-----	4	21
	Clay, shaly cleavage, unweathered, dark-gray to black	3	24

162-90-10cdc
(Log from LaRocque and others, 1963a)
Altitude: 1,942 feet

	Soil, silty, brown-----	1.2	1.2
	Sand, coarse, stratified, brown-----	2.8	4
	Sand, medium, brown-----	.7	4.7
	Sand, clayey, medium, brown-----	.3	5
	Sand, medium, brown-----	.4	5.4
	Clay, silty, olive-brown, with limonitic mottling, salt pockets and lignite fragments-----	.8	6.2
	Not sampled-----	3.8	10
	Clay, very compact, unweathered, dark-gray-----	11.7	21.7

162-90-11aad
(Log from LaRocque and others, 1963a)

Altitude: 1,938 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, brown-----	2.3	2.3
	Clay, silty, olive-brown, with salt pockets, limonitic mottling and lignite fragments-----	2.7	5
	Not sampled-----	5	10
	Clay, silty, calcareous, olive-brown, with lignite fragments, limonitic mottling and salt pockets----	4	14
	Clay, very compact, olive-brown----- (Stopped by boulder at 16 ft.)	2	16

162-90-11bbc
(Log from LaRocque and others, 1963a)

Altitude: 1,946 feet

	Soil, silty, brown-----	1.3	1.3
	Clay, silty, calcareous, olive-brown-----	.9	2.2
	Clay, silty, calcareous, olive-brown, with salt pockets and limonitic mottling-----	1.4	3.6
	Clay, silty, olive-brown, with limonitic mottling, salt pockets, and lignite fragments-----	19.1	22.7

162-90-11bcc
(Log from LaRocque and others, 1963a)

Altitude: 1,944 feet

	Soil, silty, calcareous, grayish-brown-----	1.6	1.6
	Clay, silty, calcareous, olive-brown-----	.9	2.5
	Clay, calcareous, olive-brown, with lignite fragments, limonitic mottling, and salt pockets-----	7.5	10
	Clay, very compact, pebbly, buff-colored, with lignite fragments----- (Boulder at 13.5 ft. prevented further sampling)	3.5	13.5

162-90-11bdd
(Log from LaRocque and others, 1963a)

Altitude: 1,944 feet

	Soil, silty, dark-brown-----	1	1
	Clay, silty, dark-brown-----	.9	1.9
	Clay, calcareous, black, with limonitic mottling----	1.4	3.3
	Clay, silty, olive-brown-----	.7	4
	Clay, calcareous, olive-brown, with limonitic mottling-----	3.5	7.5
	Clay, silty, calcareous, olive-brown, with limonitic mottling and lignite fragments-----	2.5	10
	Clay, sandy, olive-brown----- (Stopped by boulder at 17 ft.)	7	17

162-90-11ccb
(Log from LaRocque and others, 1963a)

Altitude: 1,950 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, brown-----	1.8	1.8
	Clay, silty, calcareous, olive-brown, with limonitic mottling and lignite fragments-----	22.2	24

162-90-11ccc
(Log from LaRocque and others, 1963a)

Altitude: 1,942 feet

	Soil, silty and clayey, dark-brown-----	1.8	1.8
	Clay, silty, pebbly, grayish-brown-----	.7	2.5
	Gravel, silty, brown-----	.9	3.4
	Clay, silty, olive-brown, with limonitic mottling and lignite fragments-----	6.6	10

162-90-11cdd
(Log from LaRocque and others, 1963a)

Altitude: 1,942 feet

	Soil, silty, calcareous below 1.5 ft., grayish-brown to brown-----	3	3
	Clay, calcareous, olive-brown, with salt pockets and limonitic mottling-----	7	10
	Clay, friable, very compact, pebbly, grayish-brown, with lignite fragments and gypsum crystals-----	12.5	22.5

162-90-11dda
(Log from LaRocque and others, 1963a)

Altitude: 1,942 feet

	Soil, silty, dark-brown-----	0.9	0.9
	Clay, dark-brown-----	2	2.9
	Sand, medium-grained, olive-brown-----	.4	3.3
	Clay, silty, very compact, calcareous, olive-brown, with lignite fragments and limonitic mottling-----	6.7	10
	Clay, silty, olive-brown, with salt pockets and limonitic mottling-----	4	14

162-90-11ddc
(Log from LaRocque and others, 1963a)

Altitude: 1,944 feet

	Soil, silty and clayey, gray-brown-----	2.5	2.5
	Clay, olive-brown, with limonitic mottling-----	1.6	4.1
	Silt, sandy, yellow-brown, with limonitic mottling---	1.8	5.9
	Clay, calcareous, olive-brown, with limonitic mottling and lignite fragments-----	3.9	9.8
	Clay, silty, calcareous, olive-brown, with limonitic mottling-----	13.2	23
	Clay, unweathered, dark-gray-----	1	24

162-90-12aba
(Log from LaRocque and others, 1963a)
Altitude: 1,933 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, grayish-brown-----	2.8	2.8
	Clay, silty, brown, with gypsum crystals-----	2.7	5.5
	Clay, brown, with limonitic mottling and salt pockets	2.2	7.7
	Clay, silty and sandy, brown, with limonitic mottling	1	8.7
	Not sampled-----	1.3	10
	Clay, silty, olive-brown, with limonitic mottling and lignite fragments-----	5	15
	Clay, olive-brown, with limonitic mottling and lignite fragments-----	7	22

162-90-12acc
(Log from LaRocque and others, 1963a)
Altitude: 1,942 feet

	Soil, silty and clayey, grayish-brown-----	3.5	3.5
	Clay, silty, friable, grayish-brown, with limonitic mottling-----	1.5	5
	Clay, friable, very compact, grayish-brown-----	11	16

162-90-12ada
(Log from LaRocque and others, 1963a)
Altitude: 1,933 feet

	Soil, silty and clayey, dark-gray-----	2.8	2.8
	Clay, extremely compact, light-brown-----	5.2	8
	Clay, light-brown, with salt pockets and limonitic mottling-----	1.5	9.5
	Clay, extremely compact, olive-brown, with limonitic mottling-----	14.5	24

162-90-12add
(Log from LaRocque and others, 1963a)
Altitude: 1,937 feet

	Soil, silty, grayish-brown-----	1.3	1.3
	Clay, olive-brown, with limonitic mottling and lignite fragments-----	3.4	4.7
	Clay, very friable, brown-----	13.3	18
	Sand, very fine, light-brown-----	1	19
	Clay, pebbly, brown-----	3	22

162-90-12bab
(Log from LaRocque and others, 1963a)
Altitude: 1,934 feet

	Soil, silty and clayey, brown-----	2.6	2.6
	Clay, very compact, gray-brown, with limonitic mottling-----	7.2	9.8
	Clay, silty, olive-brown, with lignite fragments and limonitic mottling-----	3.2	13
	Sand, silty, olive-brown, with lignite fragments-----	3.5	16.5

162-90-12bbb
(Log from LaRocque and others, 1963a)

Altitude: 1,941 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty and clayey, grayish-brown-----	1.4	1.4
	Clay, silty, olive-brown, with salt pockets, limonitic mottling and lignite fragments-----	8.6	10
	Clay, sandy and pebbly, dark-brown, with lignite fragments-----	5.2	15.2
	Sand, coarse to medium, poorly sorted, saturated, light-brown-----	1.8	17
	Sand, as above but better sorted-----	1.5	18.5
	Clay, sandy and pebbly, olive-brown-----	1.5	20

162-90-12bcc
(Log from LaRocque and others, 1963a)

Altitude: 1,943 feet

	Soil, silty and clayey, grayish-brown-----	5.5	5.5
	Clay, calcareous, olive-brown, with limonitic mottling, lignite fragments, and salt pockets-----	4.5	10
	Clay, pebbly, friable, very compact, olive-brown, with lignite fragments and gypsum crystals-----	5	15
	Sand, clayey, saturated, medium, olive-brown-----	2	17
	Clay, olive-brown-----	1	18

162-90-12dad
(Log from LaRocque and others, 1963a)

Altitude: 1,936 feet

	Soil, silty, dark-grayish-brown-----	1.3	1.3
	Clay, silty, calcareous, dark-brown, with limonitic mottling and salt pockets-----	8.7	10
	Clay, olive-brown, with limonitic mottling, grades with depth to dark-brown-----	5.5	15.5
	Clay, dark-grayish-brown-----	2.5	18

162-90-12ddd
(Log from LaRocque and others, 1963a)

Altitude: 1,940 feet

	Soil, silty and clayey, yellowish-brown-----	2	2
	Clay, silty, pebbly, calcareous between 2 and 3 ft., salt pockets below, olive-brown, with limonitic mottling-----	8	10
	Clay, silty, pebbly, olive-brown, with gypsum crystals and lignite fragments-----	8	18

162-90-13aad
(Log from LaRocque and others, 1963a)

Altitude: 1,940 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, sandy and silty, brown-----	1.3	1.3
	Clay, very compact, grayish-brown-----	.7	2
	Clay, calcareous, very compact, olive-brown, with limonitic mottling and lignite fragments-----	6.5	8.5
	Clay, sandy and silty, olive-brown, with limonitic mottling and lignite fragments-----	1.5	10
	Clay, very compact, olive-brown, with limonitic mottling-----	11.5	21.5

162-90-13aba
(Log from LaRocque and others, 1963a)

Altitude: 1,944 feet

	Soil, silty and sandy, grayish-brown to yellowish-brown-----	2.7	2.7
	Clay, calcareous, grayish-brown, with limonitic mottling and lignite fragments-----	7.3	10
	Clay, olive-brown, with limonitic mottling-----	14	24

162-90-13add
(Log from LaRocque and others, 1963a)

Altitude: 1,936 feet

	Soil, sandy and silty, dark-brown-----	1.5	1.5
	Clay, dark-brown-----	.6	2.1
	Clay, calcareous, olive-brown-----	1.6	3.7
	Sand, light-yellowish-brown, with lignite fragments--	1.8	5.5
	Sand, very fine, silty, light-brown-----	1.3	6.8
	Clay, olive-brown, with lignite fragments and limonitic mottling-----	1.6	8.4
	Sand, fine, stratified, saturated, reddish-brown----	1.1	9.5
	Clay, sandy and pebbly, olive-brown-----	.5	10

162-90-13baa
(Log from LaRocque and others, 1963a)

Altitude: 1,942 feet

	Soil, silty and clayey, brown-----	2.1	2.1
	Clay, silty, calcareous to 5.6 ft., light-brown to olive-brown, with limonitic mottling-----	7.9	10
	Clay, pebbly, olive-brown-----	6	16
	Silt, olive-brown-----	1	17
	Sand, clayey, wet but not saturated, olive-brown----	.5	17.5
	Clay, sandy, pebbly, olive-brown, with lignite fragments and limonitic mottling-----	2.5	20

162-90-13bba
(Log from LaRocque and others, 1963a)

Altitude: 1,940 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty and clayey, grayish-brown-----	2.4	2.4
	Clay, silty, calcareous, olive-brown, with salt pockets, limonitic mottling and lignite fragments-----	7.6	10
	Clay, sandy, olive-brown, with limonitic mottling----	3	13
	Clay, dark-brown, with limonitic mottling-----	.7	13.7

162-90-13bbc
(Log from LaRocque and others, 1963a)

Altitude: 1,944 feet

	Soil, silty, brown-----	3	3
	Clay, silty, calcareous, pebbly, olive-brown, with lignite fragments and limonitic mottling-----	13	16

162-90-13dad
(Log from LaRocque and others, 1963a)

Altitude: 1,934 feet

	Soil, silty, dark-brown-----	1.3	1.3
	Clay, sandy, gravel from 2.7 to 3.1 ft., calcareous, olive-brown, with limonitic mottling and lignite fragments-----	4.1	5.4
	Clay, extremely compact, olive-brown, with limonitic mottling-----	11.6	17

162-90-13dab
(Log from LaRocque and others, 1963a)

Altitude: 1,946 feet

	Soil, silty, dark-brown-----	1.7	1.7
	Clay, silty, calcareous to 4 ft., olive-brown, with salt pockets and limonitic mottling-----	8.3	10
	Clay, olive-brown, with lignite fragments, limonitic mottling, and very thin lenses of lignite sand at 12.5 ft.-----	3.5	13.5
	Sand, pebbly, poorly sorted, saturated, brown-----	2.5	16
	Clay, pebbly, friable, very compact, dark-grayish- brown-----	2	18

162-90-13ddd
(Log from LaRocque and others, 1963a)

Altitude: 1,944 feet

	Soil, silty and clayey, calcareous from 0.7 to 1.7 ft., brown to yellowish-brown-----	1.7	1.7
	Clay, silty, olive-brown, with salt pockets, limonitic mottling and lignite fragments; cal- careous from 2.5 ft.-----	8.3	10
	Clay, pebbly, olive-brown, with lignite fragments, limonitic mottling and gypsum crystals----- (Boulder at 15 ft.)	5	15

162-90-14aaa
(Log from LaRocque and others, 1963a)

Altitude: 1,940 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty and clayey, dark-gray-----	0.75	0.75
	Clay, olive-brown with limonitic mottling-----	1.25	2
	Sand, silty, calcareous, medium, yellowish-brown, with limonitic mottling-----	1	3
	Clay, silty, calcareous, pebbly, olive-brown, with limonitic mottling; boulder zone at 10 ft.-----	15	18

162-90-14add
(Log from LaRocque and others, 1963a)

Altitude: 1,949 feet

	Soil, silty and clayey, brown, with limonitic mottling-----	1.5	1.5
	Clay, sandy and silty, olive-brown, with limonitic mottling-----	1.4	2.9
	Sand, fine, silty, yellowish-brown-----	.6	3.5
	Clay, calcareous, salt pockets below 7 ft., olive- brown, with limonitic mottling-----	6.5	10

162-90-14bba
(Log from LaRocque and others, 1963a)

Altitude: 1,944 feet

	Soil, silty and clayey, grayish-brown-----	2.1	2.1
	Clay, grayish-brown, with salt pockets and limonitic mottling-----	3	5.1
	Sand, silty, fine, yellowish-brown, with limonitic mottling-----	1.1	6.2
	Clay, calcareous, olive-brown, with salt pockets, limonitic mottling, and lignite fragments-----	1.2	7.4
	Clay, sandy and silty, grayish-brown-----	.8	8.2
	Clay, reddish-brown, with limonitic mottling-----	1.8	10
	Clay, silty, olive-brown-----	7	17
	Clay, silty, unweathered, dark-gray-----	7	24

162-90-14bdd
(Log from LaRocque and others, 1963a)

Altitude: 1,961 feet

	Soil, silty and clayey, grayish-brown to brown-----	2.1	2.1
	Clay, silty, calcareous, light-grayish-brown, with limonitic mottling-----	2.2	4.3
	Clay, silty to sandy, olive-brown, with limonitic mottling and gypsum crystals-----	11.2	15.5
	Sand, fine, well-sorted, saturated, light-brown-----	1.5	17
	Clay, sandy, pebbly, olive-brown, with lignite fragments and gypsum crystals-----	.5	17.5

162-90-14dcc
(Log from LaRocque and others, 1963a)

Altitude: 1,953 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, dark-grayish-brown-----	1.1	1.1
	Silt, sandy, dark-grayish-brown-----	1	2.1
	Silt, clayey, friable, light-gray-----	1.3	3.4
	Clay, silty, calcareous, olive-brown, with limonitic mottling-----	1.6	5
	Clay, calcareous, olive-brown, with limonitic mottling-----	1.6	6.6
	Sand, medium, olive-brown, with limonitic mottling and lignite fragments-----	1.5	8.1
	Silt, sandy and clayey, calcareous, olive-brown, with limonitic mottling and lignite fragments-----	.9	9
	Sand, clayey, fine, saturated below 11.5 ft., olive-brown-----	3	12
	Clay, olive-brown-----	1	13

162-90-14dda
(Log from LaRocque and others, 1963a)

Altitude: 1,953 feet

	Soil, sandy and silty, brown-----	2.3	2.3
	Clay, silty, olive-brown, with limonitic mottling and lignite fragments-----	6.7	9
	Not sampled-----	1	10
	Clay, sandy and silty, olive-brown-----	1	11
	Sand, medium, saturated, brown-----	7	18

162-90-14ddc
(Log from LaRocque and others, 1963a)

Altitude: 1,948 feet

	Soil, silty, dark-brown-----	1.3	1.3
	Clay, silty, sandy, light-yellowish-brown with limonitic mottling and lignite fragments-----	4.9	6.2
	Sand, clayey, fine, poorly sorted, light-yellowish-brown, with limonitic mottling and lignite fragments-----	2.3	8.5
	Clay, silty, laminated, olive-brown, with limonitic mottling and lignite fragments-----	1.5	10
	Sand, clayey, poorly sorted, stratified, olive-brown-----	2	12
	Sand, medium, saturated, brown to light-gray-----	6	18
	Silt, sandy, unweathered, wet but not saturated, gray-----	6	24

162-90-14ddd
(Log from LaRocque and others, 1963a)

Altitude: 1,952 feet

	Soil, silty and clayey, brown-----	2	2
	Clay, silty, calcareous, olive-brown, with salt pockets and limonitic mottling-----	3.2	5.2
	Clay, pebbly, brown, with lignite fragments and boulders-----	11.8	17
	Sand, fine, well-sorted, saturated at 24 ft., black--	7	24

162-90-15aab
(Log from LaRocque and others, 1963a)

Altitude: 1,952 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, brown-----	1.8	1.8
	Clay, silty, calcareous, olive-brown, with limonitic mottling and salt pockets-----	19.9	21.7

162-90-15abb
(Log from LaRocque and others, 1963a)

Altitude: 1,945 feet

	Soil, silty and clayey, dark-brown to yellowish-brown	3	3
	Clay, silty, calcareous, grayish-brown-----	.5	3.5
	Clay, sandy and silty, olive-brown, with salt pockets	1	4.5
	Clay, very sandy and silty, stratified, yellowish-brown with limonitic mottling-----	1.2	5.7
	Sand, silty, saturated, yellowish-brown-----	1.8	7.5
	Clay, silty, olive-brown-----	2.5	10
	Clay, sandy, olive-brown-----	2	12

162-90-15ada
(Log from LaRocque and others, 1963a)

Altitude: 1,948 feet

	Soil, silty, dark-grayish-brown-----	1.7	1.7
	Clay, silty and sandy, olive-brown, with salt pockets and limonitic mottling-----	17.3	19

162-90-15beb
(Log from LaRocque and others, 1963a)

Altitude: 1,945 feet

	Soil, silty and clayey, gray to brown-----	1.3	1.3
	Clay, silty, friable, grayish-brown, with limonitic mottling and salt pockets-----	1.2	2.5
	Clay, silty, olive-brown, with limonitic mottling, salt pockets and lignite fragments----- (Stopped by gravel at 7 ft.)	4.5	7

162-90-15bdd
(Log from LaRocque and others, 1963a)

Altitude: 1,957 feet

	Soil, clayey and silty, dark-grayish-brown-----	1.1	1.1
	Clay, pebbly, olive-brown, with salt pockets, limonitic mottling, and lignite fragments-----	14.4	15.5

162-90-15cbb
(Log from LaRocque and others, 1963a)

Altitude: 1,948 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, dark-grayish-brown-----	1.1	1.1
	Clay, silty, olive-brown, with salt pockets and limonitic mottling-----	3.9	5
	Sand, silty, medium, yellowish-brown-----	1.5	6.5
	Clay, pebbly, silty, olive-brown, with salt pockets and limonitic mottling-----	1	7.5
	Sand, fine, interbedded with clay, olive-brown-----	4.5	12

162-90-15cbc
(Log from LaRocque and others, 1963a)

Altitude: 1,953 feet

	Soil, silty, dark-brown-----	1.9	1.9
	Clay, silty and sandy, olive-brown-----	3.1	5
	Sand, clayey, fine, olive-brown, with limonitic mottling-----	1.1	6.1
	Clay, silty, olive-brown, with limonitic mottling----	11.9	18
	Sand, medium, well-sorted, saturated, olive-brown----	.2	18.2
	Clay, silty, olive-brown, with limonitic mottling----	.8	19
	Sand, medium, well-sorted, saturated, olive-brown----	3	22
	Clay, sandy, very compact, olive-brown-----	1	23
	Clay, sandy, very compact, unweathered, gray-----	1	24

162-90-15cdc
(Log from LaRocque and others, 1963a)

Altitude: 1,963 feet

	Soil, silty, dark-brown-----	1.1	1.1
	Clay, silty and sandy, olive-brown, with lignite fragments, salt pockets, and limonite mottling----	18.9	20
	Sand, clayey, stratified, olive-brown-----	4	24

162-90-15daa
(Log from LaRocque and others, 1963a)

Altitude: 1,957 feet

	Soil, silty and clayey, brown-----	1	1
	Clay, silty, pebbly, olive-brown, with salt pockets, limonitic mottling and lignite fragments; becomes more compact with a depth to a maximum at 14 ft.--	14	15
	Gravel, poorly sorted, material ranging from sand to boulders, saturated, dark-olive-brown-----	3	18
	Clay, sandy and pebbly, dark-olive-brown, with lignite fragments and limonitic mottling-----	6	24

162-90-15dad
(Log from LaRocque and others, 1963a)

Altitude: 1,965 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, dark-brown-----	2.1	2.1
	Clay, silty, olive-brown, with salt pockets and limonitic mottling-----	11.9	14
	Sand, medium, olive-brown-----	7	21
	Clay, very compact, unweathered, dark-gray-----	1	22

162-90-15ded
(Log from LaRocque and others, 1963a)

Altitude: 1,966 feet

	Soil, silty, dark-brown-----	0.6	0.6
	Clay, silty and sandy, olive-brown, with limonitic mottling and lignite fragments and salt pockets---	17.4	18
	Not sampled-----	6	24

162-90-16cc
(Log from LaRocque and others, 1963a)

Altitude: 1,958 feet

Glacial drift:			
	Soil-----	2	2
	Clay, sandy, yellow-----	7	9
	Gravel, sandy, fine-----	2	11
	Clay, sandy, yellow, with some gravel and fine sand--	16	27
	Clay, sandy, gray, with some gravel and lignite fragments-----	50	77
	Gravel and strips of limestone in gray sandy clay---	7	84
	Clay, sandy, gray, with some gravel-----	8	92
	Gravel-----	2	94
	Clay, sandy, gray, with some gravel and lignite fragments-----	61	155
	Gravel, with lignite fragments-----	6	161
	Clay, sandy, yellow, with lignite fragments-----	9	170
Fort Union Group:			
	Sand, gray-----	25	195

162-90-16ddd
(Log from LaRocque and others, 1963a)

Altitude: 1,952 feet

	Soil, silty, grayish-brown-----	1.3	1.3
	Clay, silty, olive-brown-----	.7	2
	Clay, very silty, pebbly, stratified, calcareous, olive-brown, with limonitic mottling and salt pockets; very thin lenses of sand at 6 and 8 ft.---	8	10

162-90-22aaa
(Log from LaRocque and others, 1963a)

Altitude: 1,954 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, black-----	0.9	0.9
	Clay, very sandy, saturated, olive-brown-----	1.8	2.7
	Clay, silty, olive-brown-----	6.6	9.3
	Clay, silty, olive-brown, with lignite fragments----	1.5	10.8
	Sand, medium, well-sorted, saturated, light-brown----	1.7	12.5

162-90-22baa
(Log from LaRocque and others, 1963a)

Altitude: 1,958 feet

	Soil, silty and clayey, dark-brown-----	1.5	1.5
	Clay, calcareous, friable, brown-----	4.5	6
	Sand, medium to fine, wet but not saturated, brown---	5	11
	Clay, brown, with limonitic mottling-----	3	14
	Sand, pebbly, coarse-grained, poorly sorted, saturated, brown-----	10	24

162-90-23bba
(Log from LaRocque and others, 1963a)

Altitude: 1,966 feet

	Soil, silty, dark-grayish-brown-----	2	2
	Clay, very silty, calcareous, light-gray to brown, with limonitic mottling; laminated phase from 5.6 to 7.9 ft.-----	6.4	8.4
	Sand, clayey, calcareous, yellowish-brown-----	1.6	10
	Clay, silty, olive-brown, with salt pockets and limonitic mottling-----	10	20
	(Stopped by boulder at 20 ft.)		

162-90-24aab
(Log from LaRocque and others, 1963a)

Altitude: 1,950 feet

	Soil, silty, dark-brown-----	1.9	1.9
	Clay, silty, gray-brown to brown, with limonitic mottling, salt pockets and lignite fragments; laminated from 3.1 to 5 ft.-----	5.6	7.5
	Sand, light-yellow-brown, with limonitic mottling---	.6	8.1
	Clay, sandy and silty, light-olive-brown, with limonitic mottling and lignite fragments-----	1.9	10
	Clay, silty, olive-brown, with limonitic mottling----	3	13
	Clay, olive-brown, with limonitic mottling-----	5	18
	Gravel, clayey, poorly sorted, saturated, olive-brown	4	22

162-90-24baa
(Log from LaRocque and others, 1963a)

Altitude: 1,948 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty and clayey, dark-brown-----	1.6	1.6
	Clay, silty, light-brown-----	.9	2.5
	Clay, calcareous, grayish-brown, with limonitic mottling and lignite fragments-----	7.5	10
	Clay, pebbly, olive-brown, with lignite fragments and limonitic mottling-----	8	18
	Sand, coarse, pebbly, clayey, saturated, light-brown--	2	20
	Clay, very compact, friable, unweathered, dark-gray--	4	24

162-90-24bab
(Log from LaRocque and others, 1963a)

Altitude: 1,944 feet

	Soil, sandy and clayey, brown-----	1.5	1.5
	Clay, olive-brown-----	1	2.5
	Clay, sandy, calcareous, olive-brown-----	1	3.5
	Sand, calcareous, varved, olive-brown, with lignite fragments and limonitic mottling-----	1.7	5.2
	Clay, silty, olive-brown, with lignite fragments and limonitic mottling-----	2	7.2
	Not sampled-----	2.8	10
	Clay, sandy, calcareous, very compact, olive-brown--	3	13
	Clay, very compact, unweathered, dark-gray-----	11	24

162-90-34addl
(Log from Jensen, 1962)

Glacial drift:	Topsoil, dark-brown-----	1	1
	Clay, gravelly, yellowish-gray (till)-----	10	11
Fort Union Group:	Clay, light-gray-----	1	12
	Lignite-----	6	18
	Clay, light-gray-----	2	20

162-91-6ccc

Altitude: 1,973 feet

Glacial drift:	Till, dusky-yellow to yellowish-gray-----	16	16
	Silt, very sandy, yellowish-green; contains a few pebbles-----	16	32
Fort Union Group:	Shale, variegated and thin lignite beds-----	48	80

162-91-20cdd

Altitude: 1,939 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Loam, clayey, black-----	2	2
	Silt, clayey and interbedded sand, light-olive-gray to brownish-gray-----	10	12
	Sand, fine, clayey, green, interbedded with medium-gray clay-----	18	30
	Till, olive-gray-----	99	129
	Till, very gravelly, olive-gray-----	8	137
Fort Union Group:			
	Shale, black-----	3	140
	Lignite, black-----	3	143
	Shale, medium-gray-----	4	147
	Silt, light-gray-----	6	153
	Shale, silty, medium-gray-----	7	160
	Shale, medium-gray-----	3	163
	Shale, silty, light-gray-----	5	168
	Shale, medium-gray-----	5	173
	Sand, fine, dark-greenish-gray, lignitic, micaceous-----	5	178
	Sandstone, light-greenish-gray, calcareous-----	2	180

162-91-24aaa

Altitude: 1,940 feet

Glacial drift:			
	Till, dusky-yellow, oxidized-----	9	9
	Sand, medium to very coarse, gravelly, iron stained--	5	14
	Gravel, fine and medium, moderately well-sorted, subrounded-----	20	34
	Till, olive-gray; contains many sand and gravel lenses-----	24	58
	Till, olive-gray-----	64	122
	Sand, coarse, moderately well-sorted, subrounded----	9	131
	Till, olive-gray-----	42	173
	Sand, very fine, clayey, interbedded with olive-gray to brownish-black, laminated silt-----	26	199
	Clay, silty, light-olive-gray to olive-gray-----	9	208
	Silt, clayey, light-olive-gray-----	7	215
	Clay, sandy, olive-gray-----	10	225
	Sand, very fine, clayey-----	8	233
	Till, olive-gray-----	14	247
Fort Union Group:			
	Shale, silty, light-gray-----	7	254
	Lignite, black, fissile-----	2	256
	Clay-----	1	257
	Lignite, black, fissile-----	2	259
	Siltstone, light-gray, micaceous-----	7	266
	Shale, silty, medium-gray-----	2	268
	Sand, fine, well-sorted, subangular, micaceous-----	12	280

162-92-1bcc

Altitude: 1,960 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty, blackish-brown-----	1	1
	Clay, silty and sandy, yellowish-brown; calcareous, oxidized-----	17	18
	Sand, coarse to very coarse, gravelly and silty, poorly sorted, angular to subangular-----	3	21
	Gravel, medium to coarse, silty and sandy, poorly sorted, angular-----	6	27
	Till, olive-gray-----	73	100
	Till, medium-dark-gray-----	100	200
	Till, gravelly, medium-dark-gray-----	6	206
	Till, medium-dark-gray to dark-gray-----	14	220
	Till, gravelly, medium-dark-gray-----	8	228
	Gravel, medium to coarse, silty, moderately well-sorted, subangular to subrounded, lignitic-----	15	243
Fort Union Group:			
	Clay, sandy, light-gray; calcareous-----	11	254
	Shale, brownish-gray to brownish-black-----	6	260

162-92-2cbb

Altitude: 1,968 feet

Glacial drift:			
	Silt, sandy, yellowish-gray, oxidized-----	6	6
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	6	12
	Gravel, fine and medium, sandy, moderately well-sorted, subangular and subrounded-----	17	29
	Sand, fine and medium, lignitic; contains some silt, clay, and very fine sand lenses-----	76	105
	Till, dark-olive-gray-----	24	129
	Gravel, fine to medium, dark-brown, moderately well-sorted, subangular and subrounded, iron stained---	8	137
Fort Union Group:			
	Shale, silty and sandy; variegated greens and grays---	23	160

162-92-2cdd1

Altitude: 1,967 feet

Glacial drift:			
	Soil, silty, black-----	1	1
	Till, yellowish-brown, oxidized-----	26	27
	Sand, medium to coarse, gravelly, moderately well-sorted in lenses-----	19	46
	Clay, sandy and silty, brownish-gray to brownish-black, calcareous, oxidized-----	9	55
Fort Union Group:			
	Siltstone, dusky-yellow, calcareous-----	9	64
	Shale, light-gray to medium-light-gray-----	16	80

162-92-4ddd

Altitude: 1,950 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty and sandy, dusky-yellow-brown, oxidized--	1	1
	Clay, sandy and silty, moderate-brown, calcareous----	22	23
	Sand, medium to coarse, clayey, yellowish-brown, poorly sorted, angular to subangular-----	17	40
	Till, medium-dark-gray-----	27	67
Fort Union Group:			
	Lignite, black-----	4	71
	Sandstone, greenish-gray; contains numerous yellowish- gray streaks-----	9	80

162-92-30ac
(Log from E. H. Prather)

Brown sand-----	10	10
Gray shale, trace of coal-----	41	51
Hard pan-----	1	52
Gray shale-----	50	102
Coal, water-----	6	108

162-93-6ddl
(Log from LaRocque and others, 1963a)

Altitude: 1,937 feet

Glacial drift:			
	Soil, sandy, brown-----	3	3
	Clay, sandy, brown, with angular limestone pebbles---	24	27
Fort Union Group:			
	Clay, gray, with some strips of lignite-----	33	60
	Clay, sandy, gray-----	30	90
	Sand, gray-----	10	100

162-93-11aa
(Log from LaRocque and others, 1963a)

Altitude: 1,935 feet

Glacial drift:			
	Soil-----	3	3
	Clay, sandy, yellow-----	11	14
	Clay, gray-----	2	16
	Gravel-----	8	24
Fort Union Group:			
	Clay, sandy, gray-----	5	29
	Lignite-----	2	31
	Clay, gray-----	4	35
	Sand, fine, gray-----	14	49
	Lignite-----	2	51
	Sand, fine, gray-----	8	59
	Lignite-----	1	60
	Sand, fine, gray-----	10	70
	Clay, brown-----	11	81
	Lignite-----	1	82
	Sand, fine, gray-----	12	94
	Lignite, hard-----	1	95

162-93-19baa
(Log from Montana-Dakota Utilities Co.)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness</u> (feet)	<u>Depth</u> (feet)
	Topsoil-----	18	18
	Clay, sand and gravel mixed-----	2	20
	Blue like clay, some sand-----	4.5	24.5
	Side rock-----	.5	25
	Bluish clay-----	5	30
	Side rock-----	.5	30.5
	Blue clay and sand with hard streaks-----	3.5	34
	Coal, some water-----	.5	34.5
	Gray clay and sand, hard streaks-----	24.5	59
	Hard rock, water-----	1	60
	Gray sandy clay-----	10.5	70.5
	Coal, some water-----	1	71.5
	Green clay-----	3.5	75
	Brown-blue clay, hard-----	11	86
	Coal-----	1	87
	Bluish clay-----	3	90
	Coal-----	.5	90.5
	Bluish-gray clay-----	15.5	106
	Bluish clay and sand, some water-----	12.5	118.5
	Coal, water-----	4	122.5
	Brown clay-----	1.5	124
	Coal-----	1	125
	Brown and blue clay in layers, very tough-----	10	135
	Sandstone and clay, no water-----	9	144
	Hard brown rock-----	.5	144.5
	Tough brown clay-----	7	151.5
	Coal, slight trace of water-----	4.5	156
	Tough brown clay-----	2	158
	Light-gray clay and sand-----	2	160
	Dark-blue clay-----	4.5	164.5
	Coal, no water-----	1.5	166
	Blue-brown clay-----	6	172
	Coal-----	.16	172.16
	Very hard sandstone-----	.50	172.66
	Hard blue clay-----	4.34	177
	Light sandstone-----	2	179
	Gray sandstone with trace of clay-----	9	188
	Hard rock-----	.5	188.5
	Soft sandstone-----	3	191.5
	Sandstone-----	4.5	196
	Sandstone, salt and pepper-----	14	210
	Sand and clay-----	1	211
	Sandstone, salt and pepper-----	3	214
	Sandstone, brown-blue-----	4	218
	Soft sandstone-----	8	226
	Sandstone, blue, salt and pepper-----	4	230
	Dark-blue clay-----	5	235
	Dark-blue shale-----	12.5	247.5
	Blue clay-----	5.5	253
	Coal-----	.5	253.5
	Blue-brown clay, hard-----	2.5	256
	Coal, trace of water-----	1.5	257.5
	Blue-brown clay, hard-----	3.5	261
	Coal, trace of water-----	2.25	263.25
	Brown clay-----	12.75	276
	Sandy blue clay-----	1	277
	Fine sandstone-----	3	280
	Hard dark clay-----	1.5	281.5
	Dark-blue shale-----	5.5	287
	Fine texture sandstone, no water-----	6	293
	Dark-blue shale-----	11	304
	Hard blue clay-----	6	310
	Light-blue clay-----	2	312
	Sandy clay, brown-----	4	316
	Hard gray slate rock-----	1.75	317.75
	Chalk stone-----	22.25	340
	Clay and chalk stone-----	3	343

162-93-19baa, Continued

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Chalk stone-----	6	349
	Sandy blue clay-----	1	350
	Coal, slight trace of water-----	1	351
	Sandy blue clay-----	2	353
	Blue clay-----	4	357
	Sandy clay-----	8	365
	Blue clay-----	2	367
	Sandy clay-----	3	370
	Sandstone, water-----	7	377
	Sandy clay-----	3	380
	Coal, water-----	2.25	382.25
	Clay-----	.75	383
	Sandy clay-----	3	386
	Hard sandy clay-----	2	388
	Brown sandstone, hard spots, water-----	28	416
	Brown-blue sandstone, coarser, water-----	4	420
	Blue sandstone, coarse, water-----	13	433
	Brown clay and sand-----	3	436
	Brown clay-----	4	440
	Coal, some water-----	1.5	441.5
	Clay-----	3.5	445

162-93-19bab
(Log from Montana-Dakota Utilities Co.)

	Gumbo-----	10	10
	Gravel and sand-----	24	34
	Hard rock-----	2	36
	Clay-----	21	57
	Coal-----	3	60
	Rock-----	1	61
	Clay-----	20	81
	Coal-----	4	85
	Sandy clay-----	40	125
	Coal-----	2.5	127.5
	Light colored clay-----	37.5	165
	Sand-----	30	195
	Rock-----	3.5	198.5
	Sand-----	43.5	242
	Coal-----	8	250
	Clay-----	78	328
	Coal-----	1	329
	Sandy clay-----	30	359
	Coal-----	2	361
	Clay-----	8	369
	Coal-----	3	372
	Clay-----	11	383
	Fine sand-----	12	395
	Coarse sand-----	27	422
	Hard sand-----	19	441
	Clay and sand-----	26	467
	Coal-----	3	470
	Clay-----	17	487

162-93-19bbb
(Log from Montana-Dakota Utilities Co.)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Clay-----	10	10
	Missing-----	30	40
	Clay-----	9	49
	Rock-----	1	50
	Coal-----	3	53
	Clay-----	12	65
	Coal-----	7	72
	Rock-----	2	74
	Hard clay-----	9	83
	Rock-----	2	85
	Coal-----	2	87
	Clay-----	17	104
	Sand-----	11	115
	Clay-----	8	123
	Coal-----	5	128
	Clay-----	10	138
	Sand-----	7	145
	Clay-----	51	196
	Sand-----	39	235
	Rock-----	2	237
	Clay-----	53	290
	Sandy streaks-----	50	340
	Rock-----	3	343
	Sand-----	17	360
	Clay-----	18	378
	Sand-----	15	393
	Coal-----	5	398
	Clay-----	76	474
	Sand-----	5	479
	Clay-----	17	496
	Sand-----	11	507
	Clay-----	23	530

162-94-3bb
(Log from LaRocque and others, 1963a)

Altitude: 1,923 feet

Glacial drift:			
	Soil-----	3	3
	Clay, sandy, brown, with some gravel-----	19	22
	Clay, sandy, gray, with some gravel and strips of limestone-----	11	33
	Boulder-----	1	34
	Clay, sandy, gray, with some gravel-----	5	39
Fort Union Group:			
	Sand, gray, compact-----	2	41
	Lignite-----	4	45
	Clay, gray-----	3	48
	Sand, gray, compact-----	37	85
	Sandstone, gray-----	1	86
	Sand, gray, compact-----	10	96
	Shale, gray-----	4	100

162-94-29aaa

Altitude: 2,210 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Silt, sandy with pebbles, yellowish-gray-----	4	4
	Till, moderate-olive-brown, oxidized-----	48	52
	Gravel, fine and medium, sandy, moderately well-sorted, iron stained-----	4	56
	Till, moderate-olive-brown to light-olive-gray, oxidized-----	14	70
	Gravel, fine, sandy, moderately well-sorted, sub-rounded-----	3	73
	Sand, medium, silty-----	5	78
	Till, olive-gray-----	36	114
	Gravel, fine to coarse, moderately well-sorted, sub-angular to subrounded-----	8	122
	Till, olive-gray-----	6	128
Fort Union Group:			
	Sand, fine, light-greenish-gray, chalky-----	16	144
	Sand, fine, clayey, greenish-gray-----	7	151
	Sandstone, greenish-gray-----	2	153
	Shale, silty, medium-gray-----	7	160

163-88-11ccc

Altitude: 1,868 feet

Glacial drift:			
	Till, silty, dusky-yellow to moderate-olive-brown---	28	28
	Till, olive-gray; contains a few sand and gravel stringers-----	12	40
	Till, olive-gray-----	54	94
Fort Union Group:			
	Clay and silt, dark-brown to brownish-black, carbonaceous-----	16	110
	Shale, medium-gray to light-greenish-gray-----	10	120

163-89-10bbb

Altitude: 1,870 feet

Glacial drift:			
	Sand, medium to coarse, reddish-brown, well-sorted, subangular-----	6	6
	Till, moderate-olive-brown, oxidized-----	9	15
	Till, olive-gray-----	60	75
Fort Union Group:			
	Silt, clayey, very-light-gray, calcareous-----	3	78
	Shale, silty, medium-gray-----	5	83
	Silt, light-gray to white, highly calcareous-----	12	95
	Sand, fine, dark-greenish-gray, lignitic, micaceous--	5	100

163-89-10ddd

Altitude: 1,882 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, fine to medium, brown, well-sorted-----	3	3
	Silt, clayey to sandy, dusky-yellow, oxidized-----	12	15
	Clay, silty to sandy, moderate-olive-brown, oxidized-	9	24
	Till, moderate-olive-brown to olive-gray, partially		
	oxidized-----	33	57
	Sand, fine, slightly clayey, dark-greenish-gray,		
	micaceous-----	18	75
	Till, olive-gray-----	26	101
Fort Union Group:			
	Shale, silty and sandy, very-light-gray, micaceous,		
	highly calcareous-----	39	140

163-89-17da

(Log from LaRocque and others, 1963a)

Altitude: 1,876 feet

Glacial drift:			
	Sand, brown, and boulders-----	10	10
	Clay, sandy, brown-----	16	26
	Sandstone-----	1	27
	Clay, sandy, brown, with strips of limestone-----	3	30
	Clay, sandy, gray-----	17	47
	Clay, sandy, brown-----	1	48
	Clay, sandy, gray, with lignite fragments-----	60	108
	Clay, sandy gray, with some gravel and lignite frag-		
	ments-----	51	159
	Sand, fine, and gravel with boulders and lignite		
	fragments-----	30	189
	Boulder-----	2	191
	Sand, fine, and gravel with boulders and lignite		
	fragments-----	9	200
	Boulders, with gravel and fine sand-----	3	203
	Gravel, with lignite fragments-----	8	211
	Gravel, fine sand with boulders, strips of clay and		
	lignite fragments-----	71	282
Fort Union Group:			
	Sand, fine, gray-----	18	300

163-89-21bbb

(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, sandy, light-brown and gray-----	2	3
	Clay, sandy, pebbly, tan (till)-----	17	20
	Sand, coarse, clayey-----	6	26
	Clay, sandy, bouldery, tan (till)-----	16	42
	Clay, gray with sand, gravel and numerous boulders		
	(till)-----	175	217
	Clay, yellow and white; sand, gravel, and numerous		
	boulders (till)-----	18	235
	Gravel and boulders. Hole abandoned-----	5	240

163-89-26add

Altitude: 1,900 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Sand, fine to medium, reddish-brown, well-sorted, subrounded-----	5	5
	Silt, clayey, dusky-yellow; contains thin lenses of sand and gravel, and locally contains pebbles (till)-----	14	19
	Clay, silty, light-olive-gray-----	4	23
	Till, olive-gray-----	20	43
	Sand, coarse, brown, well-sorted, subangular to sub-rounded-----	15	58
	Till, olive-gray-----	27	85
	Gravel, coarse; contains cobbles and small boulders, principally granitic rocks-----	6	91
Fort Union Group:			
	Silt, clayey, white to very-light-gray, highly calcareous-----	11	102
	Sand, very fine, silty, light-olive-gray to light-greenish-gray-----	18	120

163-89-29add
(Log from Jensen, 1962)

Glacial drift:			
	Topsoil, sandy, black-----	1	1
	Clay, sandy, light-tan (till)-----	18	19
	Clay, sandy, tan (till)-----	11	30
	Sand, fine, medium, and coarse-----	5	35
	Sand, fine to very coarse, clayey-----	5	40
	Sand, fine and medium-----	10	50
	Gravel, fine and considerable clay-----	5	55
	Clay, very gravelly, dark-gray (till)-----	15	70
	Clay, gray; numerous limestone, dolomite, and other rock fragments scattered throughout sample (till)-----	77	147
Fort Union Group:			
	Clay, light-gray to white-----	8	155
	Clay, light-brown-----	5	160
	Clay, dark-gray-----	2	162
	Clay, very light-greenish-gray, becoming nearly white in places-----	7.5	169.5
	Clay, sandy, dark-gray to black-----	.5	170

163-89-31cc
(Log from LaRocque and others, 1963a)

Altitude: 1,933 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Ssil, silty and clayey, calcareous, brown-----	3	3
	Clay, silty, calcareous to 4 ft., olive-brown, with lignite fragments and limonitic mottling-----	7	10
	Clay, pebbly, olive-brown, with salt pockets, gypsum crystals, lignite fragments, and limonitic mottling-----	9	19
	Sand, very silty, light-brown-----	1	20
	Gravel, sandy, poorly sorted, saturated, olive-brown-----	1	21

163-89-36ddd

Altitude: 1,895 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:	Sand, fine to medium, reddish-brown, well-sorted, subrounded-----	10	10
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	19	29
	Till, moderate-olive-brown to olive-gray, partially oxidized-----	12	41
	Sand, medium to coarse, light-brownish-gray, moderately well-sorted-----	7	48
	Till, olive-gray-----	18	66
	Sand, coarse, gravelly, moderately well-sorted, sub-angular and subrounded-----	12	78
	Till, silty, olive-gray-----	193	271
	Rocks or very coarse gravel (drilling action and E-log)-----	5	276
	Till, olive-gray-----	37	313
	Sand, drill action and E-log (no samples)-----	4	317
	Till, olive-gray-----	25	342
	Gravel; drill action and E-log (no samples)-----	7	349
	Till, olive-gray-----	25	374
	Clay, olive-black-----	8	382
	Silt and clay, olive-gray, interbedded-----	16	398
	Silt, clayey, olive-gray; sand, very fine to fine, light-olive-gray-----	24	422
Fort Union Group:	Sand, dark-greenish-gray (very poor samples and E-log)-----	30	452
	Shale, drill action and E-log (no samples)-----	8	460
	Lignite, black-----	5	465
	Shale (poor samples)-----	15	480

163-90-15cc
(Log from LaRocque and others, 1963a)

Altitude: 1,926 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil-----	1	1
	Clay, sandy, yellow, with some gravel-----	18	19
	Clay, sandy, gray, with some gravel-----	28	47
	Gravel-----	2	49
	Clay, sandy, gray-----	1	50
	Gravel-----	9	59
	Clay, sandy, gray, with some gravel-----	31	90
	Clay, sandy, gray, with some gravel and boulders-----	20	110
	Clay, gray, with some gravel, boulders, and lignite fragments-----	62	172
	Boulders, with gravel and lignite fragments-----	50	222
Fort Union Group:			
	Lignite, hard-----	8	230

163-90-30dad

Altitude: 1,946 feet

Glacial drift:			
	Till, yellowish-gray, oxidized; contains stringer of coarse sand-----	16	16
	Till, moderate-olive-brown, oxidized-----	11	27
	Till, olive-gray-----	69	96
	Gravel, fine, sandy, moderately well-sorted, generally subrounded-----	6	102
	Clay, silty and sandy, olive-gray; contains pebbles (till?)-----	7	109
	Gravel, fine, sandy, lignitic-----	3	112
	Clay, silty and sandy, olive-gray-----	3	115
	Sand, medium, gray, lignitic-----	3	118
	Clay, silty and sandy, olive-gray-----	6	124
	Gravel and cobbles, subrounded-----	6	130
	Till, olive-gray-----	22	152
	Sand, fine, slightly clayey, gray-----	5	157
	Till, olive-gray-----	40	197
Fort Union Group:			
	Sand, very fine to fine, light-green; silt, light-gray and light-olive-gray, calcareous; shale, gray; lignite (2 thin beds)-----	43	240

163-90-31ccc
(Log from LaRocque and others, 1963a)

Altitude: 1,934 feet

Glacial drift:			
	Soil-----	3	3
	Clay, sandy, brown, with some gravel-----	22	25
	Clay, yellow, very sandy-----	11	36
	Clay, sandy, gray, with some gravel-----	4	40
	Gravel, fine-----	8	48
	Clay, sandy, gray, with some gravel and lignite fragments-----	147	195
	Gravel-----	6	201
Fort Union Group:			
	Clay, gray-----	17	218
	Lignite-----	2	220
	Clay, sandy, with strips of lignite-----	35	255

163-90-32cbc
(Log from C. A. Simpson & Son)

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Topsoil-----	1	1
	Yellow clay-----	37	38
	Gray clay-----	81	119
	Sand and gravel-----	12	131
	Gravelly blue clay-----	4	135
	Gravel with clay-----	3	138
	Gravel-----	4	142
	Missing-----	137	279
	Coarse gravel and fine sand-----	4	283
	Sand-----	5	288
	Coarse sand and gravel-----	3	291
	Sand and clay-----	3	294
	Coal and gravel-----	1	295
	Coal-----	9	304
	Missing-----	321	625
	Blue clay-----	10	635
	Clayey sand-----	29	664
	Dark-gray shale-----	11	675
	Clayey sand-----	40	715

163-90-34ddd
(Log from LaRocque and others, 1963a)

Altitude: 1,946 feet

	Soil, silty, grayish-brown-----	2	2
	Clay, calcareous, grayish-brown to olive-brown, with lignite fragments and limonitic mottling-----	8	10
	Clay, pebbly, very compact, olive-brown, with limonitic mottling and lignite fragments-----	5	15
	Boulder, dolomite-----	2.5	17.5
	Sand, clayey, medium, saturated, olive-brown-----	4	21.5

163-90-36cb
(Log from LaRocque and others, 1963a)

Altitude: 1,913 feet

Glacial drift:			
	Soil-----	3	3
	Clay, yellow-----	6	9
	Clay, brown, with some gravel-----	19	28
	Clay, gray-----	8	36
	Clay, sandy, gray, with some gravel and lignite fragments-----	114	150
	Boulder, limestone-----	1	151
	Clay, sandy, gray, with some gravel and lignite fragments-----	18	169
	Gravel, with strips of gray sandy clay-----	3	172
	Clay, gray, sandy, with lignite fragments-----	8	180
	Gravel and boulders-----	21	201
	Clay, sandy, gray, with some gravel-----	5	206
Fort Union Group:			
	Lignite, hard-----	14	220
	Sand, gray-----	15	235

163-90-36ccc
(Log from LaRocque and others, 1963a)

Altitude: 1,938 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Soil, silty, dark-brown to olive-brown-----	1.5	1.5
	Clay, silty, calcareous, olive-brown, with salt pockets, limonitic mottling and lignite fragments-	6.5	8
	Clay, olive-brown, with limonitic mottling and salt pockets-----	3	11
	Clay, very friable, pebbly, brown-----	1	12
	Sand, pebbly, poorly sorted, olive-brown-----	1	13
	Sand, clayey and silty, poorly sorted, more clayey with depth, light-brown-----	2	15
	Clay, sandy and pebbly, olive-brown-----	4	19
	Clay, pebbly, olive-brown, with lignite fragments----	2	21
	Sand, fine, well-sorted, saturated, olive-brown-----	2	23
	Clay, dark-brown-----	1	24

163-91-4bbb

Altitude: 1,940 feet

Glacial drift:			
	Loam, clayey to sandy, black-----	1	1
	Till, yellowish-gray-----	3	4
	Till, moderate-olive-brown-----	19	23
	Clay, silty, black, oily-----	3	26
	Sand, slightly clayey, moderate-olive-brown-----	7	33
	Till, olive-gray-----	28	61
	Till, gravelly, olive-gray-----	30	91
	Till, olive-gray-----	73	164
	Till, gravelly, olive-gray-----	21	185
	Gravel, fine and medium, well-sorted, subangular and subrounded-----	5	190
	Clay, silty and sandy, olive-gray-----	6	196
	Gravel, fine and medium-----	4	200
	Till, olive-gray-----	47	247
	Sand, very fine to fine, clayey, light-olive-gray to olive-gray-----	23	270
	Silt, clayey, olive-gray-----	6	276
	Till, olive-gray to dark-olive-gray-----	81	357
	Sand, medium to very coarse, gravelly, moderately well-sorted in lenses, generally subrounded-----	16	373
	Clay, sandy; contains some thin sand and gravel lenses-----	36	409
	Sand, medium to very coarse and clay, light-olive- gray to tan-----	7	416
	Clay, sandy, olive-gray to dark-greenish-gray, cal- careous-----	4	420
	Till, olive-gray-----	11	431
	Cobbles and boulders-----	5	436
Fort Union Group:			
	Sand, very fine and fine, dark-greenish-gray, lignite	13	449
	Shale, light-olive-gray-----	8	457
	Sand, very fine and fine, dark-greenish-gray-----	3	460

163-91-4ddd

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Clay-----	20	20
	Boulders and coarse sand-----	7	27
	Blue clay-----	1	28
	Fine sand-----	10	38

163-91-21aa

(Log from LaRocque and others, 1963a)

Altitude: 1,939 feet

Glacial drift:			
	Soil-----	1	1
	Clay, sandy, yellow, with gravel-----	30	31
	Clay, sandy, gray, with gravel-----	38	69
	Gravel and boulders-----	2	71
	Clay, sandy, gray, with narrow strips of gravel-----	5	76
	Clay, sandy, gray, with gravel-----	4	80
	Gravel and boulders-----	5	85
	Clay, sandy, gray, with gravel and boulders-----	10	95
	Gravel-----	1	96
	Clay, sandy, gray-----	1	97
	Gravel-----	1	98
	Clay, sandy, gray, with boulders-----	8	106
	Limestone, fine grained, hard, gray-----	1	107
	Clay, sandy, gray, with gravel and boulders-----	41	148
Fort Union Group:			
	Sand, compact, gray, with strips of lignite-----	22	170

163-92-8ddd

Altitude: 1,930 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	8	8
	Till, moderate-olive-brown, oxidized-----	59	67
	Till, olive-gray-----	7	74
	Gravel, fine to medium, sandy, unsorted, subangular to subrounded-----	5	79
	Till, olive-gray-----	23	102
Fort Union Group:			
	Silt, light-gray, light-olive-gray, and light-greenish-gray, locally carbonaceous; contains some interbedded very fine sand-----	34	136
	Lignite, black-----	3	139
	Shale, silty, light-gray-----	9	148
	Sand, very fine, light-olive-gray and light-greenish-gray-----	12	160

163-92-14bbb

Altitude: 1,938 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray, oxidized-----	8	8
	Till, moderate-olive-brown, oxidized-----	50	58
	Till, olive-gray-----	40	98
	Clay, silty, olive-gray-----	8	106
	Clay, very silty, olive-gray, contains sand grains and pebbles (till?)-----	60	166
	Clay, very silty, olive-gray; contains numerous sand and fine gravel lenses (lacustrine?)-----	71	237
	Till, olive-gray-----	42	279
	Clay, olive-gray to olive-black-----	11	290
	Till, olive-gray, contains many lignite chips-----	46	336
	Gravel, medium and fine, sandy, moderately well-sorted, subangular and subrounded-----	8	344
	Till, olive-gray-----	25	369
Fort Union Group:			
	Sandstone, fine grained, dark-greenish-gray-----	3	372
	Sand, very fine to fine, slightly clayey, greenish-gray to dark-greenish-gray-----	28	400

163-92-20ddd

Altitude: 1,934 feet

Glacial drift:			
	Till, yellowish-gray to moderate-olive-brown, oxidized-----	20	20
	Silt, clayey, moderate-olive-brown, contains lenses of very fine and fine, light-brownish sand-----	25	45
	Gravel, fine to coarse, sandy, generally subangular--	4	49
	Till, olive-gray-----	44	93
	Till, gravelly, olive-gray-----	12	105
	Till, olive-gray-----	81	186
Fort Union Group:			
	Sand, fine, very light-greenish-gray; locally clayey-	34	220

163-92-21aa

(Log from LaRocque and others, 1963a)

Altitude: 1,927 feet

Glacial drift:			
	Soil-----	2	2
	Clay, yellow, with some gravel-----	3	5
	Clay, brown, with some gravel-----	16	21
	Clay, gray, with some gravel-----	18	39
	Clay, sandy, gray, with some gravel, lignite and limestone fragments-----	110	149
	Clay, sandy, gray, with hard strips of limestone----	27	176
	Clay, sandy, gray, with some gravel, lignite and limestone fragments-----	18	194
	Gravel-----	6	200
	Clay, sandy, gray with some gravel-----	4	204
	Gravel-----	12	216
	Clay, sandy, gray with some gravel-----	29	245
Fort Union Group:			
	Clay, sandy, gray-----	40	285
	Sand, fine, gray-----	10	295

163-92-28ddd

Altitude: 1,950 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray, oxidized-----	7	7
	Till, moderate-olive-brown, oxidized-----	29	36
	Till, olive-gray-----	36	72
	Clay, silty and sandy, olive-gray; contains numerous sand and fine gravel lenses-----	42	114
	Gravel, fine and medium, sandy, moderately well-sorted in lenses, subrounded-----	12	126
	Clay, silty and sandy with pebbles, olive-gray; contains numerous thin sand and fine gravel lenses (till?)-----	62	188
Fort Union Group:			
	Lignite, black, fissile-----	7	195
	Shale, sandy, medium-gray-----	7	202
	Limestone, gray-----	2	204
	Shale, medium-gray to light-greenish-gray, lignitic--	16	220

163-92-32ddd

Altitude: 1,947 feet

Glacial drift:			
	Soil, silty and sandy, brownish-gray-----	1	1
	Clay, sandy and silty, calcareous, oxidized-----	16	17
	Clay, sandy, oxidized; gravel, medium to coarse, sandy, poorly sorted-----	7	24
	Clay, yellowish-brown, calcareous, oxidized-----	2	26
	Till, medium-dark-gray-----	34	60
	Clay, sandy and silty, medium-light-gray, calcareous-	11	71
Fort Union Group:			
	Lignite-----	5	76
	Shale, brownish-gray to brownish-black, carbonaceous-	4	80

163-92-34ccc
(Log from E. H. Prather)

Altitude: 1,960 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Brown topsoil-----	5	5
	Brown sandy shale-----	18	23
	Lighter sand (caving or rolling sand)-----	21	44
	Gray shale-----	16	60
	Gray sand (small amount of water)-----	8	68
	Gray clay-----	2	70
	Gray sandy shale (some gravel)-----	17	87
	Coal (water)-----	2	89
	Fine sand-----	11	100
	Gray clay-----	6	106
	Coal-----	3	109
	Gray sandy shale-----	7	116
	Gray clay-----	22	138
	Gray sandy shale-----	7	145
	Gray clay-----	5	150
	Hard shell (gray)-----	2	152
	Gray clay-----	16	168
	Gray sandy shale-----	16	184
	Coal-----	6	190
	Gray shale-----	50	240
	Hard shell-----	6	246
	Gray clay-----	6	252
	Coal (water)-----	7	259
	Gray clay-----	1	260
	Coal (water)-----	11	271
	Gray clay-----	3	274
	Hard shell-----	1	275

163-92-36bbb

Altitude: 1,940 feet

Glacial drift:			
	Till, yellowish gray to dusky-yellow, oxidized-----	14	14
	Till, moderate-olive-brown, oxidized; contains a few thin sand lenses-----	32	46
	Till, olive-gray-----	50	96
	Gravel, fine, sandy, "dirty", poorly sorted-----	11	107
	Sand, medium, well-sorted, subrounded-----	6	113
	Till, olive-gray; contains numerous lignite chips---	65	178
Fort Union Group:			
	Lignite, black, fissile-----	3	181
	Clay, sandy, black, oily-----	3	184
	Lignite, black, fissile-----	3	187
	Shale, silty, light-olive-gray-----	13	200

163-92-36dd
(Log from LaRocque and others, 1963a)

Altitude: 1,947 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil-----	2	2
	Clay, sandy, brown, with gravel-----	10	12
	Boulder-----	1	13
	Clay, sandy, brown, with gravel-----	15	28
	Clay, sandy, gray, with gravel-----	2	30
	Gravel-----	1	31
	Clay, sandy, gray, with gravel and lignite fragments-----	9	40
	Gravel and boulders-----	1	41
	Clay, sandy, gray, with gravel-----	20	61
Fort Union Group:			
	Clay, sandy, gray, with strips of fine sand and lignite fragments-----	23	84
	Lignite-----	4	88
	Clay, gray, with strips of lignite-----	2	90
	Clay, gray-----	25	115
	Sand, compact, gray, with strips of gray clay-----	5	120

163-93-13aaa

Altitude: 1,925 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	8	8
	Till, dusky-yellow to moderate-olive-brown-----	25	33
	Till, olive-gray-----	24	57
	Till, olive-gray; contains much locally derived bedrock clay, sand, and silty shale-----	20	77
	Till, olive-gray-----	40	117
Fort Union Group:			
	Shale, silty, light-olive-gray to brownish-black; contains thin seams of lignite-----	10	127
	Sand, very fine, clayey, light-olive-gray; interbedded with carbonaceous material-----	8	135
	Shale, silty to sandy, light to medium-gray-----	11	146
	Sand, fine, clayey, greenish-gray, well-sorted, subangular, micaceous and lignitic-----	14	160

163-93-17ddd

Altitude: 1,917 feet

Glacial drift:			
	Soil, silty and sandy, yellowish-brown-----	1	1
	Clay, silty, yellowish-brown to medium-dark-gray, calcareous, oxidized (till?)-----	22	23
	Sand, coarse to very coarse, silty, poorly sorted, angular to subangular, oxidized-----	15	38
	Till, moderate-olive-brown, oxidized-----	10	48
	Gravel, medium to coarse, sandy, silty, angular to subangular-----	9	57
	Clay, olive-gray, calcareous-----	5	62
	Gravel, medium, and medium to coarse sand, moderately well-sorted in lenses, angular to subrounded-----	11	73
	Till, olive-gray-----	7	80

163-93-18aaa

Altitude: 1,917 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty and sandy, brownish-black-----	1	1
	Till, moderate-yellowish-brown, oxidized-----	23	24
	Till, olive-gray-----	65	89
Fort Union Group:			
	Lignite-----	1	90
	Shale, light-gray to light-bluish-gray, siliceous----	30	120

163-93-19aaa

Altitude: 1,916 feet

Glacial drift:			
	Soil, silty and sandy, brownish-black-----	1	1
	Till, moderate-yellowish-brown, oxidized; contains a few reddish-brown zones-----	11	12
	Till, olive-gray-----	93	105
	Sand, fine to coarse, moderately well-sorted, angular to subrounded-----	2	107
	Till, olive-gray-----	27	134
	Clay, very silty and sandy, olive-gray, calcareous (fluvial)-----	116	250
	Clay, silty and sandy, olive-gray to dark-greenish-gray, calcareous; contains some interbedded sand lenses (fluvial)-----	65	315
	Till, olive-gray-----	36	351
	Gravel, fine to coarse, moderately well-sorted, angular to subrounded-----	5	356
	Till, olive-gray-----	24	380
	Till, olive-gray to moderate-brown, partially oxidized-----	68	448
Fort Union Group:			
	Shale, light-bluish-gray, siliceous-----	12	460

163-93-19add

Altitude: 1,919 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty to sandy, brownish-black-----	1	1
	Till, sandy to silty, moderate-yellowish-brown to reddish-brown, oxidized-----	19	20
	Till, silty, olive-gray-----	18	38
	Clay, sandy, olive-gray and light-gray lenses, calcareous (fluvial)-----	50	88
	Till, silty and gravelly, olive-gray-----	109	197
	Clay, very sandy and silty, olive-gray, calcareous; contains a few light-gray clay lenses (fluvial)---	10	207
	Till, olive-gray-----	43	250
	Clay, very silty and sandy, olive-gray to dark-greenish-gray, calcareous; contains some brownish-black (organic) and light-gray clay lenses (fluvial)-----	25	275
	Gravel, fine to coarse, moderately well-sorted, angular to rounded; 40 to 50 percent limestone and dolomite pebbles, 50-60 percent granitic, quartz, shale, and calcareous sandstone pebbles-----	10	285
	Till, silty, olive-gray-----	15	300
	Gravel, fine to coarse, moderately well-sorted, angular to rounded-----	7	307
	Clay, very sandy, olive-gray to light-gray, calcareous-----	3	310
	Gravel, fine to coarse, moderately well-sorted, angular to rounded-----	17	327
	Till, olive-gray-----	23	350
	Clay, very sandy, olive-gray, calcareous (fluvial)---	25	375
	Clay, silty and sandy, olive-gray, contains a few pebbles (till?)-----	5	380
	Sand, fine to medium, gravelly, poorly sorted-----	15	395
	Clay, sandy and silty, olive-gray, calcareous-----	1	396
	Sand, medium to very coarse, gravelly, poorly sorted-----	24	420
	Gravel, fine to very coarse, sandy, angular to rounded-----	56	476
Fort Union Group:			
	Sandstone, fine to medium, light-bluish-gray to greenish-gray-----	4	480

163-93-19bcc

Altitude: 1,925 feet

Glacial drift:			
	Soil, silty and sandy, brownish-black-----	1	1
	Till, moderate-yellowish-brown-----	24	25
	Till, sandy (about 45 percent), olive-gray to dark-greenish-gray-----	49	74
	Till, olive-gray-----	66	140
	Clay, very silty, sandy, olive-gray, calcareous; contains a few light-gray laminations (fluvial)---	72	212
	Till, olive-gray-----	24	236
	Clay, very silty, sandy, olive-gray; contains a few light-gray lenses (fluvial)-----	6	242
Fort Union Group:			
	Sandstone, fine to medium, clayey, medium-bluish-gray, slightly calcareous-----	15	257
	Shale, medium-dark-gray, siliceous and slightly calcareous-----	8	265

163-93-19ccc1

Altitude: 1,916 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty, sandy, brownish-black-----	1	1
	Till, moderate-yellow-brown to dark-yellowish-brown, oxidized-----	24	25
	Till, olive-gray-----	75	100
	Till, olive-gray to dark-gray-----	50	150
	Clay, very silty, sandy, olive-gray; contains a few light-gray clay lenses (fluvial)-----	30	180
	Till, olive-gray-----	33	213
	Sand, medium to coarse, clayey, moderately well-sorted, angular to subrounded-----	4	217
	Till, olive-gray-----	51	268
	Gravel, fine to coarse, sandy, moderately well-sorted in lenses, angular to subrounded-----	30	298
	Clay, gravelly, medium-gray-----	4	302
	Gravel, fine to very coarse; contains cobble size material-----	28	330

163-93-19ccc2

Altitude: 1,916 feet

Glacial drift:			
	Till, oxidized-----	19	19
	Till-----	155	174
	Gravel-----	29	203
	Till, sandy-----	18	221
	Gravel and rocks-----	10	231
	Till-----	32	263
	Gravel-----	27	290

163-93-19dda

Altitude: 1,923 feet

Glacial drift:			
	Soil, sandy, silty, brownish-black-----	1	1
	Till, moderate-yellowish-brown, oxidized-----	11	12
	Till, olive-gray-----	48	60
	Clay, very silty, sandy, olive-gray; contains light-olive-gray lenses (fluvial)-----	13	73
	Gravel, fine to medium, sandy, poorly sorted, angular to subrounded-----	1	74
	Till, olive-gray-----	59	133
	Gravel, fine to coarse, sandy, moderately well-sorted in lenses, angular to subrounded; pebbles are 60 to 70 percent limestone and dolomite and 30 to 40 percent shale and granitics-----	11	144
	Till, olive-gray-----	40	184
	Gravel, fine to coarse, sandy, moderately well-sorted in lenses, angular to subrounded; pebbles are about 50 percent siliceous rocks-----	33	217
Fort Union Group:			
	Shale, light-gray to medium-gray, calcareous-----	43	260

163-93-20aaa

Altitude: 1,919 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, sandy, silty, brownish-black-----	1	1
	Clay, silty and sandy, yellowish-brown, calcareous; (probably till)-----	32	33
	Gravel, coarse, moderately well-sorted, angular to subangular-----	10	43
	Clay, very silty, sandy, moderate-olive-brown, oxidized-----	8	51
	Gravel, medium to coarse, sandy, moderately well- sorted in lenses-----	18	69
	Till, medium-dark-gray to dark-gray-----	31	100
	Till, gravelly, medium-dark-gray to dark-gray-----	20	120
	Silt, light-gray, calcareous-----	16	136
	Gravel, coarse, moderately well-sorted, angular to subrounded; predominantly limestone-----	5	141
	Silt, very sandy, light-gray, highly calcareous-----	6	147
	Sand, very fine to fine, well-sorted, subangular to subrounded-----	16	163
	Till, silty, medium-light-gray-----	37	200
	Gravel, medium to coarse, sandy, poorly sorted, angular to subangular-----	3	203
	Clay, medium-dark-gray, calcareous-----	26	229
	Gravel, coarse, sandy, moderately well-sorted, angular to subangular-----	4	233
	Clay, medium-dark-gray, calcareous; contains thin lenses of medium to coarse sand-----	7	240
	Boulders and medium to coarse sand-----	7	247
	Gravel, medium to coarse, moderately well-sorted, angular to subrounded; pebbles are predominantly limestone and shale-----	9	256
	Till, dark-gray-----	24	280
	Till, medium-gray to medium-dark-gray; contains a few inclusions of black oily, organic material-----	18	298
	Clay, silty, grayish-black to brownish-black, cal- careous; contains a few thin lenses of light-gray clay-----	55	353
	Sand, coarse to very coarse, well-sorted, subangular to subrounded; pebbles are about 30 percent shale and 35 percent limestone and dolomite, remainder are principally granitic and sandstone-----	26	379
	Clay, silty and sandy, light-gray, calcareous-----	4	383
	Gravel, coarse to very coarse, well-sorted, sub- rounded to rounded-----	37	420
	Sand, very coarse, clayey-----	14	434
	Gravel, coarse to very coarse, well-sorted, sub- rounded to rounded-----	49	483
Fort Union Group:			
	Shale, sandy, very pale-blue to light-blue, cal- careous-----	7	490

163-93-20ccc

Altitude: 1,924 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty, sandy, brownish-black-----	1	1
	Till, moderate-yellowish-brown, oxidized-----	19	20
	Till, olive-gray-----	12	32
	Gravel, fine to coarse, sandy, clayey, poorly sorted- Clay, very silty, olive-gray, calcareous; contains numerous light-gray clay lenses (fluvial)-----	4	36
	Till, olive-gray, locally gravelly-----	40	76
	Till, olive-gray-----	14	90
	Till, olive-gray-----	58	148
	Sand, very fine to fine, clayey and silty, poorly sorted, angular to rounded-----	12	160
	Clay, very silty, sandy, olive-gray, calcareous (fluvial)-----	7	167
	Gravel, medium to coarse, sandy, moderately well- sorted in lenses, angular to rounded; pebbles are 20 to 30 percent limestone, 15 to 20 percent shale, 25-30 percent chalcedony, the remainder is quart- zite, granitic, and sandstone-----	8	175
Fort Union Group:			
	Sandstone, fine to medium, light-bluish-gray, cal- careous-----	25	200

163-93-21cbb

Altitude: 1,916 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty, sandy, and clayey, brownish-black-----	1	1
	Till, moderate-yellowish-brown, oxidized-----	21	22
	Till, olive-gray-----	66	88
	Gravel, medium to coarse, sandy and clayey, poorly sorted, subangular to subrounded-----	4	92
	Till, olive-gray; gravelly near bottom-----	62	154
	Gravel, fine to coarse, sandy, moderately well- sorted in lenses, subangular to rounded-----	46	200
Fort Union Group:			
	Sandstone, fine to medium, clayey, medium-bluish- gray; contains a few thin lignite beds between 200 and 208 ft.-----	40	240

163-93-22cdd

Altitude: 1,920 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness</u> (feet)	<u>Depth</u> (feet)
Glacial drift:			
	Soil, silty and sandy, brownish-black-----	1	1
	Till, moderate-yellowish-brown, oxidized-----	35	36
	Till, olive-gray-----	92	128
	Clay, silty and sandy, olive-gray; contains thin medium-gray and light-olive-gray lenses (fluvial)-	34	162
	Till, olive-gray-----	12	174
	Gravel, fine to medium, sandy, angular to subrounded; contains interbedded clay lenses-----	20	194
	Clay, silty, sandy, medium-gray to medium-dark-gray, calcareous, lignitic (fluvial)-----	4	198
	Sand, fine to coarse, poorly sorted, angular to sub- rounded-----	2	200
	Till, olive-gray-----	14	214
Fort Union Group:			
	Sandstone, fine to medium, clayey, medium-bluish- gray, slightly calcareous-----	26	240

163-93-23aa

(Log from IaRocque and others, 1963a)

Altitude: 1,918 feet

Glacial drift:			
	Soil-----	1	1
	Clay, yellow-----	18	19
	Sand, fine and clay-----	4	23
	Clay, sandy, yellow-----	4	27
	Clay, sandy, gray, with some gravel and lignite frag- ments-----	59	86
	Boulder, granite-----	2	88
	Clay, sandy, gray, with some gravel-----	12	100
	Gravel-----	2	102
	Clay, sandy, gray, with some gravel-----	28	130
	Boulders, limestone and granite-----	2	132
	Clay, sandy, gray, with some gravel and lignite frag- ments-----	27	159
	Clay, hard-----	1	160
	Clay, sandy, gray, with some gravel-----	21	181
	Gravel, with strips of limestone-----	4	185
	Clay, sandy, gray, with some gravel and lignite frag- ments-----	5	190
Fort Union Group:			
	Clay, silty and sandy-----	65	255

163-93-29add

Altitude: 1,925 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
	Road fill-----	3	3
Glacial drift:			
	Till, moderate-olive-brown, oxidized-----	31	34
	Till, olive-gray-----	49	83
	Till, sandy and gravelly, olive-gray-----	18	101
	Till, olive-gray-----	15	116
Fort Union Group:			
	Shale, light-olive-gray-----	8	124
	Sand, very fine, clayey, light-greenish-gray, micaceous, locally carbonaceous-----	16	140

163-93-30bbb2

Altitude: 1,915 feet

Glacial drift:			
	Till, oxidized-----	13	13
	Till-----	122	135
	Gravel-----	14	149
	Till-----	49	198
	Gravel-----	10	208
	Till-----	34	242
	Till, sandy and gravelly-----	33	275
	Gravel-----	25	300

163-93-30bbb3

Altitude: 1,915 feet

Glacial drift:			
	Till, oxidized-----	18	18
	Till-----	107	125
	Gravel-----	8	133
	Till or fluvial sediments-----	75	208
	Gravel-----	14	222
	Till-----	29	251
	Gravel, sandy-----	14	265
	Till-----	14	279
	Gravel-----	24	303
	Till, gravelly-----	12	315
	Gravel and cobbles-----	32	347
	Till, gravelly-----	23	370
	Till-----	66	436
	Gravel and cobbles-----	30	466
Fort Union Group:			
	Shale-----	5	471
	Lignite-----	4	475
	Shale-----	4	479

163-93-30dcc

Altitude: 1,924 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, silty, sandy, brownish-black-----	1	1
	Till, moderate-yellowish-brown, oxidized-----	19	20
	Till, dark-greenish-gray-----	9	29
	Till, olive-gray-----	37	66
Fort Union Group:			
	Shale, medium-bluish-gray, siliceous-----	14	80
	Shale, grayish-brown, siliceous-----	6	86
	Sandstone, clayey, light-bluish-gray-----	14	100

163-93-30ddd

Altitude: 1,927 feet

Glacial drift:			
	Soil, silty, sandy, brownish-black-----	1	1
	Till, moderate-yellowish-brown, oxidized-----	39	40
	Till, olive-gray-----	15	55
	Sand, fine to coarse, poorly sorted, angular to sub- rounded-----	1	56
	Till, olive-gray-----	11	67
	Sand, fine to coarse, poorly sorted, angular to sub- rounded-----	2	69
	Till, olive-gray-----	49	118
Fort Union Group:			
	Shale, light-olive-gray to medium-dark-gray, siliceous-----	24	142
	Sandstone, fine to medium, silty and clayey, light- bluish-gray-----	18	160

163-93-34ba

(Log from LaRocque and others, 1963a)

Altitude: 1,926 feet

Glacial drift:			
	Soil, sand, fine, brown-----	6	6
	Clay, sandy, brown, with some gravel-----	10	16
	Clay, sandy, brown, with strips of gravel and gray sandy clay and lignite fragments-----	12	28
	Clay, sandy, gray-----	17	45
	Clay, sandy, gray, with lignite fragments and strips of fine sand-----	6	51
	Sand, fine, with lignite fragments-----	7	58
Fort Union Group:			
	Lignite with thin strips of clay-----	23	81
	Clay, sandy, gray-----	1	82
	Sand, fine, gray-----	3	85
	Clay, sandy, gray-----	4	89
	Lignite with strips of gray sandy clay-----	3	92
	Boulder, granite-----	1	93
	Clay, sandy, gray-----	47	140
	Sand, compact, gray-----	10	150

163-93-36dd
(Log from LaRocque and others, 1963a)

Altitude: 1,946 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, sandy, brown-----	3	3
	Clay, yellow, with gravel-----	17	20
	Gravel and fine sand with some clay-----	4	24
Fort Union Group:			
	Clay, brown-----	3	27
	Clay, sandy, gray-----	13	40
	Clay, sandy, gray, with some gravel and lignite fragments-----	17	57
	Gravel and gray clay-----	7	64
	Clay, sandy, gray, with limestone and lignite fragments-----	9	73
	Clay, gray, with lignite fragments-----	18	91
	Lignite with strips of gray clay-----	6	97
	Sand, fine, gray, with some clay-----	8	105

163-94-3add

Altitude: 1,892 feet

Glacial drift:			
	Loam, clayey, black-----	1	1
	Till, dusky-yellow to moderate-olive-brown, oxidized-----	21	22
	Till, olive-gray-----	65	87
Fort Union Group:			
	Shale, very silty, light-gray-----	11	98
	Limestone, silty-----	3	101
	Shale, very silty, light-gray-----	19	120

163-94-6aa2

(Log from LaRocque and others, 1963a)

Altitude: 1,902 feet

Glacial drift:			
	Soil-----	2	2
	Clay, brown, with some gravel-----	40	42
	Clay, sandy, bluish-gray with some gravel and lignite fragments-----	50	92
Fort Union Group:			
	Clay, gray, with strips of lignite-----	6	98
	Clay, brown to black-----	1	99
	Clay, gray, with strips of lignite-----	17	116
	Lignite-----	7	123
	Clay, brown, with strips of lignite-----	2	125
	Clay, gray, with strips of lignite-----	35	160
	Lignite-----	2	162
	Clay, gray-----	8	170

163-94-15da
(Log from LaRocque and others, 1963a)

Altitude: 1,907 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, sandy, brown-----	1	1
	Clay, silty, yellow-----	18	19
	Clay, sandy, brown, with some gravel-----	15	34
	Clay, sandy, gray, with some gravel-----	26	60
Fort Union Group:			
	Clay, gray-----	7	67
	Clay, sandy, gray, with strips of lignite-----	98	165
	Clay, shale, white-----	1	166

163-94-16daa

Altitude: 1,909 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	5	5
	Till, moderate-olive-brown, oxidized-----	33	38
	Till, olive-gray-----	18	56
	Sand, medium to coarse, moderately well-sorted, subrounded, lignitic-----	87	143
	Gravel, coarse; drill action indicates some cobbles and small boulders-----	8	151
Fort Union Group(?):			
	Silt and very fine sand, light-gray; contains thin carbonaceous laminae (possibly reworked bedrock material)-----	29	180

163-94-19daa

Altitude: 1,913 feet

Glacial drift:			
	Loam, pebbly, black-----	1	1
	Till, yellowish-gray, oxidized-----	6	7
	Till, moderate-olive-brown, oxidized-----	26	33
Fort Union Group:			
	Shale, light-gray-----	15	48
	Limestone, dark-gray-----	1	49
	Shale, medium-gray-----	6	55
	Shale, silty, light-greenish-gray to light-olive-gray; contains some lignite-----	5	60

163-94-20bbb

Altitude: 1,909 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray, oxidized-----	5	5
	Till, moderate-olive-brown, oxidized-----	12	17
	Sand, medium, well-sorted, subangular and subrounded, iron stained; contains much detrital lignite-----	14	31
	Sand, medium to coarse, gravelly, moderately well-sorted in lenses; sand is principally quartz and lignite-----	40	71
	Till, olive-gray-----	20	91
	Sand, medium, gray, well-sorted; apparently interbedded with some fine and coarse sand-----	14	105
	Till, olive-gray-----	22	127
	Gravel, fine to coarse, brown, generally subrounded; pebbles are principally siliceous, limestone and dolomite, and granitic rocks-----	11	138
Fort Union Group:			
	Shale, very silty, nearly white-----	3	141
	Lignite, black, fissile-----	3	144
	Shale, medium-gray-----	4	148
	Sand, fine, clayey, green-----	5	153
	Shale, silty, light-greenish-gray-----	6	159
	Limestone, silty, light-brownish-gray-----	1	160+

163-94-21cbb

Altitude: 1,910 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	8	8
	Till, light-olive-gray-----	15	23
	Sand, medium and coarse, reddish-brown, moderately well-sorted, subrounded-----	18	41
	Clay, very silty, dusky-yellow, oxidized-----	4	45
	Sand, fine, clayey, gray-----	7	52
	Till, olive-gray-----	11	63
	Sand, medium to coarse, gray, moderately well-sorted, subrounded-----	23	86
	Silt, clayey-----	16	102
	Gravel, fine, sandy, gray-----	6	108
	Clay, silty-----	7	115
	Sand, medium, gray, well-sorted, lignitic-----	7	122
	Clay, silty, olive-gray-----	6	128
	Sand, fine to medium, gray, lignitic-----	2	130
	Clay, silty, olive-gray; contains some interbedded silt and clayey fine sand-----	67	197
	Silt, clayey and very fine to fine sand, olive-gray; contains detrital lignite-----	107	304
	Clay, silty, olive-gray-----	15	319
	Till, olive-gray; contains a few sand and gravel streaks-----	34	353
Fort Union Group:			
	Sand, very fine to fine, greenish-gray; shale, silty, light-gray; lignite; shale, carbonaceous; silt, white; limestone and sandstone, very thin-----	47	400

163-94-22bbc

Altitude: 1,905 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness</u> (feet)	<u>Depth</u> (feet)
Glacial drift:			
	Clay, silty, yellowish-gray, oxidized; contains sandy lenses-----	5	5
	Till, moderate-olive-brown-----	33	38
	Till, olive-gray-----	31	69
	Gravel, fine and medium, moderately well-sorted, subangular and subrounded-----	10	79
	Till, olive-gray-----	46	125
	Gravel, coarse, subrounded-----	10	135
	Sand, medium to coarse, light-brown, well-sorted, subrounded, lignitic-----	68	203
Fort Union Group:			
	Shale, very silty, light-gray-----	9	212
	Sand, very fine, clayey, dark-greenish-gray, locally carbonaceous-----	6	218
	Lignite, black-----	3	221
	Silt and very fine sand, light-gray-----	19	240

163-94-22cbb1

Altitude: 1,900 feet

Glacial drift:			
	Gravel, fine to medium, sandy, reddish-brown, subangular to subrounded-----	5	5
	Silt and very fine sand, clayey, dusky-yellow-----	14	19
	Sand, fine; silt and lignitic sandy clay, moderate-olive-brown to gray, interbedded-----	35	54
	Sand, medium to coarse, gray, well-sorted in lenses, subrounded-----	41	95
	Gravel, fine to coarse, sandy, subangular to subrounded-----	95	190

163-94-22cbb2

Altitude: 1,900 feet

Glacial drift:			
	Gravel, fine and medium, clayey, reddish-brown, poorly sorted-----	7	7
	Silt, dusky-yellow, oxidized, powdery-----	14	21
	Silt, moderate-olive-brown; interbedded with fine and medium sand-----	16	37
	Sand, medium to coarse, well-sorted, lignitic-----	44	81
	Gravel, fine and medium, sandy, subangular to subrounded-----	79	160

163-94-23cd
(Log from LaRocque and others, 1963a)

Altitude: 1,918 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil, clay, brown, with some gravel-----	18	18
	Gravel, with strip of clay-----	2	20
	Clay, sandy, gray, with some gravel-----	25	45
	Boulders, with gray sandy clay-----	2	47
	Limestone-----	2	49
	Clay, sandy, gray-----	2	51
	Clay, sandy, gray, with gravel and thin strips of gravel-----	9	60
Fort Union Group:			
	Clay, sandy, gray-----	72	132
	Lignite-----	3	135
	Clay, sandy, gray, with strips of lignite-----	14	149
	Lignite with strips of clay and fine sand-----	29	178
	Clay, sandy, gray-----	5	183
	Lignite, with strips of gray sandy clay-----	15	198
	Clay, sandy, gray, with strips of lignite-----	12	210
	Lignite with thin clay strip-----	8	218
	Clay, sandy, gray with strips of fine sand and strips of lignite-----	10	228
	Sandstone, gray-----	2	230
	Limestone, buff colored-----	1	231

163-94-25aab

Altitude: 1,915 feet

Glacial drift:			
	Clay-----	5	5
	Till, oxidized-----	11	16
	Sand, silt and gravel-----	11	27
	Till; contains a few sand and gravel stringers-----	133	160
	Gravel-----	10	170
	Till, gravelly-----	29	199
	Gravel-----	43	242
	Till-----	18	260
	Gravel-----	40	300

163-94-27cbb

Altitude: 1,914 feet

Glacial drift:			
	Till, yellowish-gray, oxidized-----	5	5
	Till, moderate-olive-brown, oxidized-----	32	37
	Sand, very coarse, reddish-brown, well-sorted, sub-rounded-----	2	39
	Till, olive-gray-----	58	97
Fort Union Group:			
	Shale, medium-gray-----	5	102
	Shale, very silty, light-gray-----	7	109
	Sand, fine, slightly clayey, dark-greenish-gray, lignitic-----	11	120

163-94-27ccc

Altitude: 1,915 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, yellowish-gray, oxidized-----	4	4
	Till, moderate-olive-brown, oxidized-----	24	28
Fort Union Group:			
	Shale, silty and sandy, reddish-brown, yellowish-green, and dusky-yellow to yellowish-greenish-gray-----	8	36
	Lignite, black-----	4	40

163-94-29aaa

Altitude: 1,912 feet

Glacial drift:			
	Loam, sandy, yellowish-gray-----	1	1
	Sand, medium to coarse, gravelly, moderately well-sorted in lenses, subangular to subrounded-----	15	16
	Till, silty and sandy, moderate-olive-brown, oxidized	7	23
Fort Union Group:			
	Sand, very fine to fine, clayey, yellowish-green, oxidized-----	12	35
	Sandstone, very fine-grained, light-bluish-gray, calcareous cement-----	1	36
	Shale, very sandy, medium-bluish-gray-----	4	40

163-94-36abb

Altitude: 1,930 feet

Glacial drift:			
	Soil, sandy, silty, brownish-black-----	1	1
	Till, moderate-yellowish-brown, oxidized-----	27	28
	Boulder, granitic-----	1	29
	Till, olive-gray-----	4	33
	Till, olive-gray to brownish-gray, partially oxidized	15	48
	Clay, very sandy, silty, olive-gray, calcareous (fluvial)-----	14	62
	Gravel, fine to coarse, poorly sorted, angular to subrounded-----	4	66
	Till, olive-gray-----	12	78
Fort Union Group:			
	Shale, light-bluish-gray to medium-bluish-gray, siliceous-----	11	89
	Sandstone, fine to medium, light-bluish-gray, calcareous cement-----	6	95
	Sand, fine to medium, light-bluish-gray, slightly calcareous-----	5	100

164-89-31ccc

Altitude: 1,875 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Till, moderate-olive-brown, oxidized-----	20	20
	Till, olive-gray-----	17	37
	Till, pink-----	2	39
	Till, olive-gray, contains numerous cobbles and small boulders-----	19	58
Fort Union Group:			
	Clay, silty, medium-gray, calcareous-----	8	66
	Limestone, gray-----	5	71
	Clay, silty, very light-gray, highly calcareous-----	9	80

164-90-35aba

Altitude: 1,869 feet

Glacial drift:			
	Till, yellowish-gray to dusky-yellow, oxidized-----	26	26
	Silt, dusky-yellow, oxidized; contains some sand grains and pebbles (till?)-----	15	41
	Sand, medium and coarse, light-brown, well-sorted in lenses; contains a few thin silty lenses-----	44	85
Fort Union Group:			
	Shale, silty and sandy, variegated grays and greens, interbedded-----	35	120

164-92-25dd

(Log from LaRocque and others, 1963a)

Altitude: 1,950 feet

Glacial drift:			
	Clay, yellow-----	8	8
	Clay, blue, and gray sand-----	172	180
Fort Union Group:			
	Sandstone, gray, and hard gray shale-----	60	240
	Shale, gray-----	40	280
	Lignite-----	3	283
	Shale, gray-----	17	300
	Shale, sandy-----	115	415
	Shale, gray-----	55	470
	Shale, sandy-----	30	500
	Shale, sandy; water-----	18	518
	Shale, gray-----	80	598
	Sandstone, fine; water near base-----	108	706
	Shale, gray-----	2	708

164-92-36dd
(Log from LaRocque and others, 1963a)

Altitude: 1,950 feet

<u>Geologic source</u>	<u>Material</u>	<u>Thickness (feet)</u>	<u>Depth (feet)</u>
Glacial drift:			
	Soil-----	2	2
	Clay, yellow, with gravel-----	10	12
	Sand, fine, with lignite fragments-----	2	14
	Clay, sandy, gray, with some gravel-----	24	38
	Gravel-----	2	40
	Clay, sandy, gray, with gravel-----	55	95
	Boulder, granite-----	1	96
	Clay, sandy, gray, with gravel and lignite fragments-----	149	245
Fort Union Group:			
	Clay, gray-----	1	246
	Sand, fine, gray-----	10	256
	Lignite, black-----	9	265

164-93-31dd
(Log from LaRocque and others, 1963a)

Altitude: 1,903 feet

Glacial drift:			
	Soil-----	2	2
	Clay, yellow-----	6	8
	Clay, brown, with gravel-----	8	16
Fort Union Group:			
	Clay, yellow-----	5	21
	Clay, gray, with lignite fragments-----	4	25
	Sand, fine, gray-----	25	50
	Shale-----		50

164-93-35ccc

Altitude: 1,917 feet

Glacial drift:			
	Clay, silty, yellowish-gray-----	2	2
	Clay, silty and sandy, dusky-yellow, oxidized; material is predominantly reworked bedrock-----	5	7
Fort Union Group:			
	Sand, fine, slightly clayey, yellowish-green, micaceous, oxidized-----	9	16
	Lignite, black, fractured-----	3	19
	Shale, light- and medium-gray; sand, clayey, light-greenish-gray, carbonaceous-----	21	40

TABLE 5.--Chemical analysis of selected water samples

WATER QUALITY		EXPLANATION																							
LOCAL NUMBER	MAJOR AQUIFER	DEPTH W. WELL (FT.)	DATE	SILICA (SI02)	TOTAL (TFF)	CAL-CIUM (CA)	MAG-NE-SIUM (MG)	SODIUM (NA)	PO-SIUM (K)	BI-CAR-BONATE (HCO3)	CAR-BONATE (CO3)	SULFATE (SO4)	CHLO-RIDE (CL)	FLUO-RIDE (F)	NITRATE (NO3)	BORON (B)	DISS-OLVED SILICDS (RESI-DUE AT 180 C)	HARD-NESS (CA+MG)	NON-CAR-BONATE HARD-NESS	SODIUM AD-SORP-TION RATIO	PERCENT SODIUM	SPECI-FIC CON-DUCTANCE (MICRO-SIMS)	PH	TEMP-ERATUR (DEG C)	
151N0893388A	TLIC	147	06-06-68	8.5	.26	6.4	5.4	739	8.7	831	7	958	3.2	.8	2.0	1.0	2070	38	0	52	87	3070	8.3	8	
151N0894044A	TLIC	226	05-15-67	6.6	.36	15	7.7	1420	4.3	1470	0	1810	51	.4	1.0	.12	3870	69	0	73	98	5420	8.7	6	
151N0901108A8	TLIC	155	06-06-68	24	.70	14	6.3	480	6.0	1910	0	273	1.4	.2	2.5	.44	1280	61	0	27	64	1930	8.1	7	
151N0903650D4	TLIC	115	04-20-67	17	1.7	84	50	16	5.9	418	0	104	1.4	.1	.2	.50	494	415	73	0	8	784	8.0	7	
151N0923404A	OG51	138	05-02-66	25	8.6	88	15	55	7.5	447	0	37	.7	.2	.1	.12	459	243	0	1.4	29	727	8.1	8	
151N0911684D	TLIC	152	06-06-68	38	6.3	107	25	232	8.6	791	0	250	1.2	.7	2.0	.78	1640	372	0	5.2	57	1530	7.8	--	
152N0880048A8	--	75	04-25-67	11	1.1	58	77	467	8.5	917	0	522	13	.2	2.7	.47	1540	295	0	12	74	2200	8.0	7	
152N0880588A4	--	119	07-13-67	17	2.9	16	4.4	367	3.7	737	0	208	3.1	.2	1.0	.88	1010	58	0	21	93	1470	7.5	7	
152N0882304D	--	74	--	--	2.0	--	--	--	--	--	--	1006	28	--	--	--	2324	360	--	--	--	--	7.6	--	
152N0893500D3	--	73	--	--	3.6	20	41	735	--	794	--	1100	27	--	--	--	--	220	--	--	--	--	8.5	--	
152N089431988	--	30	--	--	--	--	--	--	--	--	--	963	--	--	--	--	295	263	--	--	--	--	--	--	
152N0894350DD	--	76	07-13-67	22	.22	776	339	284	17	448	0	2480	20	1.3	932	.23	5460	3390	2800	2.1	14	8100	7.9	7	
152N0900202DD	TLIC	225	07-13-67	22	5.9	141	74	382	6.4	856	0	753	4.5	.3	.5	.51	1900	658	0	6.5	56	2410	7.5	7	
152N0900360A0	--	175	--	--	2.7	--	--	--	--	741	--	535	6.0	--	--	--	1390	252	--	--	--	--	7.6	--	
152N09021300C1	--	86	07-13-67	15	.08	270	74	34	6.5	436	0	346	10.5	.3	2.08	.04	1370	978	630	.5	7	1770	7.7	8	
152N09021800C1	OG51	76	08-02-66	28	1.0	35	14	625	4.4	830	0	703	7.7	.7	.7	.70	1830	146	0	23	60	2640	8.1	8	
152N09022900C1	--	14	--	--	8.4	188	104	580	--	860	--	1200	20	--	--	--	3020	900	--	--	--	--	7.7	--	
152N09022900C2	--	74	06-07-67	20	.25	63	18	622	7.7	1220	0	730	2.3	--	--	--	1870	230	0	18	85	2370	7.9	0	
152N09023000C1	--	135	--	--	1.9	--	--	--	--	1800	--	--	--	--	--	--	2420	170	--	--	--	--	8.2	--	
152N09023000C2	--	77	--	--	2.7	--	--	--	--	1020	--	850	70	--	--	--	2270	230	--	--	--	--	7.5	--	
152N09023200C0	--	33	--	--	2.5	--	--	--	--	844	--	928	42	--	--	--	2640	272	--	--	--	--	7.6	--	
152N09023200C1	--	71	--	--	.80	48	22	378	--	560	--	930	4.0	--	--	--	1540	210	--	--	--	--	7.6	--	
152N09023700D	--	12	--	--	1.4	--	--	--	--	450	--	592	2.0	--	--	--	1000	348	--	--	--	--	7.8	--	
152N0904300A4	--	63	--	--	2.0	20	20	793	--	586	--	1050	12	--	--	--	800	193	--	--	--	--	7.8	--	
152N0911080DD	--	06-06-68	15	3.1	1.0	44	323	1.0	826	23	130	1.7	.5	--	.59	.76	4	67	0	70	90	1280	8.7	7	
152N0924190A3	OG52	143	12-08-67	25	4.9	164	39	266	5.4	826	0	338	4.7	.1	--	.26	1190	560	0	3.7	44	1710	7.7	7	
152N0924190A8	OG52	158	07-19-67	20	2.2	86	41	225	6.0	428	0	523	3.5	.1	.0	.17	1080	385	25	5.0	56	1570	7.9	--	
152N0924230DD	OG52	398	05-20-66	27	.22	48	48	335	14	854	0	424	2.1	.5	.7	.00	1380	470	0	6.7	60	1900	7.8	6	
152N0924230DD	OG52	138	08-02-66	29	2.7	133	69	300	15	666	0	477	.6	.6	1.7	.51	1370	535	0	5.8	54	2010	8.0	--	
152N092423084	OG52	146	09-14-67	33	4.3	92	39	190	6.0	451	0	413	1.8	.2	1.0	.26	982	331	21	4.2	51	1410	7.7	6	
152N0924293801	OG52	180	05-27-67	33	.74	116	38	213	6.1	569	0	441	2.9	.1	--	.22	1100	447	0	4.4	51	1580	7.8	0	
152N0924293801	OG52	180	09-21-67	--	--	--	--	212	6.0	557	0	--	2.4	--	--	--	1110	450	0	4.3	50	1590	7.9	--	
152N0924293801	OG52	180	04-26-67	32	4.2	130	38	218	6.2	608	0	454	2.9	.1	.2	.98	1170	480	0	4.2	48	1650	7.1	0	
152N0924293802	OG52	168	09-13-67	34	1.5	110	41	191	7.0	592	0	419	3.2	.2	--	.22	1090	443	19	3.0	48	1440	7.8	0	
152N0924290DD	OG51	118	04-14-67	22	.08	28	8.3	927	3.8	1580	0	814	4.2	.1	--	.62	2500	104	0	39	95	3700	8.1	7	
152N09243100C1	OG51	48	07-19-67	27	3.3	162	85	312	7.4	490	0	1030	9.9	.2	.3	.27	1830	754	426	4.0	47	2350	8.0	0	
152N09243100C2	K3PC	1435	07-06-68	11	.32	2.4	634	1.9	1210	32	3.9	265	5.1	--	--	--	3.2	1930	8	0	97	99	2490	8.6	14
152N09243100C3	--	230	07-08-68	21	1.2	495	232	197	16	505	0	1460	76	.0	156	--	1.5	3600	2190	1780	1.8	16	3590	7.7	0
152N09243100C4	--	80	04-25-67	13	1.1	126	85	175	11	690	0	459	11	.2	--	--	1220	685	100	3.0	36	1770	7.9	7	
152N09243100C5	--	18	07-08-68	23	.00	86	73	120	2.7	452	0	232	6.2	.2	127	--	1.5	925	515	144	2.3	33	1340	8.1	7
152N0901190A4	TLIC	136	07-08-68	12	4.7	1.1	4.4	306	1.1	613	0	162	3.0	.5	1.0	.59	778	4	0	67	99	1200	8.2	8	
152N0911170A8	--	312	08-02-67	3.0	3.9	105	221	750	8.3	566	0	2280	30	.1	--	.33	3630	1170	723	9.5	58	4520	8.2	8	
152N0911170A8	TLIC	56	07-08-68	18	5.3	21	4.3	781	2.5	967	0	989	6.2	.2	3.0	.63	2850	70	0	41	96	3150	8.2	8	
152N090110108	--	160	08-10-67	25	.40	99	37	38	6.0	380	0	158	5.9	.1	--	.11	552	400	89	.8	17	910	7.7	6	
152N0901150DD	--	58	07-22-67	28	.96	46	31	777	6.1	952	17	1080	14	.4	--	.27	2410	243	0	22	87	3340	8.3	8	
152N0901150DD	--	132	07-13-67	14	3.7	66	47	1309	7.0	1470	0	1960	13	.3	2.0	.66	4350	358	0	30	89	5240	7.9	7	
152N0901150DD	--	217	06-30-67	24	.82	36	14	1680	5.6	1520	0	2350	24	.2	6.0	.43	5750	149	0	60	96	6390	8.1	7	
152N0901150DD	--	100	07-23-68	14	2.0	479	278	198	13	805	0	2020	69	.0	1.0	.20	3830	2340	1680	1.8	15	3770	7.7	--	
152N0901150DD	TLIC	30	07-23-68	19	.10	168	74	77	3.2	361	0	499	11	.1	67	--	1.5	1130	723	427	1.2	19	1460	7.8	8
152N0901150DD	--	101	08-11-66	24	.12	45	17	467	3.5	713	0	576	3.3	.3	.3	.40	1480	184	0	15	84	2170	8.1	6	

(Analytical results in parts per million, except as indicated)

LOCAL NUMBER	MAJOR AQUIFER	DEPTH OF WELL (FT.)	DATE	SILICA (SI02)	TOTAL IRON (FE)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	CARBONATE (CO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	BORON (B)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	HARDNESS (CA+MG)	NON-CARBONATE HARDNESS	SODIUM ADSORPTION RATIO	PERCENT SODIUM	SPECIFIC UCTANCE (MICROMMOS)	PH	TEMPERATURE (DEG C)
1544001W32CC9	TLOC	350	07-13-67	14	.42	8.0	2.2	1009	2.5	1070	0	1310	11	.1	1.0	.62	2980	29	0	81	99	3940	9.2	7
1544002W46CC	TLOC	70	07-23-68	22	1.1	115	31	131	5.5	390	0	390	6.4	.1	2.0	.24	876	414	127	2.8	40	1290	8.0	11
1544003W31D4C	C	09-14-67	16	.56	82	33	171	6.0	434	0	359	2.7	.2	1.0	.27	840	340	0	4.0	52	1290	7.5	--	
1544003W053CC	C	39	07-13-67	22	.90	178	70	5.8	15	484	0	200	66	.1	92	.08	957	730	350	.1	2	1280	7.5	7
1544003W150CC	TLOC	140	07-23-68	6.2	11	222	123	766	18	933	0	1990	11	.0	3.6	1.5	3570	1060	377	10	60	4350	7.7	0
1544004W040DD	TLOC	104	06-23-68	6.4	.96	4.2	1.1	717	2.4	1330	24	403	11	3.2	1.0	.54	1870	15	0	81	99	2730	9.5	--
1544004W024DD	TLOC	119	07-12-68	22	4.5	510	191	143	15	396	0	2020	11	.1	--	.39	3270	2060	1740	1.4	13	3160	7.8	--
1544004W054DD1	TLOC	126	04-28-67	12	.40	3.2	1.5	800	2.0	1130	48	487	13	1.3	--	.33	2130	14	0	93	98	3190	8.8	7
1544004W254C51	OG51	80	09-20-65	18	.22	117	44	369	6.4	708	0	857	7.1	.1	--	.32	1540	472	0	7.1	63	2220	8.3	7
1544004W254C81	OG51	80	09-01-65	16	.12	117	44	354	6.5	700	0	656	7.0	.1	.2	.28	1500	472	0	7.1	62	2240	7.6	7
1544004W254C81	OG51	80	09-23-65	18	.08	116	44	367	6.4	712	0	634	6.4	.1	.2	.22	1560	472	0	7.3	63	2220	8.3	7
1544004W254C91	OG51	90	09-20-65	15	.14	124	43	351	6.7	698	0	636	6.6	.1	4.3	.36	1530	487	0	7.0	61	2170	8.1	--
1544004W254C91	OG51	99	09-08-65	10	.69	37	15	698	3.9	811	35	882	9.8	.5	2.1	.34	2060	154	0	24	91	3080	8.8	--
1544004W1544A	JG31	38	09-02-66	24	3.5	75	32	50	4.4	312	0	148	2.7	.2	29	.30	523	318	63	1.2	25	782	7.9	8
1544004W024DD1	--	290	07-26-67	3.9	4.9	43	20	205	6.6	205	0	449	8.2	.2	--	.14	802	184	20	6.5	69	1240	7.9	6
1544009W12CA4	--	12	07-23-68	24	.03	77	20	2.3	9.1	305	0	27	3.5	.1	3.1	.00	366	274	24	.1	2	510	7.8	0
1544009W12DD9	OG51	178	04-05-66	26	1.0	41	18	808	5.1	986	0	1120	8.0	.4	--	.82	2470	178	0	26	91	3400	8.1	7
1544009W1246C	--	120	07-23-68	70	1.9	473	316	184	13	667	0	2130	24	.1	13	.59	3690	2480	1930	1.6	14	3790	7.7	0
1544009W1246C	--	160	07-23-68	19	5.1	327	185	352	11	611	0	1830	9.9	.2	2.2	.48	3240	1580	1080	3.8	32	3300	7.3	0
1544009W1246C	--	320	07-23-68	7.5	.07	10	6.3	559	5.3	742	10	642	6.8	.2	--	.49	1610	51	0	34	95	2390	8.4	0
1544009W1344A	TLOC	223	06-17-67	9.2	.17	152	79	114	7.2	453	0	579	4.0	.1	--	.14	1150	705	334	1.9	26	1670	7.5	--
1544009W1344A	--	215	07-11-67	16	.42	118	35	39	8.3	507	0	107	2.2	.1	--	.31	623	439	24	.8	16	914	7.5	0
1544009W1344A	--	23	07-23-68	18	.37	74	17	5.0	1.8	275	0	29	1.7	.2	1.0	.05	380	254	28	.1	4	464	7.3	0
1544009W1250A1	--	101	07-29-68	21	5.0	229	53	14	13	464	0	421	26	.0	--	.10	1060	782	411	.2	4	1380	7.8	10
1544009W1250A1	--	130	07-24-68	13	4.3	106	49	109	9.9	486	0	314	5.0	.1	--	.24	822	465	66	2.2	33	1210	7.9	0
1544009W1250A8	--	179	07-23-67	26	2.6	59	54	472	5.3	701	0	780	8.6	.3	--	.41	1710	371	0	11	73	2420	8.0	8
1544009W1444C	--	230	07-29-68	20	4.8	75	25	239	8.3	542	0	343	4.9	.1	--	.39	972	290	0	6.1	63	1470	7.7	--
1544009W19CA1	OG51	222	07-11-67	21	5.5	21	5.5	870	3.9	1390	0	867	15	.3	--	.43	2560	75	0	44	96	3400	8.2	0
1544009W19CA1	TLOC	365	07-11-67	17	1.5	4.0	1.2	694	2.0	887	0	775	9.7	.4	.5	.31	2030	15	0	78	99	2740	8.2	0
1544009W19CA89	OG51	66	06-21-67	22	.09	100	39	39	4.3	443	0	99	16	.2	1.0	.00	490	499	65	.8	17	861	7.5	8
1544009W09DD9	TLOC	112	04-15-66	--	1.1	--	--	877	--	1320	0	888	5.0	--	--	--	2410	105	0	37	--	3370	8.1	--
1544009W15A4C	--	31	07-24-68	22	.02	116	71	69	8.0	338	0	359	40	.2	4.9	.63	902	582	305	1.1	18	1210	7.9	9
1544009W15A4C	OG51	214	06-20-67	22	.06	48	17	783	2.2	905	0	1140	8.3	.2	--	.25	2940	191	0	25	90	3400	7.9	0
1544009W15A4C	OG51	214	06-20-67	21	.06	82	16	684	3.0	845	0	1040	3.3	.2	1.0	.39	2290	270	0	18	84	3190	7.7	7
1544009W15A4C	OG52	196	06-15-67	24	.08	18	13	946	14	844	0	676	15	.5	--	.06	1690	--	0	26	92	2560	8.1	8
1544009W15A4C	OG51	128	08-09-66	26	3.0	201	64	25	8.6	356	0	524	1.6	.1	.2	1.0	1080	765	474	.4	7	1390	7.7	7
1544009W15A4C	TLOC	200	02-18-51	--	.40	24	11	1020	--	1370	--	1370	--	--	--	--	2070	110	--	--	--	--	--	--
1544009W15A4C	--	48	04-17-53	--	--	195	108	--	--	100	--	600	60	.2	170	--	1100	930	--	--	--	--	--	--
1544009W15A4C	OG51	50	09-10-52	--	.39	92	106	130	--	150	14	460	40	--	85	--	1080	670	--	--	--	--	--	--
1544009W15A4C	--	20	09-10-52	--	.20	107	94	40	--	180	--	290	50	--	87	--	860	650	--	--	--	--	--	--
1544009W15A4C	--	20	07-08-52	--	.20	39	9.0	27	--	220	--	10	--	--	2.1	--	--	--	--	--	--	--	--	--
1544009W15A4C	TLOC	230	--	52	--	4.0	4.0	1080	--	1080	--	1410	20	--	--	--	2950	300	--	--	--	--	--	--
1544009W15A4C	--	190	--	51	--	.10	9.0	775	--	920	46	910	4.0	--	2.1	--	2170	102	--	--	--	--	--	--
1544009W15A4C	--	185	06-07-67	13	.14	28	5.8	643	3.8	895	0	773	8.1	.0	1.0	.31	1860	94	0	29	93	2780	8.1	7
1544009W15A4C	--	25	06-12-68	23	.20	110	71	487	9.1	924	0	687	11.9	.2	1.0	.39	1970	565	0	8.9	65	2620	7.4	--
1544009W15A4C	OG31	11	07-01-52	--	.30	49	44	26	--	420	--	45	2.0	--	--	--	1130	490	--	--	--	--	--	--
1544009W15A4C	--	160	08-08-52	--	2.2	25	107	270	--	290	--	820	20	.1	6.5	--	1370	500	--	--	--	--	--	--
1544009W15A4C	--	240	07-25-68	15	1.1	209	71	300	9.0	817	0	790	8.5	.0	1.0	.44	1790	816	146	4.6	44	2370	7.7	0
1544009W15A4C	--	200	06-01-67	24	3.2	102	38	187	3.0	606	0	291	4.4	.2	2.0	.16	982	410	0	4.0	50	1370	7.8	7
1544009W15A4C	OG51	38	08-11-66	23	1.7	65	48	858	4.6	1010	0	1330	5.2	1.5	1.0	.52	2870	360	0	20	84	3840	8.1	8
1544009W15A4C	OG52	178	07-02-68	22	1.1	50	16	643	4.6	949	0	788	9.3	.1	3.1	.63	2620	189	0	21	88	2870	8.2	8
1544009W15A4C	OG51	182	07-29-68	20	4.8	75	25	240	8.3	562	0	803	5.0	.1	--	.29	985	289	0	6.1	65	1460	8.0	8
1544009W15A4C	--	20	07-11-67	23	.06	308	132	44	36	785	0	277	21.9	.2	8.2	.00	2370	1310	667	.5	7	3260	7.7	7

LOCAL NUMBER	MAJOR AQUIFER	DEPT-4 OF WELL (FT)	DATE	SILICA (SI02)	TOTAL IRON (FE)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	AMMONIUM (NH4)	CAP-AMMONIUM (CO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	BORON (B)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	HARDNESS (CA+MG)	NON-CARBONATE HARDNESS	SODIUM ADSORPTION RATIO	PERCENT SODIUM	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH	TEMPERATURE (DEG. C)
161N09W190A		180	06-10-47	---	---	---	---	---	---	111A	---	---	14	---	---	---	---	---	---	---	---	1980	---	---
161N09W200A	TLOC	96	06-08-47	---	---	---	---	---	---	1190	---	---	18	---	---	---	---	---	---	---	---	2770	---	---
161N09W210A	TLOC	150	06-09-47	---	---	---	---	---	---	1470	---	---	46	---	---	---	---	---	---	---	---	2210	---	---
161N09W210A	TLOC	100	09-11-48	13	4.8	5.8	4.4	5.9	2.4	1470	24	4.0	50	4.4	2.1	11	1360	33	0	---	97	1920	6.7	---
161N09W230A	TLOC	180	06-08-47	---	---	---	---	---	---	580	---	---	17	---	---	---	---	---	---	---	---	3570	---	---
161N09W240B	TLOC	180	06-09-47	---	---	---	---	---	---	895	---	---	18	---	---	---	---	---	---	---	---	3900	---	---
161N09W240D	---	650	06-09-47	---	---	---	---	---	---	1540	---	---	153	---	---	---	---	---	---	---	---	2470	---	---
161N09W258C	TLOC	274	06-09-47	---	---	---	---	---	---	1640	---	---	94	---	---	---	---	---	---	---	---	2790	---	---
161N09W2600D	TLOC	237	06-06-47	14	4.78	8.5	5.0	7.63	2.4	844	24	814	36	1.4	1.8	27	2150	42	0	---	97	3000	6.3	---
161N09W278B	TLOC	136	06-09-47	---	---	---	---	---	---	580	---	---	58	---	---	---	---	---	---	---	---	4490	---	---
161N09W280A	---	---	06-09-47	---	---	---	---	---	---	1120	---	---	17	---	---	---	---	---	---	---	---	2680	---	---
161N09W3000D1	TLOC	187	06-10-47	---	---	---	---	---	---	828	---	---	14	---	---	---	---	---	---	---	---	2380	---	---
161N09W111CD	TLOC	89	06-02-48	24	---	240	45	440	12	650	7	1120	18	2	2.4	42	2240	808	270	---	54	2440	7.1	---
161N09W120A	---	---	06-10-47	---	---	---	---	---	---	730	---	---	12	---	---	---	---	---	---	---	---	2140	---	---
161N09W140A	---	68	06-10-47	---	---	---	---	---	---	460	---	---	17	---	---	---	---	---	---	---	---	2420	---	---
161N09W150C	---	---	06-16-47	---	---	---	---	---	---	545	---	---	6.0	---	---	---	---	---	---	---	---	1500	---	---
161N09W170A	TLOC	52	06-16-47	---	---	---	---	---	---	898	---	---	7.0	---	---	---	---	---	---	---	---	2040	---	---
161N09W170C	TLOC	312	06-16-47	---	---	---	---	---	---	1170	---	---	16	---	---	---	---	---	---	---	---	1970	---	---
161N09W180D 1	TLOC	82	06-16-47	---	---	---	---	---	---	815	---	---	3.0	---	---	---	---	---	---	---	---	1850	---	---
161N09W180D 2	---	125	06-16-47	---	---	---	---	---	---	840	---	---	10	---	---	---	---	---	---	---	---	2470	---	---
161N09W190DD	---	---	07-19-47	8.6	92	7.1	2.1	711	2.5	975	24	770	10	1.2	---	---	1960	25	0	61	98	2480	6.4	7
161N09W200C	TLOC	130	06-16-47	---	---	---	---	---	---	840	---	---	16	---	---	---	---	---	---	---	---	2630	---	---
161N09W220C	---	90	06-16-47	---	---	---	---	---	---	848	---	---	28	---	---	---	---	---	---	---	---	2370	---	---
161N09W230B	TLOC	232	06-10-47	---	---	---	---	---	---	820	---	---	13	---	---	---	---	---	---	---	---	2960	---	---
161N09W240A	---	63	06-10-47	---	---	---	---	---	---	830	---	---	20	---	---	---	---	---	---	---	---	2050	---	---
161N09W260A	TLOC	190	06-16-47	---	---	---	---	---	---	815	---	---	10	---	---	---	---	---	---	---	---	2400	---	---
161N09W280B	TLOC	170	06-16-47	---	---	---	---	---	---	898	---	---	16	---	---	---	---	---	---	---	---	2430	---	---
161N09W280A	TLOC	165	06-16-47	---	---	---	---	---	---	845	---	---	15	---	---	---	---	---	---	---	---	2580	---	---
161N09W300A	---	34	06-16-47	---	---	---	---	---	---	560	---	---	16	---	---	---	---	---	---	---	---	1530	---	---
161N09W350C	---	72	06-16-47	---	---	---	---	---	---	514	---	---	7.0	---	---	---	---	---	---	---	---	3100	---	---
161N09W380A	---	120	05-26-47	---	---	---	---	---	---	545	---	---	23	---	---	---	---	---	---	---	---	5750	---	---
161N09W380B	TLOC	60	05-28-47	---	---	---	---	---	---	845	---	---	12	---	---	---	---	---	---	---	---	2100	---	---
161N09W380C	---	209	05-28-47	---	---	---	---	---	---	1630	80	---	28	---	---	---	---	---	---	---	---	2120	---	---
161N09W380D	---	---	07-12-66	---	---	---	---	---	---	---	---	---	28	---	---	---	---	---	---	---	---	1870	---	7
161N09W390C	---	165	05-29-47	---	---	---	---	---	---	1040	---	---	16	---	---	---	---	---	---	---	---	2480	---	---
161N09W400A	---	59	09-11-48	16	---	50	22	70	1.2	316	12	98	4.0	1	1.2	403	---	215	0	---	44	468	6.2	---
161N09W100D	---	180	06-10-47	---	---	---	---	---	---	1320	---	---	24	---	---	---	---	---	---	---	---	2320	---	---
161N09W120C	TLOC	90	06-10-47	---	---	---	---	---	---	1150	---	---	27	---	---	---	---	---	---	---	---	2590	---	---
161N09W130A1	TLOC	119	07-12-66	---	---	---	---	---	---	---	---	---	28	---	---	---	---	---	---	---	---	2300	---	---
161N09W140A	TLOC	165	06-10-47	---	---	---	---	---	---	1240	---	---	36	---	---	---	---	---	---	---	---	2780	---	6
161N09W140C	TLOC	190	06-10-47	---	---	---	---	---	---	1170	---	---	26	---	---	---	---	---	---	---	---	2250	---	---
161N09W170A	TLOC	235	05-23-47	---	---	---	---	---	---	1170	---	---	18	---	---	---	---	---	---	---	---	1830	---	---
161N09W170C	TLOC	196	05-28-47	---	---	---	---	---	---	880	---	---	18	---	---	---	---	---	---	---	---	2190	---	---
161N09W210A	TLOC	78	05-26-47	---	---	---	---	---	---	890	---	---	8.0	---	---	---	---	---	---	---	---	2470	---	---
161N09W2030D	---	125	05-29-47	---	---	---	---	---	---	885	---	---	20	---	---	---	---	---	---	---	---	3260	---	---
161N09W2120B	---	165	05-28-47	---	---	---	---	---	---	670	---	---	8.0	---	---	---	---	---	---	---	---	2300	---	---
161N09W2130D	---	220	06-28-47	---	---	---	---	---	---	865	---	---	23	---	---	---	---	---	---	---	---	2270	---	---
161N09W2140A	---	125	06-28-47	---	---	---	---	---	---	825	---	---	32	---	---	---	---	---	---	---	---	4850	---	---
161N09W230C	QGS1	38	06-23-67	17	2.9	65	20	3.2	2.4	754	6	31	1.4	4.0	1.0	400	287	245	35	1	3	463	7.5	---
162N08W300C	---	200	06-16-47	---	---	---	---	---	---	630	---	---	48	---	---	---	---	---	---	---	---	3680	---	---
162N08W040C	---	250	06-16-47	---	---	---	---	---	---	300	---	---	34	---	---	---	---	---	---	---	---	2070	---	---
162N08W090A 1	---	350	06-16-47	---	---	---	---	---	---	470	---	---	27	---	---	---	---	---	---	---	---	2840	---	---
162N08W090A 2	---	130	06-16-47	---	---	---	---	---	---	620	---	---	40	---	---	---	---	---	---	---	---	3680	---	---
162N08W110C	---	375	06-16-47	---	---	---	---	---	---	570	---	---	53	---	---	---	---	---	---	---	---	1980	---	---
162N08W170B	TLOC	260	06-16-47	---	---	---	---	---	---	905	---	---	46	---	---	---	---	---	---	---	---	7450	---	---
162N08W250C	TLOC	480	06-16-47	---	---	---	---	---	---	848	---	---	310	---	---	---	---	---	---	---	---	2360	---	---
162N08W260A	TLOC	347	06-16-47	---	---	---	---	---	---	890	---	---	102	---	---	---	---	---	---	---	---	2580	---	---
162N08W260C	QGS1	315	06-10-47	---	---	---	---	---	---	841	---	---	62	---	---	---	---	---	---	---	---	1960	---	---
162N08W270A	TLOC	527	06-18-47	---	---	---	---	---	---	1210	---	---	428	---	---	---	---	---	---	---	---	3950	---	---
162N08W310D	TLOC	248	06-16-47	---	---	---	---	---	---	1000	---	---	32	---	---	---	---	---	---	---	---	3010	---	---

LOCAL NUMBER	MAJOR ADUPTER	DEPTH OF WELL (FT.)	DATE	SILICA (SI02)	TOTAL IRON (FE)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	CARBONATE (CO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	BORON (B)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	HARDNESS (CA, MG)	NON-CARBONATE HARDNESS	SODIUM ADSORPTION RATIO	PERCENT SODIUM	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH	TEMPERATURE (DEG C)
162N08W340C		320	05-29-48	2.9	3.5	271	89	447	7.2	478		1430	42	.4	4.4	.21	2510	1010	618		40	3710	7.7	
162N08W36CC	TLOC	100	06-11-47	10	--	7.0	4.2	467	2.2	864	.7	112	95	1.6	.5	.51	1390	35	0		84	2780	8.5	
162N08W03AD		182	06-05-47	25	--	93	44	101	17	576	.33	593	72	.6	3.0	.55	1560	413	0		66	2700	8.1	
162N08W0388B	QC51	210	06-01-48	24	.06	--	--	552	0.2	840		599	83	.8	3.3	.28	1780	241	0	15	--	2600	8.1	
162N08W03CD		140	06-18-47	--	--	--	--	--	--	1710		--	--	--	--	--	--	--	--	--	--	2130	--	
162N08W05AA	TLOC	378	06-19-47	--	--	--	--	--	--	1420		--	71	--	--	--	--	--	--	--	--	2320	--	
162N08W06AD	TLOC	196	06-10-47	--	--	--	--	--	--	630		--	73	--	--	--	--	--	--	--	--	2000	--	
162N08W07CD		150	06-10-47	--	--	--	--	--	--	855		--	45	--	--	--	--	--	--	--	--	2450	--	
162N08W08DD	TLOC	460	06-10-47	--	--	--	--	--	--	1510		--	352	--	--	--	--	--	--	--	--	2240	--	
162N08W09AB		263	06-16-47	--	--	--	--	--	--	1700		--	36	--	--	--	--	--	--	--	--	2240	--	
162N08W138C	TLOC	279	06-16-47	--	--	--	--	--	--	1450		--	72	--	--	--	--	--	--	--	--	2330	--	
162N08W158C	TLOC	280	06-16-47	--	--	--	--	--	--	1420		--	63	--	--	--	--	--	--	--	--	2450	--	
162N08W18AD		200	05-29-48	7.5	--	28	15	908	11	202		1000	6.0	.7	.0	.38	1670	132	0		85	2460	7.7	
162N08W21ADD		90	06-16-47	--	--	--	--	--	--	880		--	10	--	--	--	--	--	--	--	--	2480	--	
162N08W22AD		120	06-16-47	--	--	--	--	--	--	485		--	7.0	--	--	--	--	--	--	--	--	2400	--	
162N08W23DD		150	06-16-47	--	--	--	--	--	--	1510		--	112	--	--	--	--	--	--	--	--	2510	--	
162N08W288C		160	06-16-47	--	--	--	--	--	--	1550		--	140	--	--	--	--	--	--	--	--	2450	--	
162N08W29CC	TLOC	100	06-09-47	--	--	--	--	--	--	1570		--	31	--	--	--	--	--	--	--	--	2140	--	
162N08W30DC	TLOC	150	06-09-47	--	--	--	--	--	--	1510		--	37	--	--	--	--	--	--	--	--	2350	--	
162N08W31DA	TLOC	270	09-11-48	11	.12	7.5	4.8	752	2.3	1480		6.4	186	1.4	.0	.17	1410	38	0		98	2450	7.0	
162N08W33DCC		60	06-16-47	--	--	--	--	--	--	1460		--	24	--	--	--	--	--	--	--	--	2470	--	
162N08W34CC		83	06-16-47	--	--	--	--	--	--	1600		--	25	--	--	--	--	--	--	--	--	2480	--	
162N09W01AA		24	10-12-49	--	--	303	626	4157	--	675		11000	226	--	--	--	16500	--	--	--	--	13500	7.8	
162N09W01ADA		24	07-18-50	--	--	--	--	3300	--	--		--	--	--	--	--	21100	--	--	--	--	16700	7.4	
162N09W01ADD		24	07-18-50	--	--	--	--	380	--	--		--	--	--	--	--	3520	--	--	--	--	3500	7.4	
162N09W018AA		26	07-13-50	--	--	--	--	1150	--	--		6720	294	--	--	--	8320	--	--	--	--	6870	7.7	
162N09W018AB		26	10-12-49	--	--	450	213	2607	--	388		144	28	--	--	--	392	--	--	--	--	400	8.4	
162N09W018CC		22	10-24-49	--	--	67	60	35	--	244		1900	224	--	--	--	24400	--	--	--	--	20700	8.1	
162N09W01DAD		24	10-12-49	--	--	450	2300	4450	--	254		134	2.0	--	--	--	284	--	--	--	--	430	8.2	
162N09W01D8B		12	10-07-49	--	--	12	25	55	--	956		--	--	--	--	--	--	--	--	--	--	1770	7.4	
162N09W01DCC		24	07-17-50	--	--	--	--	280	--	--		5350	144	--	--	--	8400	--	--	--	--	7000	8.1	
162N09W01DD0		16	10-24-49	--	--	344	823	850	--	430		125	6.0	--	--	--	612	--	--	--	--	870	8.1	
162N09W02ABA		22	10-12-49	--	--	50	90	120	--	441		--	--	--	--	--	3800	--	--	--	--	2400	7.4	
162N09W02ACC		24	07-20-50	--	--	--	--	480	--	--		6150	44	--	--	--	7780	--	--	--	--	2300	7.5	
162N09W028AB		24	10-12-49	--	--	375	125	2720	--	320		--	--	--	--	--	--	--	--	--	--	2300	7.5	
162N09W02C8B		24	10-24-49	--	--	450	295	885	--	447		3640	80	--	--	--	5980	--	--	--	--	5600	8.0	
162N09W02CCB		23	07-19-50	--	--	--	--	1800	--	--		--	--	--	--	--	12400	--	--	--	--	4500	7.8	
162N09W02CCD		20	07-07-50	--	--	--	--	1130	--	--		--	--	--	--	--	9110	--	--	--	--	7300	7.4	
162N09W02DAD		23	07-18-50	--	--	--	--	730	--	--		--	--	--	--	--	6080	--	--	--	--	5300	8.0	
162N09W02DCC		23	10-24-49	--	--	450	370	790	--	435		3320	128	--	--	--	5740	--	--	--	--	5500	8.0	
162N09W02DDC		24	07-07-50	--	--	--	--	2280	--	--		--	--	--	--	--	19000	--	--	--	--	13000	7.4	
162N09W03AAB		16	10-14-49	--	--	400	976	810	--	495		6000	152	--	--	--	7840	--	--	--	--	6700	7.9	
162N09W03AAD		24	07-19-50	--	--	--	--	400	--	--		--	--	--	--	--	3460	--	--	--	--	3400	7.6	
162N09W03BAA		17	07-13-50	--	--	--	--	74	--	--		--	--	--	--	--	1030	--	--	--	--	1000	8.5	
162N09W03BBA		22	10-13-49	--	--	225	375	586	--	694		2680	10	--	--	--	3400	--	--	--	--	3100	7.7	
162N09W03BBB		24	07-13-50	--	--	--	--	250	--	--		--	--	--	--	--	2430	--	--	--	--	2400	7.4	
162N09W03BBC		23	10-13-49	--	--	74	923	565	--	600		4000	6.0	--	--	--	5460	--	--	--	--	4800	8.0	
162N09W03CCB		22	07-18-50	--	--	--	--	650	--	--		--	--	--	--	--	5550	--	--	--	--	4700	7.8	
162N09W03CCD		24	07-13-50	--	--	--	--	135	--	--		--	--	--	--	--	1600	--	--	--	--	1700	8.3	
162N09W03CDD		23	10-13-49	--	--	100	88	90	--	440		528	16	--	--	--	768	--	--	--	--	1070	7.4	
162N09W08DD		230	04-10-47	--	--	--	--	--	--	830		--	49	--	--	--	--	--	--	--	--	3330	--	
162N09W09AB		192	04-10-47	--	--	--	--	--	--	1020		--	51	--	--	--	--	--	--	--	--	2470	--	
162N09W09AAD		10	07-19-50	--	--	--	--	50	--	--		--	--	--	--	--	832	--	--	--	--	690	7.7	
162N09W09AAA		23	10-24-49	--	--	325	301	660	--	218		2910	132	--	--	--	4370	--	--	--	--	5100	8.2	
162N09W09BCC		22	10-24-49	--	--	268	357	953	--	450		3640	68	--	--	--	5900	--	--	--	--	5600	8.7	
162N09W10CAA		14	07-20-50	--	--	--	--	33	--	--		--	--	--	--	--	68	--	--	--	--	270	8.8	
162N09W10CCB		22	08-28-51	17	--	316	1050	1970	--	731		10900	80	1.6	1.0	--	15200	7690	7090	--	--	13900	7.8	
162N09W10CCC		24	10-25-49	--	--	432	429	605	--	597		3840	48	--	--	--	5510	--	--	--	--	5100	8.3	
162N09W10CCD		6	07-16-50	--	--	--	--	90	--	--		--	--	--	--	--	452	--	--	--	--	450	7.8	
162N09W11AD		16	10-25-49	--	--	508	262	146	--	440		2220	28	--	--	--	3680	--	--	--	--	2800	7.8	

LOCAL NUMBER	MAJOR AQUIFER	DEPTH OF WELL (FT.)	DATE	SILICA (SI02)	TOTAL IRON (FE)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	AMMONIUM (NH4)	CARBONATE (CO3)	CARBONATE (CO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	BORON (B)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	HARDNESS (CA, MG)	NON-CARBONATE HARDNESS	SODIUM ADSORPTION RATIO	PERCENT SODIUM	SPECIFIC CONDUCTANCE (MICROHMS)	PH	TEMPERATURE (DEG C)		
162N09W11AD		225	06-10-47								735		1370	38				1900					3300				
162N09W11BC		21	10-24-49			427	1900	2750			558			120										2700	7.5		
162N09W11BD		17	07-18-50																284					3500	8.3		
162N09W11CC		10	10-24-49			354	266	240			475		1950	84					3440					3500	7.4		
162N09W11CD		22	07-14-50					47											1070					3500	7.6		
162N09W11DDA		16	10-21-49			545	359	1557			586		6450	324					10100					9700	7.5		
162N09W11DDC		26	10-17-49			140	576	767			746		3120	640					4200					3500	7.6		
162N09W11DDB		22	10-12-49			50	50	100			140		134	16					488					750	7.9		
162N09W11DCC		17	07-18-50					195											1460					1400	7.3		
162N09W11DCA		24	10-17-49			425	898	2220			376		9000	54					13500					10700	7.4		
162N09W11DDB		20	10-24-49			359	872	1620			528		6840	128					11800					9000	8.4		
162N09W11DCC		17	10-24-49			373	1867	1973			542		11400	224					17400					13500	7.7		
162N09W11DDB		19	10-17-49			82	797	130			324		1140						1510					2100	7.8		
162N09W11DDB		18	07-14-50					1599											12000					10000	7.9		
162N09W11DDB		22	10-21-49			488	554	990			244		5130	80					8070					7000	8.7		
162N09W11DDB		24	10-17-49			112	350	2150			322		5500	262					8060					7800	7.4		
162N09W11DDB		10	07-18-50					210											4230					4700	7.8		
162N09W11DDB		20	07-13-50					750											4540					4500	7.6		
162N09W11DDB		14	10-17-49			300	300	966			607		5500	28					5950					5700	7.4		
162N09W11DDB		16	07-18-50					1707											13700					10000	7.5		
162N09W11DDB		17	10-21-49			478	1560	1300			720		9260	84					14400					11200	7.7		
162N09W11DDB		18	07-18-50					35											240					300	8.3		
162N09W11DDB		17	07-18-50					859											6020					5400	7.4		
162N09W11DDB		10	10-24-49			91	43	35			276		269	20					692					700	8.3		
162N09W11DDB		24	10-17-49			325	940	3100			1010		9800	298					15600					11700	7.6		
162N09W11DDB		12	10-25-49			67	1080	680			678		604	48					2760					2900	8.5		
162N09W11DDB		18	10-21-49			461	338	275			742		2680	32					4110					3800	7.9		
162N09W11DDB		24	10-21-49			283	147	35			244		1680	52					1890					2700	7.4		
162N09W11DDB		23	07-18-50					509											3560					3500	8.0		
162N09W11DDB		22	07-14-50					1150											7930					6800	7.3		
162N09W11DDB		12	10-25-49			500	626	767			518		4440	96					7710					3600	7.7		
162N09W11DDB		19	10-21-49			134	151	112			327		836	56					1600					1700	7.5		
162N09W11DDB		8	10-25-49			442	376	807			614		4350	72					6170					5600	7.6		
162N09W11DDB		16	07-20-50					117											770					1170	8.0		
162N09W11DDB		12	10-21-49			398	1200	2700			536		10500	294					16200					13000	8.0		
162N09W11DDB		24	10-21-49			480	418	514			783		3540	80					5640					5100	7.1		
162N09W11DDB		236	06-04-47								684			11										2740			
162N09W11DDB		24	07-14-50					949											6200					5600	7.7		
162N09W11DDB		24	07-18-50					670											2330					2500	8.3		
162N09W11DDB		22	07-18-50					700											5130					4500	7.5		
162N09W11DDB		60	06-10-47								655			158										4440			
162N09W11DDB		24	10-21-49			413	551	782			185		4280	264					6950					6400	7.5		
162N09W11DDB		10	10-25-49			149	81	125			444		500	48					1270					1900	8.3		
162N09W11DDB		12	10-25-49			63	51	225			640		168	96					1150					1200	8.9		
162N09W11DDB		24	07-14-50					33											240					580	7.5		
162N09W11DDB		22	10-21-49			288	580	204			293		3160	24					4820					4440	7.6		
162N09W11DDB		24	07-18-50					470											5300					4700	7.7		
162N09W11DDB		24	10-21-49			442	294	140			210		2410	24					3740					3400	7.8		
162N09W11DDB		80	06-10-47								840			22										2370			
162N09W11DDB		80	06-10-47								895			27										1810			
162N09W11DDB	TLOC	80	06-10-47								1400			35										1980			
162N09W11DDB		69	06-10-47								740			44										2800			
162N09W11DDB		120	06-10-47								1410			73										2320			
162N09W11DDB		45	06-10-47								880			30										3480			
162N09W11DDB	TLOC	360	06-02-44	6.0		7.0	1.3	548	18		922	18	438	24	1.8	1.5	1.9	1530	23	0		96	2340	8.2			
162N09W11DDB	0851	40	05-28-47								680			140											3550		
162N09W11DDB		191	05-28-47								705			12											2470		
162N09W11DDB	TLOC	76	05-29-47								1080			70											4920		
162N09W11DDB	TLOC	160	05-26-47								730			13											2560		

LOCAL NUMBER	MAJOR AQUIFER	DEPTH OF WELL (FT.)	DATE	SILICA (SI02)	TOTAL IRON (FE)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	PHOSPHORUS (P)	AMMONIUM (NH4)	CARBONATE (CO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	BORON (B)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	HARDNESS (CA, MG)	NON-CARBONATE HARDNESS	SODIUM ADSORPTION RATIO	PERCENT SODIUM	SPECT-FIT CONCENTRATION (MICRO-MM)	PH	TEMPERATURE (DFG C)
162N091W088A	TLOC	231	05-28-47	--	--	--	--	--	--	1620	--	--	117	--	--	--	--	--	--	--	--	2420	--	--
162N091W10AD	--	127	05-26-47	--	--	--	--	--	--	250	--	--	16	--	--	--	--	--	--	--	--	1740	--	--
162N091W11AA	--	130	06-10-47	--	--	--	--	--	--	1730	--	--	44	--	--	--	--	--	--	--	--	2410	--	--
162N091W130C	--	123	06-10-47	--	--	--	--	--	--	640	--	--	38	--	--	--	--	--	--	--	--	1890	--	--
162N091W148C	--	160	05-28-47	--	--	--	--	--	--	1620	--	--	23	--	--	--	--	--	--	--	--	2370	--	--
162N091W158B	--	90	05-29-47	--	--	--	--	--	--	905	--	--	44	--	--	--	--	--	--	--	--	3200	--	--
162N091W17C8	TLOC	135	05-28-47	--	--	--	--	--	--	1760	--	--	31	--	--	--	--	--	--	--	--	2540	--	--
162N091W21AB	TLOC	195	05-29-47	--	--	--	--	--	--	1700	--	--	92	--	--	--	--	--	--	--	--	2590	--	--
162N091W24AAA	QG51	38	08-02-67	24	2.3	150	70	150	13	361	671	--	8	24.5	.00	1320	663	367	2.5	33	1690	7.9	8	
162N091W25AD	TLOC	120	06-10-47	--	--	--	--	--	--	1620	--	--	27	--	--	--	--	--	--	--	--	2100	--	--
162N091W29DD	TLOC	80	06-10-47	--	--	--	--	--	--	1680	--	--	27	--	--	--	--	--	--	--	--	2100	--	--
162N091W27AC	TLOC	106	04-11-49	12	.32	9.0	4.8	712	16	1890	4.0	--	40	1.0	.5	10	1720	42	0	--	96	2322	8.0	--
162N091W34BD	TLOC	190	05-27-47	--	--	--	--	--	--	1760	--	--	32	--	--	--	--	--	--	--	--	2370	--	--
162N092W05CD	TLOC	225	05-28-47	--	--	--	--	--	--	1740	--	--	158	--	--	--	--	--	--	--	--	2400	--	--
162N092W128BB	QG51	60	04-19-67	27	.08	150	47	81	6.0	300	297	--	64	.1	25	.39	915	548	221	1.5	24	1310	7.0	8
162N092W26CC	--	120	05-28-47	--	--	--	--	--	--	1880	--	--	57	--	--	--	--	--	--	--	--	2420	--	--
162N092W35DA	--	10	05-26-47	--	--	--	--	--	--	1050	--	--	46	--	--	--	--	--	--	--	--	2650	--	--
162N092W50AD	TLOC	165	05-28-47	--	--	--	--	--	--	1870	--	--	65	--	--	--	--	--	--	--	--	2710	--	--
162N093W058B	--	140	05-28-47	--	--	--	--	--	--	2140	--	--	56	--	--	--	--	--	--	--	--	2042	--	--
162N093W09CB	--	80	05-28-47	--	--	--	--	--	--	1920	--	--	62	--	--	--	--	--	--	--	--	2620	--	--
162N093W05DD 2	--	170	05-26-47	--	--	--	--	--	--	2350	--	--	118	--	--	--	--	--	--	--	--	3710	--	--
162N093W08AA	TLOC	260	05-29-47	--	--	--	--	--	--	1770	--	--	132	--	--	--	--	--	--	--	--	2790	--	--
162N093W098A	TLOC	130	05-28-47	--	--	--	--	--	--	1010	--	--	140	--	--	--	--	--	--	--	--	2680	--	--
162N093W108B	--	100	05-29-47	--	--	--	--	--	--	1650	--	--	46	--	--	--	--	--	--	--	--	2360	--	--
162N093W19CA 1	TLOC	700	05-28-47	--	--	--	--	--	--	2110	--	--	242	--	--	--	--	--	--	--	--	3440	--	--
162N093W20CC	--	160	05-28-47	--	--	--	--	--	--	1700	--	--	34	--	--	--	--	--	--	--	--	2400	--	--
162N093W248AA	TLOC	180	05-27-47	--	--	--	--	--	--	1700	--	--	64	--	--	--	--	--	--	--	--	2600	--	--
162N093W26CCC2	TLOC	275	05-29-47	--	--	--	--	--	--	1750	--	--	95	--	--	--	--	--	--	--	--	2570	--	--
162N093W31DB	--	170	05-27-47	--	--	--	--	--	--	1640	--	--	10	--	--	--	--	--	--	--	--	3360	--	--
162N093W330A	--	100	05-26-47	--	--	--	--	--	--	878	--	--	8.0	--	--	--	--	--	--	--	--	2400	--	--
163N088W01CB	--	180	06-18-47	--	--	--	--	--	--	690	--	--	100	--	--	--	--	--	--	--	--	3280	--	--
163N088W028B	--	125	06-19-47	--	--	--	--	--	--	1650	--	--	330	--	--	--	--	--	--	--	--	2590	--	--
163N088W048B	--	120	06-12-47	12	.60	44	9.8	653	17	478	53	884	18	.2	3.5	.50	2010	150	0	90	2060	8.5	--	
163N088W088A	--	200	06-19-47	--	--	--	--	--	--	700	--	--	11	--	--	--	--	--	--	--	--	1700	--	--
163N088W19AC	--	200	06-09-47	--	--	--	--	--	--	1310	--	--	40	--	--	--	--	--	--	--	--	1810	--	--
163N088W190C	--	212	06-09-47	--	--	--	--	--	--	1530	--	--	44	--	--	--	--	--	--	--	--	1880	--	--
163N088W248B1	--	440	06-12-47	23	--	423	307	245	23	395	36	1110	249	.4	1180	.23	3800	2520	2010	15	4600	8.4	--	
163N088W26AD	--	40	06-19-47	--	--	--	--	--	--	655	--	--	16	--	--	--	--	--	--	--	--	1920	--	--
163N088W280D	--	200	06-05-47	--	--	10	3.3	802	7.2	1000	44	758	38	1.2	1.5	.52	2230	58	0	--	96	3380	8.0	--
163N088W298B	--	180	06-09-47	--	--	--	--	--	--	1010	--	--	37	--	--	--	--	--	--	--	--	3180	--	--
163N088W300C	--	140	06-10-47	--	--	--	--	--	--	794	--	--	38	--	--	--	--	--	--	--	--	3630	--	--
163N088W329A	--	180	06-10-47	--	--	--	--	--	--	865	--	--	35	--	--	--	--	--	--	--	--	3650	--	--
163N088W330B	--	101	06-09-47	--	--	--	--	--	--	1000	--	--	55	--	--	--	--	--	--	--	--	3210	--	--
163N088W350AA	--	444	04-19-47	7.9	1.1	7.6	1.2	708	2.5	1730	0	1.2	365	.7	.9	1.9	1740	24	0	53	98	2860	8.2	--
163N088W058C	--	180	06-16-47	--	--	--	--	--	--	1030	--	--	62	--	--	--	--	--	--	--	--	3030	--	--
163N088W078C	--	200	06-10-47	--	--	--	--	--	--	100	--	--	48	--	--	--	--	--	--	--	--	3730	--	--
163N088W084D	--	153	06-05-47	13	--	45	21	720	3.2	844	35	872	58	.6	1.5	.46	2200	199	0	--	89	3330	8.4	--
163N088W088B	--	170	06-16-47	--	--	--	--	--	--	1740	--	--	75	--	--	--	--	--	--	--	--	3190	--	--
163N088W219C	TLOC	300	06-16-47	--	--	--	--	--	--	280	--	--	38	--	--	--	--	--	--	--	--	2820	--	--
163N088W220C	--	240	06-09-47	--	--	--	--	--	--	804	--	--	26	--	--	--	--	--	--	--	--	3040	--	--
163N088W230D	--	126	06-09-47	--	--	--	--	--	--	530	--	--	31	--	--	--	--	--	--	--	--	3330	--	--
163N088W248C	--	195	06-09-47	--	--	--	--	--	--	605	--	--	23	--	--	--	--	--	--	--	--	2400	--	--
163N088W248D	--	150	06-09-47	--	--	--	--	--	--	639	--	--	30	--	--	--	--	--	--	--	--	3460	--	--
163N088W25AD	--	200	06-02-48	2.5	.88	36	21	978	15	566	5	1710	34	.6	1.6	.40	3080	176	0	--	92	4070	8.1	--
163N088W25CB	--	147	06-10-47	--	--	--	--	--	--	665	--	--	21	--	--	--	--	--	--	--	--	3840	--	--
163N088W27DA	--	132	06-10-47	--	--	--	--	--	--	496	--	--	29	--	--	--	--	--	--	--	--	3840	--	--
163N088W288C	--	186	06-09-47	--	--	--	--	--	--	780	--	--	35	--	--	--	--	--	--	--	--	3430	--	--

LOCAL NUMBER	MAJOR AQUIFER	DEPT# OF WELL (FT.)	DATE	SILICA (SI02)	TOTAL IRON (FE)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	AMMONIUM (NH4)	CARBONATE (CO3)	CALCIUM (CA)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	BORON (B)	DISSOLVED SILICIC ACID (RESIDUE AT 100 C)	HARDNESS (CA+MG)	NON-CARBONATE HARDNESS	SODIUM ADSORPTION RATIO	PERCENT SODIUM	SPECIFIC CONDUCTANCE (MICRO-MH/CM)	PH	TEMPERATURE (DEG F)		
163N09W330C		202	06-10-47								876			73										2277			
163N09W350C	TL0C	390	06-10-47								936			41										1247			
163N09W070B		120	06-16-47								727			30										1657			
163N09W089C		150	06-16-47								667			26										2727			
163N09W098C		370	06-16-47								1457			52										2577			
163N09W080A	TL0C	292	06-16-47								1331			55										2877			
163N09W098B		294	06-16-47								936			24										3787			
163N09W108B		240	06-16-47								1176			31										2927			
163N09W110A		235	06-16-47								858			29										3767			
163N09W119C	TL0C	187	06-10-47								1360			28										2417			
163N09W20CC	TL0C	345	06-10-47								1120			40										3737			
163N09W21CC		290	06-10-47								979			28										3662			
163N09W220C		210	06-10-47								761			26										3367			
163N09W248C		175	06-16-47								467			20										3367			
163N09W24CB		412	06-10-47								1000			76										2477			
163N09W278C		265	06-10-47								644			26										3637			
163N09W310AA		290	06-08-67	2.7	1.8	6.7	28	538	6.4	887		661	31	0.6	1.0	1.6	1670	265	0	14	87	31	1780	4.4	17		
163N09W320CB	TL0C	715	06-08-67	7.2	1.6	6.8	1.2	417	1.7	1438		2.5	491	0.9		1.6	7240	22	0				2857				
163N09W320B		212	06-10-47								1078			39										2637			
163N09W330C		270	06-10-47								1013			54										2637			
163N09W348C	TL0C	298	06-10-47								1170			48										3747			
163N09W340D		22	10-24-49			140	280	527		284		2730						4230						4277	4.1		
163N09W360CC		24	07-13-50					215		215														1790	6.1		
163N09W378B		140	09-11-49	25		105	45	207	7.8	748		754	14	1.4	3.8	4.6	1440	672	370		43		1862	6.8			
163N09W15CB		730	05-28-47								690			41										2877			
163N09W21CC		283	05-28-47								610			19										2887			
163N09W22AD	TL0C	190	05-28-47								930			58										2977			
163N09W280D	TL0C	165	05-28-47								1977			114										3310			
163N09W290C		180	05-21-47								767			23										3170			
163N09W328C		150	05-28-47								830			6.0										3767			
163N09W348D		179	05-28-47								955			35										2807			
163N09W354AC2	OG51	275	06-10-47								1477			129										2867			
163N09W350C		100	06-10-47								165			10										3670			
163N09W2028A		175	05-28-47								1466			13										4620			
163N09W2048B		75	05-28-47								1076			56											4620		
163N09W2040D		110	05-28-47								785			172											6700		
163N09W211AA		160	05-29-47								1003			16											3467		
163N09W2158B		220	06-02-48	12		148	103	407	12	736		1730	24	0.6	1.6	4.2	2840	1260	965		67	6.7	3717	7.1			
163N09W2210CC	TL0C	244	07-05-67	15	1.2	88	27	207	8.3	445		387	7.1	0.4		3.1	915	380	0				4.8	5.6	1670	7.0	
163N09W238AD		24	06-05-67			400	194	156		425		1600	68					2840	1700	1350		1.6	1.0	4667	7.4		
163N09W2380D		170	05-29-47								587			6.0											2740		
163N09W2360A		95	05-28-47								475			6.0											1360		
163N09W2348A		6281	04--59	16	1.0	5900	975	86000	4307	143		17600	19000	10		0.0	271000	10000	10000				37	2600	8.2		
163N09W308AD	TL0C	204	06-04-47	8.0	4.0		4.4	693	7.2	1420	45	166	70	2.4	1.5	4.8	1720	38	0					5820			
163N09W3098B		60	05-29-47								835			6.0											1460		
163N09W31280C		90	05-29-47								890			20			30	3500	2140	1730	2.0	18	3.32	3630	7.4	7	
163N09W3170D	OG51	74	11-16-67	24	3.4	562	179	213	14	490		2080	20	1.1		30	26	3480	2090	1760	2.0	18	3910	7.6			
163N09W3170D	OG51	76	08-03-67	24	3.5	900	195	207	16	357		2130	20	1.1	3.0	26	3480	2090	1760	2.0	18	3910	7.6				
163N09W3190D	OG52	437	11-21-67	24	2.9	94	30	532	6.1	1760		315	119	1.0		19	1790	356	0	12	76	2620	7.0	0			
163N09W3190CC1	OG52	295	12-04-67	27	2.0	35	22	580	7.4	1090		456	98	1.4		34	1760	140	0	19	87	2640	6.1	8			
163N09W3190DA	OG52	140	12-08-67	24	4.0	225	58	287	12	388		1100	25	1.1		44	2000	788	476	4.5	44	2440	7.8	8			
163N09W320AAA	OG52	459	06-28-67	23	2.4	56	22	572	7.7	1170		420	98	1.0	8.0	35	1720	230	0	16	84	2670	7.4				
163N09W320AAA	OG52	459	04-02-48	28	1.9	66	20	578	7.8	1150		419	98	1.0	6.6	39	1720	246	0	16	83	2640	8.0				
163N09W3208B	OG52	265	05-29-67	24	2.0	80	40	431	9.2	861		960	101	1.6		34	2380	520	0	12	72	3300	8.0	7			
163N09W321CB	OG52	172	12-06-67	24	2.0	80	40	431	9.2	861		960	101	1.6		34	2380	520	0	12	72	3300	8.0	7			
163N09W322CAB	OG51	172	12-07-67	9.0	3.1	113	45	729	4.6	575		1500	35	0.7		44	2800	468	0	15	77	3680	7.0	8			
163N09W323AA		255	10-24-67								1085			3.0										843			
163N09W3238A		202	05-29-47								1127			40										2510			
163N09W3290D		82	06-04-47	27	0.9	89	63	519	10	882	31	653	60	0.4	2.5	4.6	1880	399	0			73	2630	8.3			
163N09W33088B1	OG52	395	08-26-68	22	1.0	64	17	642	7.6	1160		536	83	1.9		44	1950	230	0	10	85	2450	8.0	8			

LOCAL NUMBER	MAJOR AQUIFER	DEPTH OF WELL (FT.)	DATE	SILICA (SI02)	TOTAL IRON (FE)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM (NA)	POTASSIUM (K)	BICARBONATE (HCO3)	CARBONATE (CO3)	SULFATE (SO4)	CHLORIDE (CL)	FLUORIDE (F)	NITRATE (NO3)	BORON (B)	DISSOLVED SOLIDS (RESIDUE AT 180 C)	HARDNESS (CA+MG)	NON-CARBONATE HARDNESS	SODIUM ADSORPTION RATIO	PERCENT SODIUM	SPECIFIC CONDUCTANCE (MICROHMS)	PH	TEMPERATURE (DEG C)
163M093M3088B1	Q052	395	08-22-68	22	.07	63	15	639	7.4	1250	0	447	88	2.1	1.0	.39	1890	218	0	19	86	2800	8.7	--
163M093M3280C0	TLOC	315	11-16-67	6.3	.34	4.6	2.1	861	3.1	1969	0	2.1	236	2.9	.07	2150	20	0	94	59	59	3360	8.2	--
163M093M3280C1	TLOC	275	04-19-67	6.3	.11	4.4	1.2	861	2.8	1767	0	21	204	2.5	.4	.07	2050	16	0	96	59	3270	8.5	0
163M093M3280C1	TLOC	275	--	10	.15	.7	4.4	858	--	1937	--	.4	212	3.6	1.3	--	2110	20	0	--	59	--	--	--
163M093M33AB	--	40	05-29-47	--	--	--	--	--	--	580	--	--	115	--	--	--	--	--	--	--	--	6130	--	--
163M094M02C0	--	110	05-27-47	--	--	--	--	--	--	720	--	--	--	--	--	--	--	--	--	--	--	3980	--	--
163M094M048A	--	300	05-29-47	--	--	--	--	--	--	880	--	--	33	--	--	--	--	--	--	--	--	2730	--	--
163M094M06AA 1	TLOC	125	05-29-47	--	--	--	--	--	--	947	--	--	28	--	--	--	--	--	--	--	--	4715	--	--
163M094M06CB	--	250	06-02-68	5.5	.03	29	11	711	7.6	518	0	1140	28	1.2	1.4	.16	2220	118	0	--	92	3020	8.3	--
163M094M11AB	--	125	05-26-47	--	--	--	--	--	--	675	--	--	18	--	--	--	--	--	--	--	--	3910	--	--
163M094M120C	--	96	05-29-47	--	--	--	--	--	--	540	--	--	8.0	--	--	--	--	--	--	--	--	2770	--	--
163M094M14AA	--	20	05-29-47	--	--	--	--	--	--	515	--	--	48	--	--	--	--	--	--	--	--	2790	--	--
163M094M15CC	TLOC	150	05-29-47	--	--	--	--	--	--	745	--	--	19	--	--	--	--	--	--	--	--	3750	--	--
163M094M15DA	--	280	05-28-67	--	--	--	--	--	--	1700	--	--	82	--	--	--	--	--	--	--	--	2710	--	--
163M094M17DA	TLOC	160	05-27-47	--	--	--	--	--	--	1240	--	--	44	--	--	--	--	--	--	--	--	3200	--	--
163M094M20CA	TLOC	240	05-26-47	--	--	--	--	--	--	1760	--	--	99	--	--	--	--	--	--	--	--	2540	--	--
163M094M22CB 2	Q052	98	07-14-68	23	.60	130	48	360	0.0	736	0	693	14	.2	.49	1750	523	0	68	59	2940	7.9	--	
163M094M22CC0	TLOC	88	05-29-47	--	--	--	--	--	--	1400	--	--	92	--	--	--	--	--	--	--	--	2400	--	--
163M094M22DB	--	98	05-29-47	--	--	--	--	--	--	820	--	--	13	--	--	--	--	--	--	--	--	2590	--	--
163M094M23AB	--	110	05-26-47	--	--	--	--	--	--	715	--	--	44	--	--	--	--	--	--	--	--	3780	--	--
163M094M24AA	--	200	05-26-47	--	--	--	--	--	--	780	--	--	4.0	--	--	--	--	--	--	--	--	1870	--	--
163M094M26CB	--	90	05-29-47	--	--	--	--	--	--	545	--	--	7.0	--	--	--	--	--	--	--	--	1660	--	--
163M094M30AD	TLOC	309	05-28-47	--	--	--	--	--	--	1830	--	--	120	--	--	--	--	--	--	--	--	2870	--	--
163M094M31CC1	Q051	14	04-19-67	17	.62	151	78	480	4.0	763	0	2.9	41	.1	.22	.23	2080	533	0	9.2	66	2780	8.1	4
163M094M33AA	--	270	06-04-47	11	--	26	6.1	765	41	1860	--	--	133	4.0	.2	.41	1920	80	--	--	92	3040	--	--
164M088M338C	--	140	06-19-47	--	--	--	--	--	--	840	--	--	20	--	--	--	--	--	--	--	--	2310	--	--
164M088M350D	--	285	06-18-47	--	--	--	--	--	--	1140	--	--	310	--	--	--	--	--	--	--	--	2700	--	--
164M089M300D	--	135	06-16-47	--	--	--	--	--	--	1020	--	--	71	--	--	--	--	--	--	--	--	2680	--	--
164M089M31AC	--	196	06-16-47	--	--	--	--	--	--	1760	--	--	90	--	--	--	--	--	--	--	--	2290	--	--
164M089M31AD	--	165	06-16-47	--	--	--	--	--	--	1090	--	--	89	--	--	--	--	--	--	--	--	2750	--	--
164M089M328C	--	186	06-16-47	--	--	--	--	--	--	1020	--	--	73	--	--	--	--	--	--	--	--	2700	--	--
164M089M32DD	--	90	06-16-47	--	--	--	--	--	--	1780	--	--	74	--	--	--	--	--	--	--	--	3280	--	--
164M089M34CD	--	150	06-16-47	--	--	--	--	--	--	940	--	--	53	--	--	--	--	--	--	--	--	3090	--	--
164M090M250C	--	192	06-16-47	--	--	--	--	--	--	1760	--	--	97	--	--	--	--	--	--	--	--	2530	--	--
164M090M250CD2	Q051	170	06-22-66	--	--	--	--	--	--	1120	--	--	96	--	--	--	--	--	--	--	--	2300	--	7
164M090M26CD	TLOC	170	06-11-47	--	--	--	--	--	--	1180	--	--	96	--	--	--	--	--	--	--	--	2640	--	--
164M090M32CD	--	230	06-16-47	--	--	--	--	--	--	1550	--	--	43	--	--	--	--	--	--	--	--	3300	--	--
164M090M34CC	--	200	06-16-47	--	--	--	--	--	--	1690	--	--	64	--	--	--	--	--	--	--	--	2410	--	--
164M090M35ABA	Q051	81	09-02-66	20	.40	35	8.9	653	6.1	418	0	710	9.5	.7	.8	.30	1770	119	0	26	92	2730	8.1	8
164M092M250D	TLOC	798	05-26-47	--	--	--	--	--	--	1310	--	--	163	--	--	--	--	--	--	--	--	2550	--	--
164M092M340B	--	400	05-27-47	--	--	--	--	--	--	125	--	--	14	--	--	--	--	--	--	--	--	3390	--	--
164M092M36AAB	TLOC	625	06-23-66	8.8	.16	3.7	.9	668	1.9	1310	0	233	159	1.7	.1	1.6	1700	13	0	25	89	2410	8.2	8
164M092M37CC	--	345	09-11-68	8.0	--	33	58	648	12	412	12	1880	19	.6	.4	.30	3180	317	0	--	86	4070	8.2	8
164M094M32CC	--	125	05-28-67	--	--	--	--	--	--	815	--	--	25	--	--	--	--	--	--	--	--	3690	--	--
164M094M33AD	--	110	05-29-47	--	--	--	--	--	--	1120	--	--	28	--	--	--	--	--	--	--	--	3490	--	--