

**WATER-RESOURCES DATA FOR THE
LOWER JAMES RIVER, DICKEY,
LaMOURE, AND STUTSMAN COUNTIES,
NORTH DAKOTA**

**By James D. Wald,
U.S. Geological Survey**

and

**Paul K. Christensen
North Dakota State Water Commission**

**Prepared by the U.S. Geological Survey
In Cooperation With The
North Dakota State Water Commission**

**Water-Resources Investigation 2
North Dakota State Water Commission
Vernon Fahy, State Engineer**



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Bismarck, North Dakota

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CONTENTS

	<u>Page</u>
Abstract-----	1
Introduction-----	1
Purpose-----	1
Location-numbering system-----	1
Acknowledgments-----	4
Explanation of tables and methods of data collection---	4
Records of wells, test holes, and miscellaneous surface-water data-collection sites-----	4
Water levels in selected wells-----	4
Logs of wells and test holes-----	5
Water quality-----	5
Chemical constituents in solution-----	7
Properties and characteristics of water-----	9
Surface-water elevations-----	11
Surface-water discharge-----	11
Summary-----	11
Selected references-----	12

ILLUSTRATIONS

Plate 1. Map showing locations of data-collection sites in the lower James River, Dickey, LaMoure, and Stutsman Counties, North Dakota-----	(in pocket)
Figure 1. Map showing location of study area-----	2
2. Diagram showing location-numbering system---	3

TABLES

Table 1A. Records of wells and test holes-----	14
1B. Miscellaneous surface-water data- collection sites-----	37
2. Water levels in selected wells-----	39
3. Logs of selected wells and test holes-----	93
4. Chemical analyses of ground water from wells-----	476
5. Chemical analyses of surface water-----	482
6. Surface-water elevations of the James River at selected sites-----	485
7. Surface-water discharge measurements at selected sites-----	489

SELECTED FACTORS FOR CONVERTING
INCH-POUND UNITS TO THE INTERNATIONAL SYSTEM (SI)
OF METRIC UNITS

For those readers who may prefer to use the International System (SI) of metric units rather than inch-pound units, the conversion factors for the terms used in this report are given below.

Multiply inch-pound unit	By	To obtain SI unit
Acre	0.4047	hectare (ha)
Foot (ft)	0.3048	meter (m)
Inch (in.)	25.4	millimeter (mm)

National Geodetic Vertical Datum of 1929 (NGVD of 1929): A geodetic datum derived from a general adjustment of the first-order nets of both the United States and Canada, formerly called "mean sea level."

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ABSTRACT

To provide geologic and hydrologic data needed to define the hydrologic system and conceptual model of the flow system, water-resources data for the lower James River in Dickey, LaMoure, and Stutsman Counties, N. Dak., were collected. These data include records of wells and test holes, locations of miscellaneous surface-water data-collection sites, water levels in selected wells, lithologic logs of selected wells and test holes, chemical analyses of ground water and surface water, surface-water elevations, and surface-water discharge measurements.

INTRODUCTION

The investigation of the hydrology of the lower James River basin (fig. 1) was made cooperatively by the U.S. Geological Survey and the North Dakota State Water Commission. The results of the investigation will be published in two separate reports. Report 1 is a description of the hydrologic system, and report 2 is a compilation of the water-resources data. Report 2 (this report) makes available geologic and hydrologic data collected during the investigation and serves as a reference for the other report.

Purpose

The purpose of the investigation was to provide geologic and hydrologic data needed to define the hydrologic system and develop a conceptual model of the flow system. This report includes previously collected data as well as that collected under the present project.

Location-Numbering System

The location-numbering system used in this report (fig. 2) is based on the Federal system of rectangular surveys of the public lands. The first numeral denotes the township, the second denotes the range, and the third denotes the section in which the well, spring, or test hole is located. The letters A, B, C, and D designate, respectively, the northeast, northwest, southwest, and southeast quarter section, quarter-quarter section, and quarter-quarter-quarter section (10-acre or 4-ha tract); thus, well 132-061-15DAA would be located in the NE1/4NE1/4SE1/4 sec. 15, T. 132 N., R. 61 W. Consecutive terminal numbers are added if more than one well or test hole is recorded within a 10-acre (4-ha) tract.

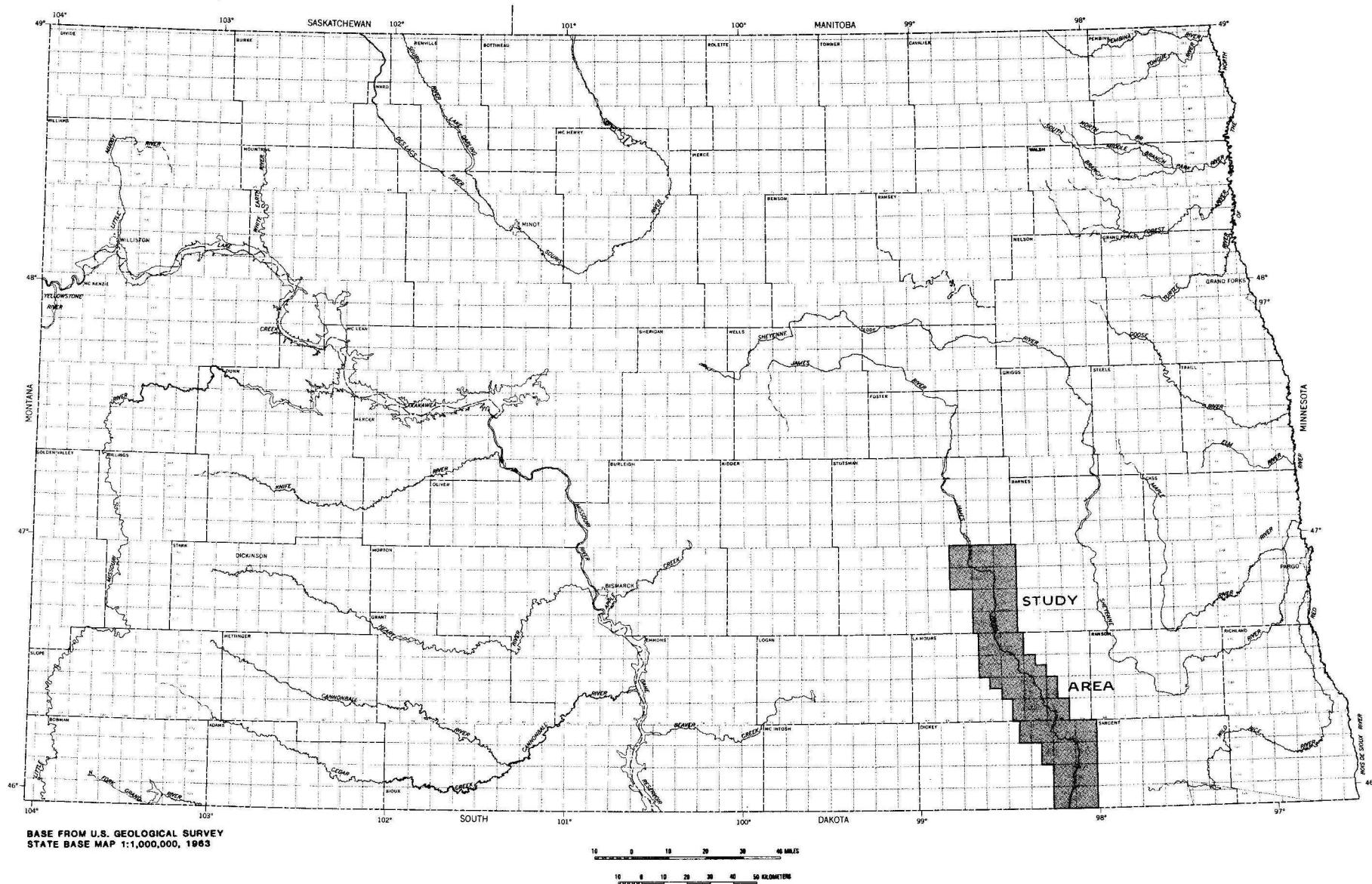


Figure 1.—Location of study area.

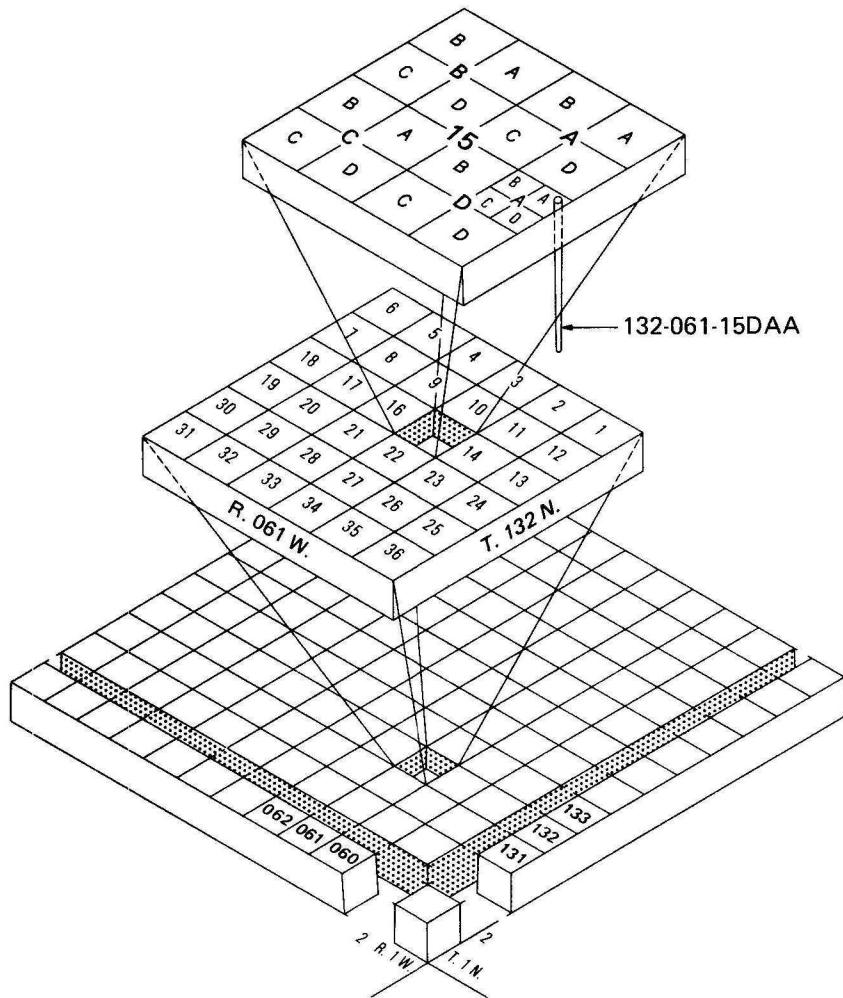


Figure 2.—Location-numbering system.

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EXPLANATION OF TABLES AND METHODS OF DATA COLLECTION

The data in this report are listed in tables 1-7. The points of collection are shown on plate 1. The data consist of the following: (1) Geologic and hydrologic records of wells and test holes, (2) locations of miscellaneous surface-water data-collection sites; (3) water-level measurements in observation wells; (4) lithologic logs of wells and test holes; (5) chemical analyses of ground water; (6) chemical analyses of surface water; (7) surface-water elevations of the James River; and (8) surface-water discharge measurements. Depths, water quality, lithologies, and water levels of wells and test holes tapping the different aquifers can be determined from the tables. However, use of the data as a guide to conditions at different sites should be made with caution because of the lenticular character of the water-bearing rocks and varying water quality in some aquifers.

Records of Wells, Test Holes, and Miscellaneous Surface-Water Data-Collection Sites

Records of selected wells and test holes are given in table 1A. Locations of miscellaneous surface-water data-collection sites are given in table 1B. Well depth is the depth of casing for open-bottom wells or the base of the deepest well screen for screened wells. Many test holes were converted to observation wells for periodic water-level measurements and water-quality sampling. At some sites, two or three observation wells were drilled in order to obtain water levels and water samples from several aquifers. The observation wells were constructed of 1-1/4-inch (32-mm) plastic pipe with 3- or 5-foot (1- or 2-m) screens. The observation wells were backwashed and were pumped a minimum of 10 hours for development before water samples were collected for analysis.

Water Levels in Selected Wells

Table 2 lists the monthly and intermittent water levels in selected wells, in feet below or above land surface, that tap

major aquifers in the study area. Water-level measurements made prior to 1982 may be shown in previously published reports.

Logs of Wells and Test Holes

Logs collected from water-well drillers and other sources and logs of test holes drilled as part of this investigation are included in table 3. Minor changes in word order have been made on some of the driller's logs and logs of test holes drilled for previous investigations. Most test holes drilled during this investigation have geophysical logs in addition to a description of the materials penetrated. The geophysical logs are useful for geologic correlation purposes. These logs are not published in this report but are available for inspection at the North Dakota State Water Commission office in Bismarck, N. Dak. Grain-size determinations refer to the Wentworth (1922) size scale. The color descriptions were determined by comparing fresh samples with the Geological Society of America's rock color chart (1963).

Water Quality

The chemical composition and physical properties of water are reported in the tables of analyses (tables 4 and 5). Water for samples was secured from privately owned wells by using the existing pumps and from the North Dakota State Water Commission observation wells by airlift. Generally enough water was pumped to clear the well column and plumbing, then the sample was collected in a linear polyethylene bottle. For those metals considered unstable, a separate sample was filtered and acidified before transport to the laboratory. Most of the samples were analyzed by the North Dakota State Water Commission, Bismarck, N. Dak. Methods of analyses were generally those described by Brown and others (1970), Skougstad and others (1979), and Fishman and Bradford (1982). The results are expressed in milligrams per liter (mg/L) or micrograms per liter (ug/L). A microgram per liter is one-thousandth of a milligram per liter.

Drinking-water standards have been recommended by the National Academy of Sciences-National Academy of Engineering (1972) at the request of the U.S. Environmental Protection Agency. Standards for public drinking-water supplies were established by the U.S. Environmental Protection Agency (1976, 1977, 1983). These standards include the following recommended limits: iron (Fe), 300 ug/L; manganese (Mn), 50 ug/L; sulfate (SO_4), 250 mg/L; and chloride (Cl), 250 mg/L.

The following summation for farmstead use is modified from the U.S. Federal Water Pollution Control Administration (1968) and the National Academy of Sciences-National Academy of Engineering (1972).

KEY WATER-QUALITY CRITERIA FOR FARMSTEAD USES

Recommendations (at point of use)

<u>Characteristic</u>	<u>General farmstead uses</u>	<u>Additional special-use requirements</u>
Taste and odor-----	Substantially free-----	
Odor-----	Substantially free-----	
pH -----	6.0 to 8.5-----	6.8 to 8.5 dairy sanitation
Total dissolved inorganic solids-	<500 mg/L (under certain circumstances, higher levels are acceptable)	
Hazardous trace elements-----	Levels in excess of those shown are grounds for rejection of supply:	
	Substances	
	Arsenic (ug/L)----- ^{a/} 50	
	Barium (ug/L)----- ^{a/} 1000	
	Cadmium (ug/L)----- ^{a/} 10	
	Chromium (ug/L)----- ^{a/} 50	
	Lead (ug/L)----- ^{a/} 50	
	Selenium (ug/L)----- ^{a/} 10	
	Silver (ug/L)----- ^{a/} 50	
Other trace elements-----	Levels shown below should not be exceeded if alternate sources are available:	
	Substances	
	Manganese (ug/L)-----50	
	Iron (ug/L)-----300	In dairy sanitation,
	Copper (ug/L)-----1000	water should
	Zinc (ug/L)-----5000	contain <20
	Fluoride (mg/L)-0.7-1.2-(^{a/} 2.4)	mg/L potas-
	Nitrate (as N) (mg/L)--- ^{a/} 10	sium and <0.1 mg/L iron and copper.

^{a/}/Maximum permitted levels of inorganic chemicals in public water systems of North Dakota; set by the North Dakota State Department of Health (1977).

Chemical Constituents in Solution

Silica (SiO_2)

Weathering processes dissolve silica from practically all rocks. Silica affects the usefulness of water because it can contribute to the formation of scale in pipes, water heaters, and boilers in the presence of calcium and magnesium.

Iron (Fe)

Iron is a widespread constituent in rocks and is easily leached by ground water under reducing conditions or in acidic water. Water containing more than 300 ug/L of iron, after exposure to air, may become discolored. Reddish-brown stains on porcelain or enamelware and fixtures and on fabrics washed in the water result from the iron.

Manganese (Mn)

Manganese in concentrations as low as 200 ug/L may cause a dark-brown or black stain on fabrics and porcelain fixtures. Ground water that contains high concentrations of iron may also have considerable amounts of manganese.

Calcium and Magnesium (Ca and Mg)

Limestone and similar rocks are the principal source of calcium and magnesium in natural water. Calcium and magnesium cause water hardness and, with anions, can form scale on utensils and in water heaters, boilers, and pipes.

Sodium and Potassium (Na and K)

Sodium and potassium are present in many igneous and sedimentary rocks. Sodium dissolves readily and when brought into solution it tends to remain in solution. Potassium is dissolved with greater difficulty and exhibits a stronger tendency to be reincorporated into solid weathering products, especially clay minerals. In most natural water, the concentration of potassium is much lower than the concentration of sodium. Water that contains a large proportion of sodium salts may be unsatisfactory for irrigation on certain types of poorly drained soils. The presence of several hundred milligrams per liter of sodium in water can make it unsuitable for use in sodium-restricted diets (North Dakota State Department of Health, 1962).

Bicarbonate and Carbonate (HCO_3 and CO_3)

Bicarbonate and carbonate ions are the major cause of alkalinity in most water. 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.

Alkalinity can be calculated from the analyses by using the formula:

$$\text{Alkalinity (As } \text{CACO}_3\text{)} = 0.82(\text{HCO}_3) + 1.67(\text{CO}_3)$$

Sulfate (SO_4)

Metallic sulfide minerals in both sedimentary and igneous rocks may be converted to sulfates upon weathering or with bacterial action. Sulfate also may be dissolved from beds of gypsum and deposits of sodium sulfate and other sulfosalts.

Chloride (Cl)

Chloride is present in all natural waters, but the concentrations usually are low. Important sources of chloride are sedimentary rocks that were deposited under marine conditions. Chloride concentrations of 400 mg/L impart a noticeable salty taste for most people.

Fluoride (F)

Fluoride in the ground water probably is derived from solution of fluorite, apatite, and hornblende minerals. High fluoride content (depending on annual average maximum daily air temperature) may cause mottling of tooth enamel in children's teeth during calcification.

Nitrate (NO_3)

The occurrence of high nitrate concentrations in shallow ground water has been attributed to leaching in feedlots or to fertilizer from irrigated fields where nitrogen compounds have been applied. High nitrate content is undesirable in drinking water because of its bitter taste and it has been reported to cause methemoglobinemia (blue babies) in infants (Comly, 1945).

Boron (B)

Boron is a constituent of the mineral tourmaline and may be present in biotite and amphiboles. In small quantities, boron is essential for plant growth. Excessive concentrations in soil and in irrigation water are harmful for some plants.

Dissolved Solids

The concentration of dissolved solids is calculated from the weight of residue on evaporation at 180°C from a known volume of water.

Properties and Characteristics of Water

Hardness

Calcium and magnesium are the principal cause of hardness. Hardness exhibits the characteristic of requiring greater quantities of soap to produce a lather as the hardness increases. Hard water also can contribute to the formation of scale in boilers, water heaters, radiators, and pipes, with a resultant decrease in the rate of water flow and(or) heat transfer.

The hardness that is equivalent to the alkalinity is called carbonate hardness, and any excess is called noncarbonate hardness. The carbonate hardness is the quantity that will contribute scale on heating, and the noncarbonate hardness is the quantity of hardness that will remain after removal of the carbonate hardness. As a general reference, the U.S. Geological Survey often uses the following classification of water hardness (Hem, 1970).

<u>Calcium and magnesium hardness, as CaCO₃ (milligrams per liter)</u>	<u>Hardness description</u>
0-60	Soft
61-120	Moderately hard
121-180	Hard
More than 180	Very hard

Percent Sodium and Sodium-Adsorption Ratio (SAR)

The percent sodium is the percentage of sodium to all cations, with the cations in milliequivalents per liter. The displacement of calcium and magnesium by sodium in soils is slight unless the percent sodium is considerably higher than 50.

The term SAR (sodium-adsorption ratio) was introduced by the U.S. Salinity Laboratory Staff (1954). Their experiments show that the SAR relates to the degree water enters into cation-exchange reactions with soil. Sodium-adsorption ratio is expressed by the equation:

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

where the concentrations of the ions are expressed in milliequivalents per liter. The U.S. Salinity Laboratory Staff (1954) divided water into 16 classes, depending upon the SAR and specific conductance. The classifications indicate the usefulness of water for irrigation of different crops on different types of soil.

Specific Conductance (microsiemens per centimeter at 25°C)

Specific conductance is a measure of the ability of water to conduct an electric current. Approximately 65 to 70 percent of the specific conductance (in microsiemens) is an estimate of the amount of dissolved solids (in milligrams per liter) in water; however, this relation is not constant and will vary with the chemical composition of the water (Hem, 1970).

Hydrogen-Ion Concentration (pH)

Hydrogen-ion concentration (activity) is expressed in terms of pH units. The values of pH often are used as one measure of the solvent capacity of water.

The hydrogen-ion concentrations affect the corrosiveness of water. A pH of 7.0 indicates that the water is neutral, neither acidic nor basic. Readings progressively lower than 7.0 denote increasing acidity, and those progressively higher than 7.0 denote increasing alkalinity.

Temperature

Temperature is an important factor in evaluating the usefulness of water. For example, high temperature precludes its use as an industrial coolant. Temperature is also important for its influence upon concentrations of dissolved gases and mineral

matter in water. Water temperatures given in the tables are expressed in degrees Celsius (Centigrade). Degrees Celsius and the equivalent temperature in degrees Fahrenheit are given in the following table.

Degrees Celsius (°C)	Degrees Fahrenheit (°F)	Degrees Celsius (°C)	Degrees Fahrenheit (°F)	Degrees Celsius (°C)	Degrees Fahrenheit (°F)
3.5	38	12.5	54	21.5	71
4.0	39	13.0	55	22.0	72
4.5	40	13.5	56	22.5	72
5.0	41	14.0	57	23.0	73
5.5	42	14.5	58	23.5	74
6.0	43	15.0	59	24.0	75
6.5	44	15.5	60	24.5	76
7.0	45	16.0	61	25.0	77
7.5	45	16.5	62	25.5	78
8.0	46	17.0	63	26.0	79
8.5	47	17.5	63	26.5	80
9.0	48	18.0	64	27.0	81
9.5	49	18.5	65	27.5	81
10.0	50	19.0	66	28.0	82
10.5	51	19.5	67	28.5	83
11.0	52	20.0	68	29.0	84
11.5	53	20.5	69	29.5	85
12.0	54	21.0	70	30.0	86

Surface-Water Elevations

Table 6 lists surface-water elevations, reported with respect to the National Geodetic Vertical Datum of 1929 (NGVD of 1929), of the James River at selected sites in the study area.

Surface-Water Discharge

Table 7 lists the discharge from selected surface-water sites in the study area. Locations are shown in downstream order.

SUMMARY

Data consisting of records of wells and test holes, locations of miscellaneous surface-water data-collection sites, water levels in selected wells, lithologic logs of selected wells and test holes, chemical analyses of ground water and surface water, surface-water elevations, and surface-water discharge measurements were collected for the lower James River in Dickey, LaMoure, and Stutsman Counties, N. Dak. Based on these data, the hydrologic system of the lower James River in North Dakota may be defined.

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TABLE 1A.--Records of wells and test holes

<u>Owner</u>	<u>Principal aquifer</u>
NDSWC 10959, North Dakota State Water Commission, test hole number 10959	111, Holocene 112, Pleistocene 211, Upper Cretaceous
USBR W-64, United States Bureau of Reclamation, test hole number W-64	ALVM, alluvium BGFV, buried glaciofluvial deposits ELDL, Ellendale aquifer GLPH, Guelph aquifer HOMR, Homer aquifer JMSN, Jamestown aquifer LCSR, lacustrine deposits LMUR, LaMoure aquifer MDWY, Midway aquifer NRVL, Nortonville aquifer OKES, Oakes aquifer OTSH, outwash deposits PIRR, Pierre Shale SPRD, Spiritwood aquifer SVMC, Seven Mile Coulee aquifer TILL, till deposits YPSL, Ypsilanti aquifer
<u>Water level (feet)</u>	
Water level, in feet below or above (+) land surface	
F, flowing	
<u>Use of water</u>	<u>Specific conductance</u>
H, domestic I, irrigation P, public supply S, stock T, institutional U, unused	Value shown is the field specific conductance measured at the well at the time of inventory.
	<u>Altitude of land surface (feet)</u>
	Altitude of land surface is reported with respect to the National Geodetic Vertical Datum of 1929 (NGVD). NGVD is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

LOCAL NUMBER	OWNER	DEPTH DRILLED (FEET)	DEPTH OF WELL (FEET)	DEPTH TO FIRST OPENING (FEET)	CASING DIAMETER (INCHES)	DATE COMPLETED	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE ($\mu\text{S}/\text{CM}$ AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)
129-059-04BBBB2	USBR W-64	20	--	--	3	06/22/1966	8.70	02/22/1972	U	1120KES	--	--	1306
129-059-05CCC	USBR OAKES-10	53	38	--	1.25	01/16/1951	9.80	01/16/1951	U	1120KES	--	--	1306
129-059-05DDDI	USBR W-73	20	20	--	3	06/15/1966	7.10	02/22/1972	U	1120KES	--	--	1304
129-059-05DDD2	USBR DH-9	46	41	--	--	01/12/1951	7.80	01/12/1951	U	1120KES	--	--	1303
129-059-06CCCC	USBR W-71	40	15	4	3	06/22/1966	8.00	02/22/1972	U	1120KES	--	--	1297
129-059-06CDD	SCHLADER, GARY	120	116	--	--	05/11/1981	7.00	05/11/1981	H	--	--	--	1300
129-059-07CAA	USBR 68	35	--	--	--	--	--	--	U	--	--	--	1304
129-059-08CBB	USBR 66	43	--	--	--	08/24/1966	--	--	U	--	--	--	1307
129-059-08DDDI	USBR OAKES-11	57	--	--	--	01/18/1951	--	--	U	--	--	--	1291
129-059-16CCCC	USBR W-85	25	20	4	3	07/29/1966	9.30	09/07/1973	U	1120KES	--	--	1303
129-059-17CBB	USBR 77	55	--	--	--	08/28/1966	--	--	U	--	--	--	1303
129-059-18AAA	USBR 67	58	--	--	--	08/24/1966	--	--	U	--	--	--	1303
129-059-18DDDI	USBR OAKES-12	155	--	--	--	01/31/1951	15.70	01/31/1951	U	--	--	--	1307
129-059-18DDD2	USBR W-84	20	20	--	3	07/28/1966	9.10	02/22/1972	U	1120KES	--	--	1306
129-059-19CCC	USBR W-88	13	5	4	3	06/22/1966	5.00	09/ /1973	U	1120KES	--	--	1292
129-059-20CCCC	NDSWC 10959	140	--	--	--	06/15/1979	--	--	U	--	--	--	1305
129-059-20DBB	USBR 62	32	--	--	--	08/23/1966	--	--	U	--	--	--	1305
129-059-20DDC	NDSWC 10960	145	--	--	--	06/15/1979	--	--	U	--	--	--	1305
129-059-29CCCC2	USBR W-94	15	15	--	3	06/10/1966	7.70	02/22/1972	U	1120KES	--	--	1299
129-059-30DDD	NDSWC 10958	130	101	98	1.25	06/14/1979	13.42	08/01/1979	U	112SPRD	1900	12.0	1300
129-059-31BBBB	USBR W-93	20	14	4	3	08/05/1966	8.00	09/ /1973	U	--	--	--	1293
129-059-31CCC	USBR 93	40	--	--	--	09/15/1966	--	--	U	--	--	--	1295
129-059-31DDA	DANIELS, TOM	111	105	90	12	03/10/1979	--	--	I	--	--	--	1295
129-059-33CBB	USBR 51	35	--	--	--	08/17/1966	--	--	U	--	--	--	1300
129-059-33CCCC2	USBR 28	50	--	--	--	06/10/1966	--	--	U	--	--	--	1293
129-060-11CDB	THORPE, LARRY	98	98	--	4	10/21/1974	25.00	10/21/1974	H	--	--	--	1320
129-060-12ACC	USBR 70	28	--	--	--	08/25/1966	--	--	U	--	--	--	1301
129-060-12BBA	USBR W-70	20	19	--	--	06/22/1966	--	--	U	--	--	--	1301
129-060-12DAA	USBR 69	43	--	--	--	08/25/1966	--	--	U	--	--	--	1299
129-060-12DDD	USBR W-79	13	13	4	3	07/08/1966	6.00	09/ /1973	U	1120KES	--	--	1297
129-060-13BCC	USBR 75	20	--	--	--	08/29/1966	--	--	U	--	--	--	1298
129-060-13BDD	USBR 76	20	--	--	--	08/28/1966	--	--	U	--	--	--	1299
129-060-13DDD	USBR W-83	20	18	4	3	06/15/1966	9.00	09/ /1973	U	1120KES	--	--	1298
129-060-23ACC	USBR 151	30	--	--	--	10/06/1966	--	--	U	--	--	--	1298
129-060-23CDD	USBR W-86	12	12	4	3	06/15/1966	8.00	09/ /1973	U	1120KES	--	--	1296
129-060-23DDD	USBR W-87	25	12	4	3	06/22/1966	--	--	U	1120KES	--	--	1302
129-060-25BAC	THORPE, LARRY	130	--	--	--	09/17/1974	--	--	U	--	--	--	1300
129-060-35AAA	USBR W-92	35	15	4	3	06/27/1966	14.50	02/22/1972	U	1120KES	--	--	1301
129-060-35ACC	USBR 150	25	--	--	--	10/06/1966	--	--	U	--	--	--	1292
129-060-36CCC	USBR W-98	15	6	4	3	06/23/1966	--	--	U	1120KES	--	--	1292

LOCAL NUMBER	OWNER	DEPTH DRILLED (FEET)	DEPTH OF WELL OPENING (FEET)	FIRST OPENING (FEET)	CASING DIAMETER (INCHES)	DATE COMPLETED	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE ($\mu\text{S}/\text{CM}$ AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)
130-059-01BCC	NDSWC 11927	140	45	40	1.25	07/14/1982	8.86	01/19/1983	U	1120KES	9500	9.0	1310
130-059-01CDD1	NDSWC 11920	109	83	80	1.25	07/09/1982	--	--	U	--	--	--	1309
130-059-01CDD2	NDSWC 11920A	30	25	20	1.25	07/09/1982	--	--	U	--	--	--	1309
130-059-01DDD	USBR OAKES-31	65	51	--	3	03/26/1951	6.50	03/26/1951	U	1120KES	--	--	1312
130-059-02BBB	USBR OAKES-50	214	41	--	4	03/03/1952	12.20	03/03/1952	U	1120KES	--	--	1315
130-059-04ADD	USBR OAKES-51	243	30	--	3	02/28/1952	12.00	02/ /1952	U	1120KES	--	--	1313
130-059-05DBB	USBR W-137	33	--	--	--	09/20/1979	--	--	U	1120KES	--	--	1303
130-059-05DDD2	USBR 38	30	--	--	--	04/06/1951	--	--	U	--	--	--	1308
130-059-06DDD	NDSWC 6161	132	--	--	--	09/24/1982	--	--	U	--	--	--	1290
130-059-07ABD	USBR 3452	13	--	--	--	02/20/1980	--	--	U	--	--	--	1307
130-059-08BBD	USBR W-147	13	--	--	--	11/15/1979	--	--	U	1120KES	--	--	1297
130-059-08CCC	USBR W-31	15	--	4	3	07/26/1966	--	--	U	1120KES	--	--	1298
130-059-08DBB	WIESS, WALT	60	--	--	--	05/01/1978	--	--	U	--	--	--	1310
130-059-09CCC	USBR W-32	25	18	4	3	07/01/1966	8.00	09/06/1973	U	1120KES	--	--	1311
130-059-11BBB	USBR OAKES-29	55	--	--	--	03/16/1951	--	--	U	1120KES	--	--	1313
130-059-12BBB	USBR OAKES-30	65	--	--	--	03/22/1951	4.80	03/22/1951	U	1120KES	--	--	1307
130-059-13AAA1	NDSWC 11921A	160	--	--	--	07/12/1982	--	--	U	--	--	--	1307
130-059-13AAA2	NDSWC 11921B	40	31	26	1.25	07/12/1982	--	--	U	--	--	--	1307
130-059-13BBB	NDSWC 11925	140	43	38	1.25	07/13/1982	--	--	U	--	--	--	1309
130-059-16AAA1	USBR OAKES-47	233	--	--	--	02/14/1952	9.00	02/15/1952	U	1120KES	--	--	1310
130-059-16ACC	USBR OAKES-46	248	--	--	--	01/16/1952	12.90	01/16/1952	U	1120KES	--	--	1314
130-059-16CCC	USBR W-40	14	14	4	3	06/15/1966	9.90	09/06/1973	U	1120KES	--	--	1311
130-059-16DDD4	USBR OAKES-48	136	32	--	--	02/07/1952	8.30	02/07/1952	U	1120KES	--	--	1312
130-059-17BAA	USBR OAKES-39	133	--	--	--	04/09/1951	7.80	04/09/1951	U	1120KES	--	--	1300
130-059-17DAA1	USBR OAKES-4	72	29	29	1.25	12/19/1950	12.20	12/19/1950	U	1120KES	--	--	1315
130-059-17DAB4	TITUS, ROBERT	24	24	12	8	05/31/1972	9.00	05/31/1972	I	1120KES	600	--	--
130-059-17DBB2	USBR W-158	29	--	--	--	10/04/1979	--	--	U	--	--	--	1300
130-059-18ABB1	USBR OAKES-40	25	--	--	--	04/09/1951	--	--	U	--	--	--	1310
130-059-18ABB2	REHOWSKY, WAYNE	215	196	--	4	10/05/1982	38.00	10/05/1982	H,S	--	--	--	1310
130-059-18BDD	USBR 145	15	--	--	--	10/04/1966	--	--	U	--	--	--	1308
130-059-19AAA	USBR W-38	34	--	--	--	10/04/1979	--	--	U	--	--	--	1297
130-059-19BAA	USBR W-37	28	18	4	3	07/06/1966	8.00	09/ /1973	U	1120KES	--	--	1303
130-059-20ABB1	USBR W-39	30	10	4	3	07/05/1966	5.00	12/ /1971	U	1120KES	--	--	1301
130-059-20ABB2	USBR W-39	24	--	--	--	10/04/1979	--	--	U	--	--	--	1301
130-059-20CCC	USBR W-50	43	18	4	3	07/07/1966	10.90	09/06/1973	U	1120KES	--	--	1303
130-059-20DAA	USBR W-48	23	--	--	--	11/01/1979	--	--	U	--	--	--	1306
130-059-20DDD	USBR OAKES-6	60	35	--	1.25	01/03/1951	7.70	01/03/1951	U	1120KES	--	--	1307
130-059-23BBB2	USBR OAKES-32	65	--	--	--	03/30/1951	6.80	03/30/1951	U	--	--	--	1310
130-059-26AAA1	NDSWC 11924A	160	136	131	1.25	07/13/1982	--	--	U	--	--	--	1312
130-059-26AAA2	NDSWC 11924B	33	33	28	1.25	07/13/1982	--	--	U	--	--	--	1312

LOCAL NUMBER	OWNER	DEPTH DRILLED (FEET)	DEPTH OF WELL (FEET)	DEPTH TO FIRST OPENING (FEET)	CASING DIAMETER (INCHES)	DATE COMPLETED	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE ($\mu\text{s}/\text{cm}$ AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)
130-059-29CCC	USBR W-57	35	11	4	3	07/01/1966	10.80	09/06/1973	U	1120KES	--	--	1306
130-059-29DDD	USBR OAKES-7	68	--	--	--	01/05/1951	6.70	01/05/1951	U	1120KES	--	--	1304
130-059-30ACD	USBR W-178	28	--	--	--	10/15/1979	--	--	U	--	--	--	1302
130-059-31DAA	USBR W-191	34	--	--	--	10/13/1979	--	--	U	--	--	--	1301
130-059-31DDD	USBR 212	23	--	--	--	11/13/1967	--	--	U	--	--	--	1304
130-059-32DCC	USBR 222	24	--	--	--	11/15/1967	--	--	U	--	--	--	1304
130-059-36AAA	USBR OAKES-34	95	--	--	--	04/03/1951	8.40	04/03/1951	U	1120KES	--	--	1314
130-059-36CCC	USBR OAKES-35	90	--	--	--	04/02/1951	9.80	04/ /1951	U	1120KES	--	--	1311
130-060-12DDD	USBR W-30	12	9	--	--	07/26/1966	--	--	U	--	--	--	1305
130-060-13DDD	USBR W-36	15	9	4	3	1966	--	--	U	--	--	--	1307
130-060-24DBB	USBR 1685	15	--	--	--	01/13/1970	--	--	U	--	--	--	1294
131-059-03BBA	NDSWC 11657	221	200	197	1.25	08/19/1981	30.05	09/04/1981	U	112SPRD	1500	8.0	1334
131-059-04CDC	NDSWC 11972	160	113	108	1.25	09/09/1982	35.09	09/21/1982	U	112SPRD	1020	10.0	1336
131-059-05AAA	NDSWC 11656	221	190	187	1.25	08/19/1981	46.74	09/04/1981	U	112SPRD	1260	8.0	1347
131-059-05BAA1	NDSWC 11970A	185	171	166	1.25	09/08/1982	47.97	09/22/1982	U	112SPRD	1170	10.0	1352
131-059-05BAA2	NDSWC 11970B	104	103	98	1.25	09/08/1982	--	--	U	--	--	--	1352
131-059-05BAA3	NDSWC 11970C	60	57	52	1.25	09/08/1982	--	--	U	--	--	--	1352
131-059-05DD02	NDSWC 12262	40	20	15	1.25	07/29/1983	5.71	08/25/1983	U	111ALVM	1950	11.0	1297
131-059-06BAA	NDSWC 6146	122	--	--	--	09/20/1982	--	--	U	--	--	--	1300
131-059-06CDD	NDSWC 6163	145	118	113	1.25	09/24/1982	.55+	10/21/1982	U	112LMUR	--	--	1293
131-059-08ABB	NDSWC 11971	180	160	155	1.25	09/09/1982	44.42	09/21/1982	U	112SPRD	1200	10.0	1347
131-059-08BBB	NDSWC 6162	102	--	--	--	09/24/1982	--	--	U	--	--	--	1295
131-059-08CDD	NDSWC 11973	160	--	--	--	09/09/1982	--	--	U	--	--	--	1330
131-059-09BBB	NDSWC 12263	50	--	--	--	07/29/1983	--	--	U	--	--	--	1300
131-059-17ABA	NDSWC 6155	122	38	33	1.25	09/22/1982	3.20	10/21/1982	U	1120KES	670	7.0	1294
131-059-17ACC	USBR 45	23	--	--	--	07/05/1966	--	--	U	--	--	--	1292
131-059-17BBA	NDSWC 6157	57	46	41	1.25	09/23/1982	2.62	10/21/1982	U	112LMUR	1050	7.0	1296
131-059-17BBB	NDSWC 6156	112	35	30	1.25	09/23/1982	2.56	10/21/1982	U	112LMUR	1100	7.0	1295
131-059-17BCC	NDSWC 6159	162	100	95	1.25	09/23/1982	.88	10/21/1982	U	112LMUR	845	7.0	1294
131-059-17DAA	USBR W-1	38	--	--	3	06/08/1966	17.20	05/25/1972	U	--	--	--	1331
131-059-20ACC	USBR 176	28	--	--	--	10/12/1966	--	--	U	--	--	--	1298
131-059-20BBB	NDSWC 6158	122	30	25	1.25	09/23/1982	6.00	10/21/1982	U	1120KES	1200	6.0	1294
131-059-21ADC1	USBR OAKES-63	163	--	--	--	01/05/1952	23.00	01/ /1952	U	--	--	--	1327
131-059-22AAA	USBR OAKES-65	233	--	--	--	01/08/1953	44.80	01/08/1953	U	1120KES	--	--	1353
131-059-22ABB	NDSWC 11974	201	200	197	1.25	09/09/1982	42.78	09/21/1982	U	112SPRD	790	11.0	1341
131-059-22ADC	USBR 64	183	--	--	--	12/31/1952	--	--	U	--	--	--	1325
131-059-22ADD	USBR OAKES-59	63	--	--	--	12/30/1952	--	--	U	--	--	--	1348
131-059-22CBB1	NDSWC 11917	200	161	158	1.25	07/07/1982	--	--	U	112SPRD	--	--	1321
131-059-22CBB2	NDSWC 11917A	40	33	28	1.25	07/08/1982	21.65	01/19/1983	U	1120KES	550	8.0	1321
131-059-22CDD	USBR OAKES-42	74	--	--	--	05/02/1951	--	--	U	1120KES	--	--	1324

LOCAL NUMBER	OWNER	DEPTH	DEPTH TO	CASING	DATE	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE ($\mu\text{S}/\text{CM}$ AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)	
		DRILLED (FEET)	OF WELL OPENING (FEET)	DIAMETER (INCHES)									
131-059-22DD02	USBR OAKES-71	165	--	--	03/30/1954	32.10	03/30/1954	U	--	--	--	1341	
131-059-23AAA	USBR OAKES-69	198	--	--	03/08/1954	28.60	03/23/1954	U	112SPRD	--	--	1339	
131-059-26AAA	USBR OAKES-70	112	--	--	03/29/1954	17.50	03/29/1954	U	112OKES	--	--	1326	
131-059-27ADD	USBR OAKES-57	82	--	--	12/22/1952	22.10	12/ /1952	U	112OKES	--	--	1327	
131-059-27CBB1	NDSWC 11918	160	132	127	07/08/1982	11.29	01/19/1983	U	112SPRD	2150	8.0	1311	
131-059-27CBB2	NDSWC 11918A	53	52	47	1.25	07/08/1982	--	U	--	--	--	1310	
131-059-27DBB	USBR OAKES-54	100	--	--	06/17/1952	10.00	06/17/1952	U	112OKES	--	--	1314	
131-059-27DDD1	USBR OAKES-28	80	66	--	03/15/1951	7.70	03/15/1951	U	112OKES	--	--	1310	
131-059-28ABC	USBR OAKES-61	63	--	--	01/09/1953	6.90	01/09/1953	U	112OKES	--	--	1307	
131-059-28ACC	USBR W-5	25	9	4	07/15/1966	7.10	09/06/1973	U	112OKES	--	--	1304	
131-059-29DCD	USBR W-7	76	19	4	07/19/1966	9.90	07/19/1966	U	112OKES	--	--	1310	
131-059-29DDD	USBR W-8	50	19	--	06/30/1966	13.50	02/22/1972	U	112OKES	--	--	1312	
131-059-30BAA	SULLIVAN, JERRY	175	--	--	--	--	--	U	--	--	--	1330	
131-059-31AAA	NDSWC 6160	132	29	24	1.25	09/23/1982	3.65	10/21/1982	U	112OKES	20000	6.0	1295
131-059-32AAA	USBR OAKES-37	68	--	--	04/04/1951	--	--	U	112OKES	--	--	1309	
131-059-32ABA	VISTO, ELNO	65	65	--	2	01/03/1983	11.30	01/03/1983	U	--	--	--	1310
131-059-32ADD	USBR OAKES-27	70	54	--	1	03/14/1951	--	--	U	112OKES	--	--	1311
131-059-32CBC	USBR 3494	53	--	--	09/04/1980	--	--	U	--	--	--	1295	
131-059-32DCC	USBR W-20	20	19	4	3	07/20/1966	12.40	07/20/1966	U	111ALVM	--	--	1302
131-059-33ABB	USBR OAKES-55	55	--	--	12/22/1952	8.80	12/22/1952	U	112OKES	--	--	1310	
131-059-33BBA	USBR W-9	35	18	4	3	07/15/1966	6.60	07/15/1966	U	112OKES	--	--	1307
131-059-33CCC1	USBR 62	36	--	--	12/18/1952	4.60	12/18/1952	U	112OKES	--	--	1305	
131-059-33CCC2	USBR W-21	30	19	--	3	07/19/1966	10.00	07/19/1966	U	112OKES	--	--	1302
131-059-33DDD1	USBR OAKES-56	46	--	--	12/18/1952	5.70	12/ /1952	U	112OKES	--	--	1308	
131-059-34BBC1	NDSWC 11926	140	35	30	1.25	07/14/1982	--	--	U	--	--	--	1309
131-059-35BCC2	NDSWC 11919	140	130	125	1.25	07/08/1982	--	--	U	--	--	--	1315
131-059-35BCC3	NDSWC 11919A	40	36	31	1.25	07/09/1982	--	--	U	--	--	--	1315
131-060-01ABA	NDSWC 6145	156	80	75	1.25	09/17/1982	.81+	10/21/1982	U	112BGFV	1750	8.0	1293
131-060-01BAA	NDSWC 6144	197	152	147	1.25	09/16/1982	74.43	10/21/1982	U	--	--	--	1370
131-060-06BBB	NDSWC 9135	280	89	86	1.25	09/30/1974	33.36	10/21/1982	U	112GLPH	--	--	1398
131-060-08DDD2	NDSWC 9829A	60	48	45	1.25	11/03/1976	28.86	10/21/1982	U	112GLPH	1180	7.5	1393
131-060-13DDD	NDSWC 6219	163	--	--	07/02/1983	--	--	U	--	--	--	1350	
131-060-17CCA	MCCULLOUGH, CALVIN	53	53	--	08/ /1970	--	--	H	112GLPH	2120	--	1395	
131-060-17DBC1	MCCULLOUGH, CALVIN	50	50	--	6	09/16/1974	6.00	09/16/1974	I	112GLPH	1360	--	1375
131-060-18DDD2	NDSWC 9828A	60	46	43	1.25	11/03/1976	25.96	10/21/1982	U	112GLPH	1020	7.5	1391
132-059-04CCC	NDSWC 10950	220	198	195	1.25	06/07/1979	38.43	08/01/1979	U	112SPRD	1600	14.0	1367
132-059-04DCC	NDSWC 10951	200	161	158	1.25	06/11/1979	43.10	08/01/1979	U	112SPRD	1440	14.0	1363
132-059-05CCC	NDSWC 10949	240	--	--	06/07/1979	--	--	U	--	--	--	1380	
132-059-06CDD	NDSWC 11963	240	--	--	08/30/1982	--	--	U	--	--	--	1368	
132-059-08BAA	NDSWC 10953	200	--	--	06/12/1979	--	--	U	--	--	--	1380	

LOCAL NUMBER	OWNER	DEPTH DRILLED (FEET)	DEPTH OF WELL (FEET)	FIRST OPENING (FEET)	CASING DIAMETER (INCHES)	DATE COMPLETED	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE ($\mu\text{S}/\text{CM}$ AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)
132-059-09CDD	NDSWC 11200	200	165	162	1.25	11/06/1979	56.53	07/23/1980	U	112SPRD	1650	8.0	1364
132-059-10ADD	NDSWC 10952	180	--	--	--	06/12/1979	--	--	U	--	--	--	1355
132-059-15CDD	NDSWC 10957	160	--	--	--	06/14/1979	--	--	U	--	--	--	1340
132-059-15DDD	NDSWC 11199	200	--	--	--	11/06/1979	--	--	U	--	--	--	1367
132-059-17CDD1	NDSWC 11967A	240	--	--	--	08/31/1982	--	--	U	--	--	--	1357
132-059-17CDD2	NDSWC 11967B	140	128	123	1.25	09/01/1982	38.58	09/22/1982	U	112BGFV	1210	10.0	1357
132-059-17CDC1	NDSWC 11969A	220	193	188	1.25	09/03/1982	64.01	09/22/1982	U	112SPRD	1300	11.0	1371
132-059-17CDC2	NDSWC 11969B	120	119	114	1.25	09/07/1982	--	--	U	--	--	--	1371
132-059-17CDC3	NDSWC 11969C	66	63	58	1.25	09/07/1982	25.60	09/22/1982	U	112BGFV	975	10.0	1371
132-059-18DCC	NDSWC 11968	280	250	245	1.25	09/02/1982	21.28	09/22/1982	U	112SPRD	810	10.0	1364
132-059-19AAA	NDSWC 10955	300	241	238	1.25	06/13/1979	46.60	08/01/1979	U	112SPRD	1420	13.0	1369
132-059-21BBA	NDSWC 10956	240	216	213	1.25	06/14/1979	--	--	U	112SPRD	1020	12.0	1378
132-059-21CBD	NDSWC 5672	227	201	198	1.25	11/28/1979	--	--	U	--	--	--	1360
132-059-21CCA1	NDSWC 5673	227	200	197	1.25	11/30/1979	--	--	U	--	--	--	1361
132-059-21CCA2	NDSWC 5676	140	111	105	1.25	12/04/1979	--	--	U	--	--	--	1360
132-059-21CCD1	NDSWC 5674	220	201	198	1.25	11/30/1979	--	--	U	--	--	--	1360
132-059-21CCD2	NDSWC 5675	235	200	197	1.25	12/03/1979	--	--	U	--	--	--	1357
132-059-27ADD	NDSWC 11198	180	156	153	1.25	10/30/1979	14.37	07/23/1980	U	112SPRD	1750	8.0	1327
132-059-27CCC	NDSWC 6153	82	28	23	1.25	09/22/1982	5.23	10/21/1982	U	111ALVM	--	--	1300
132-059-27CDC1	NDSWC 12260	260	214	209	1.25	07/28/1983	36.00	08/03/1983	U	112SPRD	2300	11.0	1332
132-059-27CDC2	NDSWC 12261	111	110	105	1.25	07/28/1983	22.93	08/25/1983	U	112TILL	--	--	1333
132-059-27CDD	NDSWC 6154	82	54	49	1.25	09/22/1982	7.44	10/21/1982	U	112TSH	960	7.0	1317
132-059-29DDD	NDSWC 11197	220	195	192	1.25	10/30/1979	--	--	U	--	--	--	1356
132-059-35CCC	NDSWC 11658	207	180	177	1.25	08/20/1981	44.20	09/04/1981	U	112SPRD	1360	9.0	1339
132-060-01DCC	NDSWC 11962	240	208	203	1.25	08/26/1982	32.81	09/23/1982	U	112SPRD	1320	9.0	1358
132-060-02CCC	NDSWC 11960	230	--	--	--	08/25/1982	--	--	U	--	--	--	1380
132-060-04CCC	NDSWC 11956	240	--	--	--	08/24/1982	--	--	U	--	--	--	1388
132-060-09BAA	NDSWC 11957	240	--	--	--	08/24/1982	--	--	U	--	--	--	1381
132-060-10BAA	NDSWC 11959	220	208	203	1.25	08/25/1982	31.18	08/26/1982	U	112SPRD	1300	9.0	1386
132-060-10BBB	NDSWC 11958	240	--	--	--	08/25/1982	--	--	U	--	--	--	1387
132-060-11BAA	NDSWC 11961	236	208	203	1.25	08/26/1982	59.31	09/23/1982	U	112SPRD	1210	9.0	1384
132-060-12BBB	NDSWC 10954	260	216	210	1.25	06/12/1979	31.83	08/01/1979	U	112SPRD	950	15.0	1370
132-060-13CDD	NDSWC 11966	240	--	--	--	08/31/1982	--	--	U	--	--	--	1373
132-060-19ABB	NDSWC 6136	97	63	58	1.25	09/13/1982	7.43	10/22/1982	U	112LMUR	790	8.0	1303
132-060-19BAD	STRUTZ, MYRON	112	112	92	12	04/11/1981	--	--	I	112LMUR	--	--	1305
132-060-20ABA	NDSWC 6216	263	--	--	--	07/06/1983	--	--	U	--	--	--	1385
132-060-21CDB	BRADMEYER, PHIL	120	120	100	12	06/ /1978	7.33	06/ /1978	I	112LMUR	--	--	1305
132-060-23AAA	NDSWC 11965	220	--	--	--	08/31/1982	--	--	U	--	--	--	1348
132-060-23ADD	NDSWC 6218	183	160	155	1.25	07/07/1983	18.04	07/07/1983	U	112LMUR	1420	10.0	1313
132-060-23BBB	NDSWC 11964	200	--	--	--	08/31/1982	--	--	U	--	--	--	1345

LOCAL NUMBER	OWNER	DEPTH DRILLED	DEPTH OF WELL	DEPTH TO FIRST OPENING	CASING DIAMETER (INCHES)	DATE COMPLETED	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE ($\mu\text{S}/\text{CM}$ AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)	
		(FEET)	(FEET)	(FEET)	(INCHES)		(FEET)							
132-060-23CDD	NDSWC 6151	162	132	127	1.25	09/22/1982	32.73	10/20/1982	U	112LMUR	960	9.0	1326	
132-060-26ABA	NDSWC 6152	162	88	83	1.25	09/22/1982	.06+	10/20/1982	U	112LMUR	1090	8.0	1294	
132-060-27ADC	PTACEK, LLOYD	195	--	--	--	07/22/1977	--	--	U	--	--	--	1345	
132-060-27DAA	NDSWC 6217	213	--	--	--	07/07/1983	--	--	U	--	--	--	1340	
132-060-28AAA	NDSWC 6148	102	73	68	1.25	09/21/1982	9.76	10/20/1982	U	112LMUR	915	6.0	1297	
132-060-28ABA	NDSWC 6147	162	--	--	--	09/21/1982	--	--	U	--	--	--	1310	
132-060-28BDD	BRADMEYER, PHIL	100	100	80	12	10/15/1977	8.50	10/15/1977	I	112LMUR	--	--	1300	
132-060-30ABB	USBR L-8	30	23	--	--	07/18/1967	9.10	07/18/1967	U	--	--	--	1313	
132-060-32CCC	NDSWC 6142	262	--	--	--	09/15/1982	--	--	U	--	--	--	1375	
132-060-33DDD	NDSWC 6143	242	53	48	1.25	09/16/1982	45.14	10/21/1982	U	112GLPH	--	--	1389	
132-060-34ADD	NDSWC 6150	162	73	68	1.25	09/21/1982	4.52	10/20/1982	U	112LMUR	1120	6.0	1296	
132-060-35BBB	NDSMC 6149	162	--	--	--	09/21/1982	--	--	U	--	--	--	1295	
132-061-01AAA	NDSWC 6133	42	16	11	1.25	09/10/1982	6.69	10/20/1982	U	112LMUR	650	8.0	1300	
132-061-11CDB	NELSON, ROBERT	140	118	93	12	12/08/1976	21.00	12/08/1976	I	112LMUR	--	--	1320	
132-061-12ABA1	NDSWC 6215	183	--	--	--	07/06/1983	--	--	U	--	--	--	1302	
20	132-061-12ABA2	NDSWC 6215A	78	78	73	1.25	07/06/1983	5.50	07/07/1983	U	112LMUR	820	10.0	1302
	132-061-12ABA3	NDSWC 6215B	18	18	13	1.25	07/06/1983	7.43	07/07/1983	U	111ALVM	3250	10.0	1302
	132-061-12CBB	NDSWC 6134	122	65	60	1.25	09/10/1982	12.93	10/20/1982	U	112LMUR	1030	9.0	1309
	132-061-13BCC	NDSWC 6137	82	--	--	--	09/13/1982	--	--	U	--	--	--	1297
	132-061-13CAB	USBR DH71-21	65	--	--	--	03/17/1971	--	--	U	--	--	--	1298
132-061-13CCD	USBR DH72-101	90	--	--	--	10/13/1972	6.40	11/06/1972	U	--	--	--	1297	
132-061-13DDD	STRUTZ, MYRON	115	115	100	12	03/27/1981	--	--	I	112LMUR	--	--	1300	
132-061-15DAA	NDSWC 9152	180	101	98	1.25	10/02/1974	14.29	10/20/1982	U	112LMUR	1290	8.0	1311	
132-061-16ADD	NDSWC 6138	322	100	95	1.25	09/14/1982	53.87	10/20/1982	U	112ELDL	1160	7.0	1436	
132-061-23AAD	USBR L-3	22	19	--	3	07/12/1967	13.25	10/20/1982	U	112LMUR	--	--	1310	
132-061-24ADD	NDSWC 6141	82	22	17	1.25	09/15/1982	7.62	10/20/1982	U	111ALVM	8000	8.0	1299	
132-061-24BAA	NDSWC 6135	122	63	58	1.25	09/13/1982	.93	10/20/1982	U	112LMUR	1900	8.0	1297	
132-061-25CCD	NDSWC 6140	302	--	--	--	09/15/1982	--	--	U	--	--	--	1390	
132-061-27DAA	NDSWC 6139	262	--	--	--	09/14/1982	--	--	U	--	--	--	1382	
133-060-01CCC	NDSWC 6245	282	214	209	1.25	07/27/1983	--	--	U	112SPRD	--	--	1403	
133-060-02CDD	NDSWC 6246	282	260	255	1.25	07/27/1983	--	--	U	112SPRD	--	--	1400	
133-060-04DCC	NDSWC 6250	242	216	211	1.25	08/01/1983	--	--	U	112SPRD	--	--	1410	
133-060-05DAA1	NDSWC 6252	262	222	217	1.25	08/02/1983	--	--	U	112SPRD	--	--	1410	
133-060-05DAA2	NDSWC 6252A	65	65	60	1.25	08/02/1983	--	--	U	--	--	--	1410	
133-060-07BCD	FRAUENBERG, ALBERT	55	41	26	12	05/11/1981	6.00	05/11/1981	I	112LMUR	--	--	1305	
133-060-07CCA	FRAUENBERG, ALBERT	55	45	32	12	05/20/1981	14.50	05/20/1981	I	112LMUR	--	--	1315	
133-060-07CCC1	USBR L-15	45	17	--	--	07/21/1967	13.95	07/21/1967	U	--	--	--	1314	
133-060-07CCC2	NDSWC 11903	80	43	38	1.25	06/29/1982	15.17	10/20/1982	U	112LMUR	890	10.0	1314	
133-060-07DAA1	NDSWC 11904	160	--	--	--	06/30/1982	--	--	U	--	--	--	1344	
133-060-07DAA2	NDSWC 11904A	60	55	50	1.25	07/01/1982	43.95	10/20/1982	U	112LMUR	--	--	1344	

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133-060-07DDD	USBR L-9	15	12	--	3	07/19/1967	11.40	07/19/1967	U	112LMUR	--	--	1310
133-060-08DDD	NDSWC 9218	60	45	42	1.25	11/15/1974	25.01	10/20/1982	U	112LMUR	1000	8.5	1324
133-060-09BBB	NDSWC 6251	212	--	--	--	08/02/1983	--	--	U	--	--	--	1405
133-060-10ABB	NDSWC 6248	262	225	220	1.25	07/28/1983	--	--	U	112SPRD	--	--	1410
133-060-10BBBB1	NDSWC 6249	272	232	227	1.25	07/29/1983	--	--	U	112SPRD	--	--	1410
133-060-10BBBB2	NDSWC 6249A	82	82	77	1.25	07/29/1983	--	--	U	112SPRD	--	--	1406
133-060-11BBB	NDSWC 6247	252	232	227	1.25	07/28/1983	--	--	U	112SPRD	--	--	1400
133-060-12BAA	NDSWC 6244	302	202	197	1.25	07/26/1983	--	--	U	112SPRD	--	--	--
133-060-15CAC1	SCHMIDT, J.	117	109	85	12	03/19/1975	--	--	I	112LMUR	765	--	1312
133-060-15CCC	NDSWC 9215	100	61	58	1.25	11/14/1974	11.40	10/20/1982	U	112LMUR	786	8.0	1312
133-060-15DCC	NDSWC 11912	80	53	48	1.25	07/02/1982	25.84	10/20/1982	U	112LMUR	850	11.0	1325
133-060-16ABA1	NDSWC 11909	160	--	--	--	07/01/1982	--	--	U	--	--	--	1332
133-060-16ABA2	NDSWC 11909A	45	42	37	1.25	07/01/1982	33.20	10/20/1982	U	112LMUR	--	--	1332
133-060-16ACD	KLINE, D.	70	70	44	12	09/12/1974	12.00	09/12/1974	I	112LMUR	400	8.5	--
133-060-16BAC2	FRAUENBERG, ALBERT	100	87	61	12	02/08/1983	--	--	I	112LMUR	--	--	1330
133-060-16CAA	HOCKING&KESSEL	70	60	34	12	09/10/1974	17.00	09/10/1974	I	112LMUR	540	8.5	1311
133-060-16DAA	NDSWC 9447	110	63	58	6	09/23/1975	21.47	10/21/1982	U	112LMUR	423	8.5	1320
133-060-16DAC	WALTON, ED	78	78	47	16	09/04/1974	12.00	09/04/1974	I	112LMUR	445	8.5	--
133-060-16DCC	NDSWC 11910	49	31	28	1.25	07/01/1982	17.49	10/20/1982	U	112LMUR	575	12.0	1317
133-060-17ADA	NDSWC 9217	100	61	58	1.25	11/14/1974	18.44	10/20/1982	U	112LMUR	874	8.0	1318
133-060-17ADD2	SCHMIDT, J.	91	85	65	12	11/25/1980	17.80	11/25/1980	I	112LMUR	--	--	--
133-060-17BCB	NDSWC 11905	47	33	28	1.25	06/30/1982	9.24	10/20/1982	U	112LMUR	440	10.0	1306
133-060-17CCB1	NDSWC 11890	120	63	58	1.25	06/22/1982	2.77	10/20/1982	U	112LMUR	690	10.0	1301
133-060-17CCB2	NDSWC 11890A	15	15	10	1.25	06/23/1982	4.26	10/20/1982	U	111ALVM	--	18.0	1301
133-060-17CDD	NDSWC 11908	49	31	28	1.25	07/01/1982	4.24	10/20/1982	U	112LMUR	635	10.0	1303
133-060-17DAA	NDSWC 11907	60	40	35	1.25	06/30/1982	21.00	10/20/1982	U	112LMUR	600	10.0	1320
133-060-17DAC	LARSON, CARL	90	83	48	12	01/26/1979	21.50	01/26/1979	I	112LMUR	--	--	--
133-060-17DDA	NDSWC 11906	40	30	25	1.25	06/30/1982	16.67	10/20/1982	U	--	--	--	1305
133-060-188AA1	USBR L-14	30	9	--	--	07/21/1967	4.10	07/21/1967	U	--	--	--	1301
133-060-188AA2	USBR DH73-113	50	--	--	--	02/14/1973	--	--	U	--	--	--	--
133-060-18BBB	FRAUENBERG, ALBERT	60	39	26	10	08/15/1981	18.00	08/15/1981	I	112LMUR	--	--	--
133-060-18BCA	USBR 917	14	--	--	--	09/13/1972	--	--	U	--	--	--	1298
133-060-18CB8	NDSWC 11897	140	36	31	1.25	06/25/1982	6.01	10/20/1982	U	112LMUR	990	10.0	1303
133-060-19ABA1	NDSWC 11891	140	86	81	1.25	06/23/1982	8.30	10/20/1982	U	112LMUR	1750	10.0	1307
133-060-19ABA2	NDSWC 11891B	60	59	54	1.25	06/23/1982	7.34	10/20/1982	U	112LCSR	680	19.0	1307
133-060-19ABA3	NDSWC 11891A	25	25	20	1.25	06/23/1982	13.45	10/20/1982	U	112LCSR	730	12.0	1306
133-060-19CCC1	LARSON, ROD	250	--	--	--	02/07/1977	--	--	U	--	--	--	1388
133-060-19CCCC2	NDSWC 12259	250	--	--	--	07/27/1983	--	--	U	--	--	--	1303
133-060-20AAD	USBR DH71-19	50	--	--	--	03/26/1971	--	--	U	--	--	--	1305
133-060-20CBB	NDSWC 11902	140	--	--	--	06/29/1982	--	--	U	--	--	--	--

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133-060-21BBC	USBR DH72-102	35	--	--	--	10/17/1972	--	--	U	--	--	--	1337	
133-060-21CAA1	NDSWC 11893	53	52	47	1.25	06/23/1982	8.66	10/20/1982	U	112LMUR	430	9.0	1303	
133-060-21CAA2	NDSWC 11893A	25	23	18	1.25	06/24/1982	8.74	10/20/1982	U	112LMUR	--	9.0	1303	
133-060-21CAA3	USBR DH71-20	50	--	--	--	03/24/1971	--	--	U	--	--	--	1303	
133-060-21DDC	NDSWC 11911	107	83	78	1.25	07/01/1982	30.35	10/20/1982	U	112LMUR	--	10.0	1325	
133-060-22BDB2	HOCKING&KESSEL	105	105	78	12	09/05/1974	9.00	09/05/1974	I	112LMUR	730	--	--	
133-060-22CCB	HOCKING&KESSEL	93	93	67	12	09/11/1974	12.00	09/11/1974	I	112LMUR	680	8.5	--	
133-060-23AAA	NDSWC 11647	241	220	217	1.25	08/18/1981	--	--	U	112SPRD	1160	9.0	1394	
133-060-23ABB	NDSWC 11648	241	214	211	1.25	08/14/1981	--	--	U	112SPRD	1420	9.0	1400	
133-060-23DAA	NDSWC 10947	180	--	--	--	06/07/1979	--	--	U	--	--	--	1390	
133-060-24AAA	NDSWC 11645	241	210	207	1.25	08/13/1981	52.92	08/27/1981	U	112SPRD	1100	12.0	1393	
133-060-24BAA	NDSWC 11646	261	220	217	1.25	08/13/1981	45.13	08/27/1981	U	112SPRD	1360	9.0	1384	
133-060-25BBB	NDSWC 10946	230	221	218	1.25	06/06/1979	51.60	08/01/1979	U	112SPRD	1650	15.0	1396	
133-060-25BCC	NDSWC 10948	180	--	--	--	06/07/1979	--	--	U	--	--	--	1400	
133-060-25CCC	NDSWC 11593A	230	213	208	1.25	08/23/1982	65.50	09/23/1982	U	112SPRD	940	10.0	1399	
22	133-060-26BAA	NDSWC 10945	214	--	--	--	06/06/1979	--	--	U	--	--	1405	
	133-060-26DCC	NDSWC 11954	230	207	202	1.25	08/24/1982	57.75	09/23/1982	U	112SPRD	770	10.0	1392
	133-060-27BBB	SMITH, BILL	80	57	32	12	02/28/1979	18.00	02/28/1979	I	112LMUR	--	--	--
	133-060-27DDD	NDSWC 11955	240	--	--	--	08/24/1982	--	--	U	--	--	--	1394
	133-060-28AAA1	NDSWC 9219	100	81	78	1.25	11/15/1974	12.92	09/11/1975	U	112LMUR	892	8.0	1313
133-060-28AAC	PETERSON, LYNN	100	73	47	12	09/17/1974	8.00	09/17/1974	I	112LMUR	--	--	--	
133-060-28BAA	NDSWC 11892	140	--	--	--	06/24/1982	--	--	U	--	--	--	1303	
133-060-28CAD	NDSWC 11916	140	--	--	--	07/07/1982	--	--	U	--	--	--	1300	
133-060-28DAB	NDSWC 11894	60	28	23	1.25	06/24/1982	10.40	10/20/1982	U	112LMUR	975	9.0	1303	
133-060-29AAD	NDSWC 11896	60	32	27	1.25	06/25/1982	11.40	10/20/1982	U	112LMUR	1200	9.0	1304	
133-060-29CAA	NESVIG, LESLIE	120	--	--	--	08/18/1975	--	--	U	--	--	--	1340	
133-060-29DDD1	NDSWC 11895	140	43	38	1.25	06/24/1982	8.87	10/20/1982	U	112LMUR	1650	10.0	1303	
133-060-29DDD2	NDSWC 11895A	13	13	8	1.25	06/24/1982	9.77	10/20/1982	U	111ALVM	1130	13.0	1303	
133-060-32AAB	WALTON, ED	60	50	25	12	05/05/1977	3.00	05/05/1977	I	112LMUR	--	--	--	
133-060-32AAC	WALTON, ED	70	50	30	8	05/09/1977	3.00	05/09/1977	I	112LMUR	--	--	--	
133-060-32BAA2	NESVIG, LESLIE	--	100	75	12	10/ /1975	45.00	--	I	112LMUR	730	9.0	--	
133-060-32BAA3	NESVIG, LESLIE	--	90	65	14	11/ /1975	42.50	11/ /1975	I	--	--	--	--	
133-060-32BCB	NESVIG, LESLIE	100	100	80	16	09/ /1976	13.00	09/ /1976	I	112LMUR	--	--	--	
133-060-32CD8	NESVIG, LESLIE	100	79	39	12	12/13/1977	36.00	12/13/1977	I	112LMUR	--	--	1335	
133-060-32DAC	WALTON, ED	50	37	17	8	05/03/1977	3.00	05/03/1977	I	112LMUR	--	--	--	
133-060-32DBD	WALTON, ED	40	34	14	8	05/04/1977	2.00	05/04/1977	I	112LMUR	--	--	--	
133-060-36BAA	NDSWC 11952	240	223	218	1.25	08/20/1982	64.31	09/23/1982	U	112SPRD	1140	10.0	1397	
133-061-01BCD1	NDSWC 11887	140	28	23	1.25	06/21/1982	6.03	10/20/1982	U	112LMUR	1700	10.0	1305	
133-061-01BCD2	NDSWC 11898	15	15	10	1.25	06/25/1982	6.68	10/20/1982	U	111ALVM	640	15.0	1305	
133-061-01DAD	LAPHAM, ARTHUR	55	50	--	--	07/26/1983	11.00	07/26/1983	H	--	--	--	1311	

LOCAL NUMBER	OWNER	DEPTH DRILLED (FEET)	DEPTH OF WELL (FEET)	DEPTH TO FIRST OPENING (FEET)	CASING DIAMETER (INCHES)	DATE COMPLETED	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE ($\mu\text{S}/\text{CM}$ AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)	
133-061-02BAA1	USBR L-20	25	17	--	3	07/25/1967	9.00	10/26/1970	U	112LMUR	--	--	1305	
133-061-02BAA2	NDSWC 11913	69	43	38	1.25	07/06/1982	9.70	10/20/1982	U	112LMUR	2400	9.0	1307	
133-061-03BAAA	NDSWC 9204	50	41	38	1.25	11/06/1974	14.71	10/20/1982	U	112LMUR	895	7.5	1322	
133-061-03CAC	USCG	45	45	--	--	08/31/1979	4.00	08/31/1979	H	112LMUR	--	--	1305	
133-061-03CCC	USBR L-17	25	19	--	3	08/14/1967	13.76	10/20/1982	U	112LMUR	--	--	1320	
133-061-04ADD	USBR L-17A	20	11	--	--	07/21/1967	--	--	U	112LMUR	--	--	1316	
133-061-04BAAA	NDSWC 6128	302	72	67	1.25	09/07/1982	47.93	10/20/1982	U	112ELDL	1170	6.0	1417	
133-061-06AAA3	NDSWC 9203A	100	93	90	1.25	11/05/1974	47.14	10/20/1982	U	112ELDL	1850	8.0	1422	
133-061-10CCCC1	NDSWC 6129	302	253	248	1.25	09/08/1982	65.54	10/20/1982	U	112BGFV	4000	6.0	1413	
133-061-10CCCC2	NDSWC 6129A	85	82	77	1.25	09/08/1982	50.14	10/20/1982	U	112ELDL	750	6.0	1413	
133-061-11ACC	NDSWC 11900	180	85	80	1.25	06/29/1982	--	--	U	112BGFV	2250	9.0	1304	
133-061-11CDC	NDSWC 6130	102	64	59	1.25	09/09/1982	24.16	10/22/1982	U	112LMUR	895	9.0	1332	
133-061-12AAD-	NDSWC 11888	80	36	31	1.25	06/21/1982	7.35	10/20/1982	U	112LMUR	900	9.0	1307	
133-061-12BBB	NDSWC 11889	160	28	23	1.25	06/22/1982	9.65	10/20/1982	U	112LMUR	860	12.0	1307	
133-061-12DAA	NDSWC 11899	76	27	22	1.25	06/28/1982	12.70	10/20/1982	U	112LMUR	825	11.0	1312	
23	133-061-12DDD	FRAUENBERG, ALBERT	60	40	28	10	05/29/1981	14.50	05/29/1981	I	112LMUR	--	--	--
	133-061-13AAD	USBR DH71-18	40	--	--	--	03/18/1971	--	U	--	--	--	1305	
	133-061-13BAC	NDSWC 11901A	60	33	28	1.25	06/29/1982	5.88	10/20/1982	U	112LMUR	1650	13.0	1305
	133-061-13DDA	NDSWC 11915	80	--	--	--	07/08/1982	--	U	--	--	--	1300	
	133-061-14BBC	USBR L-16	30	17	--	--	07/21/1967	--	U	112LMUR	--	--	1331	
133-061-20CCCC2	NDSWC 9468A	120	104	98	1.25	10/07/1975	46.30	10/20/1982	U	112ELDL	1810	7.0	1426	
133-061-23CDD	NDSWC 6131	82	38	33	1.25	09/09/1982	15.76	10/20/1982	U	112ELDL	1600	11.0	1378	
133-061-28BAB2	NDSWC 9467A	100	86	83	1.25	10/07/1975	39.00	10/20/1982	U	112ELDL	1600	7.0	1416	
133-061-30BBBB1	NDSWC 9469	260	221	218	1.25	10/07/1975	48.02	07/28/1983	U	112NRVL	2320	8.0	1432	
133-061-30BBBB2	NDSWC 9469A	120	114	108	1.25	10/07/1975	47.16	11/07/1975	U	112ELDL	1930	8.0	1434	
133-061-35CCC	NDSWC 6132	292	--	--	--	09/09/1982	--	--	U	--	--	--	1420	
133-062-15BCB	FENNO, QUENTIN	220	155	--	4	07/08/1981	90.00	07/08/1981	H	--	--	--	--	
133-062-22DDD2	NDSWC 9471A	140	126	123	1.25	10/08/1975	72.86	10/20/1982	U	112ELDL	2400	8.0	1454	
133-062-24CCB1	NDSWC 9470	240	221	218	1.25	10/ /1975	55.90	07/28/1983	U	112NRVL	2310	8.0	1440	
133-062-24CCB2	NDSWC 9470A	140	114	108	1.25	1975	58.83	10/20/1982	U	112ELDL	1880	7.5	1440	
134-060-07CCC	NDSWC 10941	400	--	--	--	06/04/1979	--	--	U	--	--	--	1402	
134-060-08DCC	NDSWC 10943	180	--	--	--	06/05/1979	--	--	U	--	--	--	1413	
134-060-17ADD	NDSWC 6257	182	--	--	--	08/15/1983	--	--	U	--	--	--	1423	
134-060-18AAA	NDSWC 10942A	220	--	--	--	06/05/1979	--	--	U	--	--	--	1415	
134-060-20ADD	NDSWC 6256	352	322	317	1.25	08/11/1983	--	--	U	112SPRD	--	--	1400	
134-060-28AAA	NDSWC 11282	260	--	--	--	07/10/1980	--	--	U	--	--	--	1417	
134-060-28ADD	NDSWC 11283	260	181	178	1.25	07/11/1980	66.71	07/22/1980	U	112SPRD	1800	8.0	1412	
134-060-29AAA	NDSWC 11281	260	241	238	1.25	07/10/1980	50.39	07/22/1980	U	112SPRD	1320	8.0	1402	
134-060-29BBBB1	NDSWC 11280	427	--	--	--	07/09/1980	--	--	U	--	--	--	1378	
134-060-29BBBB2	NDSWC 11280A	300	281	278	1.25	07/14/1980	26.16	07/22/1980	U	112SPRD	980	9.0	1378	

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134-060-29DAA	NDSWC 6255	292	222	217	1.25	08/08/1983	--	--	U	112SPRD	--	--	1411
134-060-29DD	NDSWC 6254	262	212	207	1.25	08/05/1983	--	--	U	112SPRD	--	--	1406
134-060-30BBB	NDSWC 6260	272	235	230	1.25	08/16/1983	--	--	U	112SPRD	--	--	1413
134-060-30CBB	NDSWC 6261	242	210	205	1.25	08/17/1983	--	--	U	112SPRD	--	--	1404
134-060-33BCC	NDSWC 6253	252	222	217	1.25	08/03/1983	--	--	U	112SPRD	--	--	1405
134-061-03AAA	NDSWC 6207	213	--	--	--	06/29/1983	--	--	U	--	--	--	1435
134-061-03CCD	HOLEN, DAVID	280	--	--	--	08/03/1981	--	--	U	--	--	--	1440
134-061-04AAA	NDSWC 6113	282	266	263	1.25	08/27/1982	109.99	10/19/1982	U	112SPRD	1650	13.0	1431
134-061-04BAB	NDSWC 6115	138	25	20	1.25	08/30/1982	14.01	10/19/1982	U	111ALVM	--	--	1313
134-061-04CBA	USBR 150	20	--	--	--	09/08/1967	--	--	U	--	--	--	1312
134-061-04DDD	NDSWC 10944	280	259	256	1.25	06/05/1979	87.94	07/21/1983	U	112SPRD	1080	16.0	1436
134-061-05AAB	NDSWC 6110	62	48	43	1.25	08/25/1982	16.00	10/19/1982	U	112LMUR	740	11.0	1318
134-061-05ACC	HINTZMAN, RANDY	55	48	43	4	08/02/1981	30.50	08/02/1981	H	--	--	--	--
134-061-05ADC	USBR 152	35	--	--	--	09/08/1967	--	--	U	--	--	--	1322
134-061-05CCB	SHOCKMAN, TOM	55	55	40	12	10/09/1980	16.80	10/09/1980	I	112LMUR	--	--	1320
134-061-05CCC	SHOCKMAN, TOM	75	69	45	4	12/05/1979	19.60	12/05/1979	U	--	--	--	--
134-061-05DCD1	USBR L-27	22	22	--	3	07/27/1967	18.95	10/29/1982	U	112LMUR	--	--	1319
134-061-05DCD2	NDSWC 6206	143	--	--	--	06/28/1983	--	--	U	--	--	--	1320
134-061-05DDC	GR GRAIN ELEV	126	--	--	--	05/17/1979	--	--	U	--	--	--	--
134-061-06CBB	NDSWC 11278	280	271	268	1.25	07/08/1980	119.68	10/19/1982	U	112SPRD	1800	9.0	1442
134-061-06CDD	SHOCKMAN, TOM	240	--	--	--	11/09/1979	--	--	U	--	--	--	--
134-061-07DCD	NDSWC 6117	292	--	--	--	08/31/1982	--	--	U	--	--	--	1432
134-061-08ABD	USBR 240	60	--	--	--	09/18/1968	--	--	U	--	--	--	1314
134-061-08CDA	JOHNSON, DARREL	60	48	38	8	03/11/1981	17.00	03/11/1981	I	112LMUR	--	--	1318
134-061-08DFA	NDSWC 6119	52	35	30	1.25	08/31/1982	9.31	10/20/1982	U	112LMUR	840	12.0	1309
134-061-09CBC	FISHER, NORMAN	65	57	--	--	05/17/1979	13.00	05/17/1979	H	--	--	--	--
134-061-10CBB	NDSWC 6208	263	242	237	1.25	06/29/1983	64.99	07/27/1983	U	112SPRD	1200	14.0	1414
134-061-11AAA	NDSWC 10937	280	151	148	1.25	05/24/1979	47.90	07/26/1979	U	112SPRD	830	15.0	1411
134-061-13DAD	NDSWC 6259	312	262	257	1.25	08/16/1983	--	--	U	112SPRD	--	--	1416
134-061-14AAA	NDSWC 10938	340	--	--	--	05/23/1979	--	--	U	--	--	--	1425
134-061-14DDD	NDSWC 10939	280	261	258	1.25	05/25/1979	--	--	U	112SPRD	920	16.0	1420
134-061-15BCB	KLEVER, KEN	39	35	--	--	05/06/1981	12.00	05/06/1981	H	112LMUR	--	--	--
134-061-15CAA	USBR 247	20	--	--	--	09/19/1968	--	--	U	--	--	--	1307
134-061-15CCD	NDSWC 6123	82	30	25	1.25	09/02/1982	17.33	10/20/1982	U	112LMUR	--	--	1319
134-061-15CDD	USBR DH72-106	35	--	--	--	11/24/1972	--	--	U	--	--	--	1319
134-061-15DCC1	USBR DH71-15	50	--	--	--	04/02/1971	--	--	U	--	--	--	1313
134-061-15DCC2	USBR DH72-105	50	--	--	--	10/20/1972	--	--	U	--	--	--	1303
134-061-16AAB	NDSWC 6205	63	42	37	1.25	06/28/1983	6.20	07/27/1983	U	112LMUR	880	12.0	1308
134-061-16ABB	NDSWC 6118	62	--	--	--	08/31/1982	--	--	U	--	--	--	1310
134-061-16BAC	USBR DH71-14	50	--	--	--	04/06/1971	--	--	U	--	--	--	1301

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134-061-16BCB	NDSWC 6204	63	42	37	1.25	06/29/1983	14.79	07/27/1993	U	112LMUR	950	13.0	1314
134-061-16CDD	LEHR, CALVIN	60	40	27	12	05/12/1975	10.00	05/12/1976	I	112LMUR	560	8.5	1310
134-061-16DD2	NDSWC 9477A	60	53	50	1.25	11/03/1975	11.48	11/04/1975	U	112LMUR	562	7.5	1316
134-061-17AAB	WERNER, MARVIN	60	52	37	12	05/16/1981	18.00	05/16/1981	I	112LMUR	--	--	1315
134-061-17DAA	WERNER, MARVIN	95	--	--	--	03/13/1981	50.00	03/13/1981	U	112LMUR	--	--	--
134-061-17DDB	WERNER, MARVIN	90	77	47	8	08/10/1976	44.00	08/10/1976	I	112LMUR	--	--	1345
134-061-20AAD1	WERNER, MARVIN	60	48	32	12	09/18/1974	29.00	06/ /1975	I	112LMUR	1400	--	1332
134-061-20BBB	NDSWC 6121	302	--	--	--	09/01/1982	--	--	U	--	--	--	1429
134-061-20DAB	FISHER, RICHARD	60	58	54	3	07/01/1976	43.00	07/01/1976	H	--	--	--	--
134-061-20DDA	NDSWC 6120	102	78	73	1.25	08/30/1982	39.25	10/20/1982	U	112LMUR	1800	12.0	1342
134-061-21DAA	NDSWC 9476	80	50	47	1.25	10/14/1975	15.46	10/20/1982	U	112LMUR	1590	8.0	1317
134-061-21BD2	WERNER, MARVIN	55	55	30	10	07/11/1974	8.00	07/11/1974	I	112LMUR	1290	8.5	1310
134-061-22BBB	KLEVER, KEN	52	51	26	12	09/23/1976	17.00	09/23/1976	I	112LMUR	--	--	1319
134-061-22CAC	WENDELL, DENNIS	62	45	25	12	07/12/1975	14.50	--	I	112LMUR	1180	8.0	1317
134-061-22DAC	KLEVER, KEN	97	77	62	12	05/04/1981	15.00	05/04/1981	I	112LMUR	--	--	1317
134-061-23ACC	USBR 1006	14	--	--	--	10/03/1972	--	--	U	--	--	--	1314
134-061-23ADD	USBR 170	35	--	--	--	09/13/1967	--	--	U	--	--	--	1335
134-061-23CCC	NDSWC 6124	102	53	48	1.25	09/02/1982	12.91	10/20/1982	U	112LMUR	660	12.0	1314
134-061-23CDD	USBR 165	15	--	--	--	09/12/1967	--	--	U	--	--	--	1305
134-061-23DCB	NDSWC 6125	62	--	--	--	09/02/1982	--	--	U	--	--	--	1308
134-061-23DCD	USBR DH71-16	50	--	--	--	03/31/1971	--	--	U	--	--	--	1309
134-061-24DAA	NDSWC 6258	282	222	217	1.25	08/15/1983	--	--	U	112SPRD	--	--	1414
134-061-24DCC	NDSWC 10940	280	231	228	1.25	05/28/1979	--	--	U	112SPRD	920	13.0	1412
134-061-25BBB	NDSWC 6126	102	63	58	1.25	09/02/1982	10.94	10/20/1982	U	112LMUR	840	13.0	1311
134-061-25DDD	NDSWC 6262	252	214	209	1.25	08/18/1983	--	--	U	112SPRD	--	--	1410
134-061-26CBA	USBR 757	14	--	--	--	07/13/1972	--	--	U	--	--	--	1300
134-061-26CCC	NDSWC 9475	220	71	68	1.25	10/13/1975	46.07	10/20/1982	U	112LMUR	940	8.5	1351
134-061-26DBC	NDSWC 6214	73	42	37	1.25	07/06/1983	10.35	07/27/1983	U	112LMUR	1060	12.0	1309
134-061-28BCA	DATHE, LESLIE	237	--	--	--	07/08/1980	--	--	U	--	--	--	1424
134-061-28CDD	NDSWC 6122	302	73	68	1.25	09/01/1982	57.67	10/20/1982	U	112ELDL	--	--	--
134-061-30DDC	NDSWC 6127	302	96	91	1.25	09/03/1982	50.29	10/20/1982	U	112ELDL	1900	5.0	1424
134-061-34ACA	NISSING&LARSON	78	78	50	12	08/22/1974	2.00	08/22/1974	I	112LMUR	910	8.5	1328
134-061-34DDD	USBR L-19	20	17	--	3	07/24/1967	1.70	10/20/1982	U	112LMUR	--	--	1305
134-061-35BBC	USBR DH72-104	35	--	--	--	10/19/1972	--	--	U	--	--	--	1352
134-061-35BCD	USBR DH72-103	50	--	--	--	10/18/1972	--	--	U	--	--	--	1304
134-061-35CBA	USBR DH71-17	50	--	--	--	03/30/1971	--	--	U	--	--	--	1311
134-061-35DDC	NDSWC 11914	40	--	--	--	07/07/1982	--	--	U	--	--	--	1300
134-061-36ADD	NDSWC 6263	242	217	212	1.25	08/18/1983	--	--	U	112SPRD	--	--	1411
134-062-01DDD	NDSWC 11279	280	--	--	--	07/08/1980	--	--	U	112SPRD	--	--	1435
134-062-03AAA	NDSWC 6194	283	254	251	1.25	06/23/1983	95.09	07/27/1983	U	112SPRD	2650	12.0	1457

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											($\mu\text{s}/\text{cm}$ AT 25°C)		
134-062-03DDD	NDSWC 9490	280	216	213	1.25	11/04/1975	101.40	10/29/1982	U	112SPRD	1700	8.0	1463
134-062-04CCC	NDSWC 6202	213	200	195	1.25	06/28/1983	113.19	07/27/1983	U	112SPRD	2900	11.0	1476
134-062-06AAA	NDSWC 12256	210	191	186	1.25	07/26/1983	105.69	08/24/1983	U	112SPRD	2900	11.0	1479
134-062-06BBB	NDSWC 6226	163	--	--	--	07/13/1983	--	--	U	--	--	--	1480
134-062-09AAA	NDSWC 6195	303	222	217	1.25	06/23/1983	106.70	07/27/1983	U	112SPRD	2400	9.0	1469
134-062-09DDD	NDSWC 6196	295	242	237	1.25	06/23/1983	108.41	07/27/1983	U	112SPRD	2450	9.0	1471
134-062-11CDC	NDSWC 6197	243	--	--	--	06/24/1983	--	--	U	--	--	--	1455
134-062-13BBB	NDSWC 6203	263	--	--	--	06/28/1983	--	--	U	--	--	--	1435
134-062-21DDA	NDSWC 12259	290	248	243	1.25	07/27/1983	79.21	08/03/1983	U	112SPRD	4800	11.0	1459
134-062-33BDA	BERLIN	193	181	177	4	07/18/1983	104.00	07/18/1983	P	112SPRD	--	--	1450
134-062-33CBB	NDSWC 9473	185	158	155	1.25	10/10/1975	89.60	07/20/1983	U	112NRVL	2580	7.5	1471
134-062-34BBC	NDSWC 12258	260	222	217	1.25	07/27/1983	80.48	08/24/1983	U	112SPRD	3200	10.0	1462
134-062-35BAD	ABERLE, OSCAR	185	179	--	--	06/01/1977	98.00	06/01/1977	H	--	--	--	1435
134-063-11AAA	NDSWC 12257	165	--	--	--	07/26/1983	--	--	U	--	--	--	1480
135-061-18CCC1	NDSWC 6212	363	--	--	--	07/01/1983	--	--	U	--	--	--	1455
135-061-18CCC2	NDSWC 6212A	262	262	257	1.25	07/01/1983	134.18	07/26/1983	U	112SPRD	4100	13.0	1457
135-061-25CCC	NDSWC 10935	240	--	--	--	05/22/1979	--	--	U	--	--	--	1420
135-061-28BBC	SEEFELDT, JEROME	152	--	--	--	09/10/1982	--	--	U	--	--	--	1395
135-061-28CCB	NDSWC 9489	60	40	37	1.25	10/31/1975	26.54	10/19/1982	U	112LMUR	1070	7.5	1338
135-061-28CDD	SEEFELDT, JEROME	--	127	--	--	--	--	--	I	112LMUR	880	8.0	--
135-061-29ABB	NDSWC 6112	202	--	--	--	08/26/1982	--	--	U	--	--	--	1430
135-061-29CCD	NDSWC 6116	62	40	35	1.25	08/31/1982	7.72	10/19/1982	U	112LMUR	850	12.0	1319
135-061-29CDC	NDSWC 6213	223	147	142	1.25	07/05/1983	21.94	07/27/1983	U	112SPRD	1850	11.0	1334
135-061-29DAD2	USBR 233	40	--	--	--	09/16/1968	--	--	U	--	--	--	1345
135-061-29DCC	NDSWC 6209	62	--	--	--	06/30/1983	--	--	U	--	--	--	1350
135-061-29DCD2	SEEFELDT, RONALD	95	95	--	--	09/02/1975	--	--	U	112LMUR	800	8.0	1350
135-061-30ADD	USBR 59	52	--	--	--	08/07/1967	--	--	U	--	--	--	1335
135-061-30BCB	USBR 139	20	--	--	--	09/07/1967	--	--	U	--	--	--	1360
135-061-30BDC	SHOCKMAN, PETER	210	--	--	--	11/24/1980	--	--	U	--	--	--	1345
135-061-30BDD	SHOCKMAN, PETER	170	170	140	12	11/30/1980	5.00	02/06/1981	I	112SPRD	--	--	1340
135-061-30CDB	SHOCKMAN, PETER	60	58	43	12	12/30/1982	29.00	12/30/1982	I	112LMUR	--	--	1350
135-061-30DAC	NELSON, M.	60	50	30	12	05/27/1981	24.00	05/27/1981	I	112LMUR	--	--	1330
135-061-30DCA	NELSON, M.	175	164	139	12	03/13/1981	.25+	03/13/1981	U	112SPRD	--	--	1325
135-061-31AAD	USBR DH71-12	50	--	--	--	04/07/1971	--	--	U	--	--	--	1312
135-061-31ABC	NDSWC 6111	82	31	26	1.25	08/25/1982	13.38	10/19/1982	U	111ALVM	1080	12.0	1316
135-061-32ABC	USBR 236	20	--	--	--	09/17/1968	--	--	U	--	--	--	1320
135-061-32BDD	USBR 144	15	--	--	--	09/08/1967	--	--	U	--	--	--	1316
135-061-32CAD1	USBR DH71-13	50	--	--	--	06/02/1971	--	--	U	--	--	--	1316
135-061-32CAD2	USBR DH72-107	55	--	--	--	10/26/1972	--	--	U	--	--	--	1317
135-061-32CDC	NDSWC 6109	282	--	--	--	08/25/1982	--	--	U	--	--	--	1329

LOCAL NUMBER	OWNER	DEPTH DRILLED (FEET)	DEPTH OF WELL OPENING (FEET)	FIRST OPENING (FEET)	CASING DIAMETER (INCHES)	DATE COMPLETED	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE ($\mu\text{s}/\text{cm}$ AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)
135-061-32DCD	GRAND RAPIDS GOLF COURSE	48	44	32	10	06/30/1983	19.00	06/30/1983	I	112LMUR	--	--	--
135-061-33ABB	USBR 55	35	--	--	--	08/04/1967	--	--	U	--	--	--	1344
135-061-33CCA	LAMOURE PARK	77	77	--	4	08/10/1976	3.00+	08/10/1976	H	--	--	--	1315
135-061-33CCD3	SEEFELDT, PETER	106	89	--	--	06/29/1983	--	--	H	112SPRD	--	--	1315
135-061-33DCD1	NDSWC 6114	110	100	95	1.25	08/30/1982	2.46	10/19/1982	U	112SPRD	1280	11.0	1323
135-061-33DCD2	NDSWC 6114A	31	31	26	1.25	08/30/1982	11.71	10/19/1982	U	112LMUR	840	12.0	1323
135-061-36CCC	NDSWC 10936	220	--	--	--	05/23/1979	--	--	U	--	--	--	1415
135-062-02AAA	NDSWC 6183	143	--	--	--	06/16/1983	--	--	U	--	--	--	1455
135-062-02BBA	NDSWC 6102	262	232	227	1.25	08/18/1982	137.53	10/19/1982	U	112SPRD	1260	12.0	1460
135-062-03ABC	CARPENTER, LYLE	104	99	--	4	06/29/1981	8.00	06/29/1981	H	112SPRD	--	--	1325
135-062-03ACA	NDSWC 6103	194	106	103	1.25	08/18/1982	7.04	10/19/1982	U	112SPRD	1110	11.0	1330
135-062-03ACD	USBR DH71-9	50	--	--	--	05/25/1971	--	--	U	--	--	--	1329
135-062-03ADB	USBR L-34	20	15	--	3	08/08/1967	8.56	10/19/1982	U	111ALVM	--	--	1331
135-062-03BCB	NDSWC 6106	62	55	50	1.25	08/24/1982	36.86	10/11/1982	U	112SPRD	1080	13.0	1360
135-062-03CBA	LEWIS, WAYNE	78	75	70	4	08/26/1982	46.50	08/26/1982	H	--	--	--	1370
135-062-03DDC	USBR DH71-10	50	--	--	--	05/20/1971	--	--	U	--	--	--	1329
135-062-04AAA1	USBR DH71-8	50	--	--	--	05/20/1971	--	--	U	--	--	--	1325
135-062-04AAA2	NDSWC 6189	169	154	149	1.25	06/21/1983	19.97	07/26/1983	U	112SPRD	1480	10.0	1344
135-062-04DAB	USBR 10	50	--	--	--	08/20/1959	--	--	U	--	--	--	1374
135-062-05BCC	NDSWC 6105	302	251	246	1.25	08/23/1982	165.51	10/19/1982	U	112SPRD	1750	12.0	1490
135-062-07DDD	NDSWC 9198	300	244	238	1.25	10/30/1974	130.84	10/19/1982	U	112SPRD	2190	8.5	1455
135-062-10ABB	USBR 619	14	--	--	--	04/13/1972	--	--	U	--	--	--	1335
135-062-11BDC	USBR 119	20	--	--	--	09/01/1967	--	--	U	--	--	--	1327
135-062-11DDD2	NDSWC 9196	160	110	107	1.25	10/29/1974	28.39	10/19/1982	U	112SPRD	1410	7.0	1351
135-062-14AAA	NDSWC 6229	183	--	--	--	07/13/1983	--	--	U	--	--	--	1485
135-062-14AAB	USBR 125	15	--	--	--	09/05/1967	--	--	U	--	--	--	1327
135-062-14ABA	NDSWC 6108	37	32	27	1.25	08/24/1982	9.95	10/19/1982	U	111ALVM	1550	10.0	1322
135-062-14ACD	USBR 123	25	--	--	--	09/01/1967	--	--	U	--	--	--	1326
135-062-14BAA	NDSWC 6107	222	91	86	1.25	08/24/1982	2.69	10/19/1982	U	112SPRD	930	12.0	1324
135-062-14CAB	USBR 127	20	--	--	--	09/05/1967	--	--	U	--	--	--	1334
135-062-16AAA	NDSMC 9197	280	231	228	1.25	10/30/1974	137.88	10/19/1982	U	112SPRD	665	8.0	1462
135-062-16CCC	NDSMC 6200	313	262	257	1.25	06/27/1983	97.35	07/27/1983	U	112SPRD	2500	13.0	1462
135-062-20CCC	NDSWC 6224	183	170	165	1.25	07/12/1983	104.73	07/27/1983	U	112SPRD	3500	12.0	1472
135-062-23ABD1	SCHMOKER, NOEL	200	200	100	5	08/17/1976	38.00	08/17/1976	H	--	--	--	1370
135-062-23ABD2	SCHMOKER, NOEL	55	--	--	--	09/05/1980	--	--	U	--	--	--	1325
135-062-23ACB	SCHMOKER, NOEL	145	135	119	5	09/05/1980	13.00	09/05/1980	H	--	--	--	1325
135-062-23ADA	NDSWC 6211	323	--	--	--	06/30/1983	--	--	U	--	--	--	1445
135-062-23BDC	USBR 128	20	--	--	--	09/05/1967	--	--	U	--	--	--	1323
135-062-23CCC	NDSWC 6190	155	122	117	1.25	06/21/1983	18.50	07/27/1983	U	112SPRD	1260	11.0	1336
135-062-23CDC	USBR 132	20	--	--	--	09/06/1967	--	--	U	--	--	--	1322

LOCAL NUMBER	OWNER	DEPTH DRILLED (FEET)	DEPTH OF WELL (FEET)	FIRST OPENING (FEET)	CASING DIAMETER (INCHES)	DATE COMPLETED	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE ($\mu\text{S}/\text{CM}$ AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)
135-062-258AC	LARSON, ROGER	100	--	--	--	08/09/1977	--	--	U	--	--	--	1365
135-062-25CBC	USBR 141	20	--	--	--	09/07/1967	--	--	U	--	--	--	1323
135-062-25DBB	SCHMOKER, NOEL	240	--	--	--	08/04/1976	--	--	U	--	--	--	1368
135-062-25DBD	SCHMOKER, NOEL	100	83	58	12	03/26/1977	44.00	03/26/1977	I	112LMUR	--	--	1350
135-062-25DCA	USBR 270	18	--	--	--	09/29/1970	--	--	U	--	--	--	1320
135-062-25DCB1	NDSWC 10934	170	131	128	1.25	05/21/1979	20.20	10/19/1982	U	112SPRD	1900	14.0	1341
135-062-25DCB2	NDSWC 10934A	67	59	56	1.25	05/22/1979	34.99	10/19/1982	U	112LMUR	1050	13.0	1341
135-062-25DDA	SCHMOKER, NOEL	82	--	--	--	08/04/1976	--	--	U	--	--	--	1350
135-062-25DDB	USBR DH72-108	35	--	--	--	10/27/1972	--	--	U	--	--	--	1355
135-062-25DDD	USBR DH71-11	50	--	--	--	05/27/1971	--	--	U	--	--	--	1317
135-062-26ACA	NDSWC 6210	53	37	33	1.25	06/30/1983	19.42	07/27/1983	U	112LMUR	2300	12.0	1328
135-062-26BCD2	USBR 133	20	--	--	--	09/06/1967	--	--	U	--	--	--	1329
135-062-26DAA	USBR 60	30	--	--	--	08/07/1967	--	--	U	--	--	--	1345
135-062-28ADD	NDSWC 6193	303	268	265	1.25	06/22/1983	104.85	07/27/1983	U	112SPRD	3800	11.0	1467
135-062-28BBB	NDSWC 6199	183	170	165	1.25	06/27/1983	107.12	07/15/1983	U	112SPRD	3000	11.0	1471
135-062-30DDD	NDSWC 6191	143	--	--	--	06/22/1983	--	--	U	--	--	--	1479
135-062-33BBB	NDSWC 6192	203	182	177	1.25	06/22/1983	102.23	07/27/1983	U	112SPRD	2780	10.0	1470
135-062-33CDC	NDSWC 6198	173	--	--	--	06/24/1983	--	--	U	--	--	--	1475
135-062-33DCD	MUSKE, EUGENE	240	--	--	--	10/27/1980	--	--	U	--	--	--	1480
135-062-35AAD	NDSWC 11277	240	218	215	1.25	07/08/1980	107.05	10/19/1982	U	112SPRD	2350	8.0	1439
135-062-36DDD	NDSWC 11276	260	251	248	1.25	07/07/1980	116.53	10/19/1982	U	112SPRD	1500	8.0	1438
135-063-02DCB	KARTES, CHARLES	130	--	--	--	12/16/1977	--	--	U	--	--	--	1450
135-063-05AAA	NDSWC 12255	140	130	125	1.25	07/22/1983	54.24	07/27/1983	U	112SPRD	2250	11.0	1492
135-063-09AAA	NDSWC 6231	123	--	--	--	07/14/1983	--	--	U	--	--	--	1485
135-063-12BAA	GACKLE, JAMES	225	220	--	4	01/06/1979	137.00	01/06/1979	S	--	--	--	1455
135-063-12BBB	NDSWC 6230	263	225	220	1.25	07/14/1983	140.21	07/26/1983	U	112SPRD	2200	11.0	1465
135-063-13AAA	NDSWC 9492	280	224	221	1.25	11/04/1975	133.37	10/19/1982	U	112SPRD	1850	8.5	1458
135-063-13DDD	NDSWC 12255A	240	--	--	--	07/25/1983	--	--	U	--	--	--	1470
135-063-15CCC	NDSWC 6228	168	157	152	1.25	07/13/1983	91.62	07/26/1983	U	112SPRD	2650	11.0	1488
135-063-20DDD	NDSWC 9578	200	131	128	1.25	06/03/1976	98.31	07/26/1983	U	112NRVL	--	--	1495
135-063-23AAA	NDSWC 6201	203	134	129	1.25	06/28/1983	81.28	07/26/1983	U	112SPRD	--	--	1475
135-063-23CCC	NDSWC 9199	220	166	163	1.25	10/30/1974	87.41	07/26/1983	U	112NRVL	2350	8.0	1482
135-063-24DDD	NDSWC 6225	293	230	225	1.25	07/12/1983	99.70	07/26/1983	U	112SPRD	3100	13.0	1470
135-063-34DDD	NDSWC 6227	203	--	--	--	07/13/1983	--	--	U	--	--	--	1489
135-063-36BBB1	NDSWC 9580	240	197	194	1.25	06/04/1976	80.37	07/26/1983	U	112NRVL	3030	8.0	1474
135-063-36BBB2	NDSWC 9580A	140	127	124	1.25	06/04/1976	81.00	07/26/1983	U	112NRVL	2330	7.5	1474
136-062-03CCC	NDSWC 9184	260	184	178	1.25	10/24/1974	56.62	10/18/1982	U	112SPRD	1170	8.0	1448
136-062-06DDD	NDSWC 9183	240	196	193	1.25	10/24/1974	65.55	10/19/1982	U	112SPRD	1890	8.0	1456
136-062-07DCC	NDSWC 6177	270	206	201	1.25	06/13/1983	125.85	07/26/1983	U	112SPRD	1830	10.0	1464
136-062-09CCC1	NDSWC 6178	363	230	225	1.25	06/14/1983	86.47	06/29/1983	U	112SPRD	1640	10.0	1477

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136-062-09CCC2	NDSWC 6178A	103	90	85	1.25	06/14/1983	65.05	06/29/1983	U	--	--	--	1477	
136-062-13CBB	ENGER, RANDY	240	240	120	4	05/30/1980	52.00	05/30/1980	H	--	--	--	1450	
136-062-15CCC	NDSWC 6180	223	159	154	1.25	06/14/1983	59.34	06/29/1983	U	112SPRD	1550	9.0	1460	
136-062-18ADB	HEINRICH, HARLAN	220	--	--	--	03/08/1979	--	--	U	--	--	--	--	
136-062-19DAA	NDSWC 6099	302	240	235	1.25	08/13/1982	137.53	10/19/1982	U	112SPRD	--	--	1463	
136-062-21BBB1	NDSWC 6182	303	246	241	1.25	06/15/1983	71.55	06/29/1983	U	112SPRD	1680	10.0	1460	
136-062-21BBB2	NDSWC 6182A	163	160	155	1.25	06/15/1983	71.15	06/29/1983	U	112SPRD	1420	10.0	1460	
136-062-21DAA2	MC CLEARY, FERGUS	285	205	145	4	12/15/1980	126.00	12/15/1980	H	--	--	--	1455	
136-062-22AAA	NDSWC 6179	123	--	--	--	06/14/1983	--	--	U	--	--	--	1465	
136-062-22DDD	NDSWC 6221	183	--	--	--	07/14/1983	--	--	U	--	--	--	1455	
136-062-25BBB	NDSWC 6222	153	--	--	--	07/11/1983	--	--	U	--	--	--	1460	
136-062-25CCC	NDSWC 6223	143	--	--	--	07/12/1983	--	--	U	--	--	--	1455	
136-062-25DCD3	PETERSON, LAWRENCE	167	--	--	--	09/24/1975	--	--	U	--	--	--	1455	
136-062-27DDD	NDSWC 6220	243	--	--	--	07/08/1983	--	--	U	--	--	--	1455	
136-062-29AAA1	NDSWC 6181	203	--	--	--	06/15/1983	--	--	U	--	--	--	1450	
29	136-062-29AAA2	NDSWC 6181A	83	80	75	1.25	06/15/1983	74.47	06/29/1983	U	112SPRD	--	--	1466
	136-062-30DDD2	NDSWC 6100	162	126	121	1.25	08/16/1982	11.59	10/19/1982	U	112SPRD	1400	9.0	1336
	136-062-30DDD3	NDSWC 6100A	42	40	35	1.25	08/16/1982	11.67	10/19/1982	U	112SPRD	1200	8.0	1336
	136-062-32ADD2	TRIEPKE, WAYNE	120	--	--	--	07/07/1981	--	--	U	--	--	--	1330
	136-062-32ADD3	TRIEPKE, WAYNE	50	37	32	4	07/07/1981	13.50	07/07/1981	H	--	--	--	1330
136-062-32BAD	USBRL-56	19	19	--	--	08/31/1967	15.50	08/31/1967	U	111ALVM	--	--	1333	
136-062-34BBB	NDSWC 6101	302	271	266	1.25	08/17/1982	132.95	10/19/1982	U	112SPRD	1140	12.0	1458	
136-062-34DCC	USBRL-649	14	--	--	--	04/24/1972	--	--	U	--	--	--	1340	
136-063-01CCC	NDSWC 9182	260	215	209	1.25	10/23/1974	--	--	U	--	--	--	1474	
136-063-02AAA	NDSWC 6090	222	194	191	1.25	08/09/1982	146.22	10/19/1982	U	112SPRD	1390	8.0	1455	
136-063-02ABB	USBRL-44	30	27	--	3	08/11/1967	14.09	10/19/1982	U	112TILL	--	--	1351	
136-063-02ABC	USBRL-6	24	--	--	--	--	--	--	U	--	--	--	1341	
136-063-02BAB	KIRSHENMAN, LEON	72	64	--	--	10/11/1980	--	--	U	--	--	--	1340	
136-063-02BAC1	USBRL-DH72-110	50	--	--	--	11/01/1972	12.00	10/11/1980	H	--	--	--	1344	
136-063-02BAD1	NDSWC 6093	40	33	28	1.25	08/10/1982	7.36	10/19/1982	U	112SPRD	1020	12.0	1340	
136-063-02BAD2	NDSWC 6097	122	80	75	1.25	08/12/1982	7.30	10/19/1982	U	112SPRD	1280	13.0	1341	
136-063-02BBB	NDSWC 6092	42	--	--	--	08/10/1982	--	--	U	--	--	--	1360	
136-063-02BDB	USBRL-DH71-6	50	--	--	--	05/13/1971	--	--	U	--	--	--	1340	
136-063-02CAD	USBRL-99	20	--	--	--	08/24/1967	--	--	U	--	--	--	1341	
136-063-03ABA	NDSWC 6091	47	40	35	1.25	08/10/1982	13.38	10/19/1982	U	211PIRR	--	--	1388	
136-063-04DDA	HANSON, DALE	150	--	--	--	05/12/1978	--	--	U	--	--	--	1470	
136-063-08AAB	NDSWC 9495	220	191	188	1.25	11/05/1975	23.90	10/19/1982	U	112SPRD	1850	--	1481	
136-063-09AAC	SCHENEKER, E.	189	--	--	--	06/20/1977	94.60	06/20/1977	U	112SPRD	--	--	1470	
136-063-10BBB	NDSWC 9181	215	182	179	1.25	10/23/1974	135.64	10/19/1982	U	112SPRD	2000	8.0	1470	
136-063-11BBB	NDSWC 9494	120	95	92	1.25	11/05/1975	38.90	10/19/1982	U	112SPRD	1400	--	1372	

LOCAL NUMBER	OWNER	DEPTH	DEPTH	DEPTH TO	CASING	DATE	WATER	DATE	USE	PRINCIPAL	SPECIFIC	ALTITUDE
		DRILLED (FEET)	OF WELL (FEET)	FIRST OPENING (FEET)	DIAM- ETER (INCHES)						CONDUC-	TEMPERATURE
136-063-11DD2	TRINITY LUTHERAN CHURCH	55	49	44	4	09/23/1982	20.70	09/23/1982	H	--	--	--
136-063-12AAA	NDSWC 6098	182	145	140	1.25	08/12/1982	76.85	10/19/1982	U	--	--	1478
136-063-13CBD1	NDSWC 6096	122	103	98	1.25	08/11/1982	12.99	10/19/1982	U	112SPRD	1220	12.0
136-063-13CBD2	NDSWC 6096A	42	38	33	1.25	08/11/1982	11.94	10/18/1982	U	112SPRD	560	14.0
136-063-13DCC	USBR L-40	25	19	--	3	08/09/1967	16.73	10/19/1982	U	111ALVM	--	1342
136-063-14ADB	USBR 226	20	--	--	--	09/12/1968	--	--	U	--	--	1335
136-063-14BCB	NDSWC 6095	260	191	188	1.25	08/11/1982	141.89	12/07/1982	U	112SPRD	--	1474
136-063-14CCB	HEINRICH, GEORGE	220	--	--	--	02/01/1977	--	--	U	--	--	1480
136-063-14DDA	HEINRICH, D.	146	146	86	12	06/01/1977	46.70	06/01/1977	I	112SPRD	--	1480
136-063-16DDC2	SKALTUM, JARREL	140	114	109	4	05/01/1982	42.00	05/01/1982	H	--	--	1480
136-063-17DDD	NDSWC 6186	233	176	171	1.25	06/17/1983	44.17	06/29/1983	U	112SPRD	1810	10.0
136-063-18CCD	NDSWC 12254	197	193	187	1.25	07/22/1983	37.31	07/27/1983	U	112SPRD	2050	10.0
136-063-22ABA	NDSWC 6185	223	--	--	--	06/16/1983	--	--	U	--	--	1470
136-063-22BDB	HEINRICH, GEORGE	152	--	--	--	01/02/1977	--	--	U	--	--	1475
136-063-24BBD	HEINRICH, GEORGE	130	--	--	--	02/01/1977	--	--	U	--	--	1360
136-063-24DCD	USBR DH72-109	50	--	--	--	10/31/1972	--	--	U	--	--	1336
136-063-25ADA	NDSWC 6184	123	102	97	2	06/16/1983	8.61	06/29/1983	U	112SPRD	1480	9.0
136-063-25ADB	USBR DH71-7	50	--	--	--	05/18/1971	--	--	U	--	--	1335
136-063-25BDA	SCHRAEDER, M.	120	--	--	--	08/12/1977	--	--	U	--	--	1370
136-063-26CCC1	JAWASKI, RAY	152	--	--	--	06/21/1977	--	--	U	--	--	1480
136-063-26CCC2	NDSWC 6188	173	--	--	--	06/20/1983	--	--	U	--	--	1484
136-063-29AAA	NDSWC 6187	163	128	123	1.25	06/20/1983	86.22	06/29/1983	U	112SPRD	2050	10.0
136-063-34DDD	NDSWC 6232	163	--	--	--	07/14/1983	--	--	U	--	--	1488
136-063-35AAA	NDSWC 6104	302	253	248	1.25	08/20/1982	154.16	10/19/1982	U	--	--	1479
137-062-01ABB	NDSWC 11808	200	100	95	1.25	11/03/1981	24.91	05/05/1982	U	112BGFV	1120	8.0
137-062-02AAA	NDSWC 11807	200	83	78	1.25	11/03/1981	--	--	U	--	--	1450
137-062-02DDD	NDSWC 5735	380	--	--	--	07/24/1970	--	--	U	--	--	1460
137-062-03DAA	NDSWC 11810	260	--	--	--	11/04/1981	--	--	U	--	--	1468
137-062-03DD1	NDSWC 11809	280	223	218	1.25	11/04/1981	--	--	U	112SPRD	1750	8.0
137-062-03DD2	NDSWC 11809A	120	103	98	1.25	11/04/1981	58.04	05/05/1982	U	112BGFV	900	8.0
137-062-05DDD	NDSWC 5734	360	203	197	1.25	07/22/1970	72.09	09/09/1970	U	112SPRD	1300	9.0
137-062-06DCC	MONTPELIER	242	232	207	6	11/03/1981	95.50	12/08/1981	P	112SPRD	--	1460
137-062-07BBC	NDSWC 6235	203	134	129	1.25	07/15/1983	88.45	07/26/1983	U	112SPRD	1340	12.0
137-062-07CCC	NDSWC 5736	160	123	117	1.25	07/24/1970	--	--	U	--	--	1458
137-062-12ABB	NDSWC 11315	200	180	177	1.25	07/31/1980	--	--	U	112SPRD	3100	7.0
137-062-19BBB1	NDSWC 6175	263	234	229	1.25	06/09/1983	86.98	06/29/1983	U	112SPRD	2040	10.0
137-062-19BBB2	NDSWC 6175A	163	153	148	1.25	06/09/1983	87.77	06/29/1983	U	112SPRD	1750	10.0
137-062-20CCC	SCHLENKER, RONALD	180	180	175	4	07/02/1976	108.00	07/02/1976	H	--	--	1475
137-062-26DDD	NDSWC 5739	240	163	157	1.25	07/28/1970	19.02	09/09/1970	U	112SPRD	--	8.5
137-062-27CCC	NDSWC 5738	340	223	217	1.25	07/28/1970	64.23	09/09/1970	U	112SPRD	--	9.5

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137-062-29CDD	NDSWC 5737	260	163	157	1.25	07/27/1970	94.02	06/29/1983	U	112SPRD	--	9.0	1466
137-062-30BBB1	NDSWC 6089	247	220	217	1.25	08/06/1982	90.60	10/18/1982	U	112SPRD	1420	13.0	1459
137-062-30BBB2	NDSWC 6089A	182	140	134	1.25	08/06/1982	47.73	10/18/1982	U	112SPRD	740	18.0	1459
137-062-31DCB	SCHLENKER, ALLEN	245	230	190	4	10/27/1977					--	--	1460
137-063-01CDD	MONTPELIER	240	--	--	--	02/23/1981	118.50	10/27/1977	U	--	--	--	1455
137-063-01DCA	HOGGARTH BROS.	135	--	--	--	08/14/1977					--	--	1450
137-063-02ADD	NDSWC 6083	42	31	26	1.25	08/05/1982	--	10/18/1982	U	112YPSL	900	11.0	1350
137-063-02BBB	NDSWC 6085	142	--	--	--	08/05/1982	9.98	--	U	--	--	--	1482
137-063-10BBA	NDSWC 6086	134	--	--	--	08/05/1982	--	--	U	--	--	--	1390
137-063-11ABD	NDSWC 6087	47	37	32	1.25	08/05/1982	12.03	10/18/1982	U	112YPSL	1120	13.0	1352
137-063-11ADD	MONTPELIER SCHOOL	130	130	30	5	09/26/1976	39.00	09/26/1976	H	--	--	--	1380
137-063-11DDD	MAULDING, DAN	95	65	45	5	06/01/1977	60.00	06/01/1977	H	--	--	--	1370
137-063-12BBC	PEKARSKI, PHIL	115	115	--	--	04/18/1979	10.00	04/18/1979	H	--	--	--	1385
137-063-12BCC	USBR L-47	40	33	--	3	08/15/1967	22.35	10/22/1982	U	112YPSL	--	--	1379
137-063-24BBB	NDSWC 6088	42	30	25	1.25	08/06/1982	8.19	10/18/1982	U	112YPSL	840	11.0	1344
137-063-25DDD1	NDSWC 6176	263	235	230	1.25	06/10/1983	99.80	06/29/1983	U	112SPRD	1480	10.0	1465
137-063-25DDD2	NDSWC 6176A	148	146	141	1.25	06/10/1983	100.23	06/29/1983	U	112SPRD	1350	10.0	1466
137-063-27ABA	VALENTA, HARRY	135	135	--	--	08/02/1974	--	--	H	--	--	--	1480
137-063-27DDD	NDSWC 6094	242	--	--	--	08/10/1982	--	--	U	--	--	--	1469
137-063-34CCC	NDSWC 6234	133	110	105	1.25	07/15/1983	31.24	07/26/1983	U	112SPRD	2400	12.0	1489
137-063-35CCC	NDSWC 6233	143	--	--	--	07/14/1983					--	--	1470
137-063-36ABB1	NDSWC 12251	120	103	98	1.25	07/21/1983	--	07/26/1983	U	112SPRD	1530	--	1347
137-063-36ABB2	NDSWC 12252	40	38	33	1.25	07/21/1983	2.58+	07/26/1983	U	112SPRD	1460	11.0	1347
137-063-36BAA	USBR 98	20	--	--	--	08/24/1967	10.21	07/26/1983	U	--	--	--	1345
137-063-36BBB	NDSWC 12253	120	--	--	--	07/21/1983	--	--	U	--	--	--	1430
137-063-36BCD	USBR 696	14	--	--	--	06/13/1972					--	--	1372
137-063-36CCC	USBR L-46	21	13	--	--	08/11/1967	--	--	U	--	--	--	1379
138-062-04BAB	ERICKSON, CARL	181	181	177	4	09/27/1973			U	--	--	--	--
138-062-06CCD	NDSWC 6071A	42	--	--	--	07/28/1982	23.00	09/27/1973	H	--	--	--	1390
138-062-06DDD	NDSWC 6076A	182	--	--	--	08/03/1982	--	--	U	--	--	--	1467
138-062-07CBB	USBR L-49	35	32	--	--	08/16/1967					--	--	1391
138-062-08BBB	WOLF, HOWARD	200	190	110	4	07/27/1979	--	07/27/1979	H	112YPSL	--	--	--
138-062-09BBB	NDSWC 6070A	250	--	--	--	07/27/1982	72.00	07/27/1979	--	--	--	--	1460
138-062-17AAA	NDSWC 5733	240	183	177	1.25	07/21/1970	--	--	U	112SPRD	--	8.5	1469
138-062-18BBB	NDSWC 6171	133	117	112	1.25	06/08/1983	47.41	09/09/1970	U	112SPRD	1680	10.0	1392
138-062-18BCC1	USBR L-48	25	15	--	3	08/15/1967	18.04	06/28/1983	U	112YPSL	--	--	1362
138-062-18BCC2	NDSWC 6172	50	42	37	1.25	06/08/1983	11.61	10/18/1982	U	112YPSL	1270	9.0	1364
138-062-19BCC	NDSWC 6079A	38	37	32	1.25	08/05/1982	4.34	06/28/1983	U	112YPSL	1500	13.0	1358
138-062-20BBB	NDSWC 6077A	227	163	158	1.25	08/04/1982	7.90	10/18/1982	U	211PIRR	1260	15.0	1465
138-062-30BBB	HENDRICKSON, DENNIS	84	31	31	4	06/27/1974	49.89	12/06/1982	U	112SPRD	25.00	06/27/1974	--

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138-062-30BCC	USBR 70	24	--	--	--	08/18/1967	--	--	U	--	--	--	--
138-062-30CCB	HENDRICKSON, DENNIS	32	32	27	36	01/07/1977	--	--	H	--	--	--	1350
138-062-30CDB	NDSWC 12250	80	--	--	--	07/21/1983	--	--	U	--	--	--	1350
138-062-31AAA	NDSWC 11806	180	148	143	1.25	11/02/1981	95.41	10/18/1982	U	112SPRD	1340	8.0	1462
138-062-31CBD	HOGGARTH BROS.	300	--	--	--	10/17/1976	--	--	U	--	--	--	--
138-062-31CCC1	NDSWC 6174	143	126	121	1.25	06/09/1983	105.25	07/26/1983	U	112SPRD	--	--	1476
138-062-31CCC2	NDSWC 6174A	83	82	77	1.25	06/09/1983	77.14	07/26/1983	U	--	--	--	1476
138-062-31CDB	HOGGARTH BROS.	240	--	--	--	01/21/1977	--	--	U	--	--	--	--
138-062-31DBB	HOGGARTH BROS.	245	215	179	12	03/17/1976	97.00	03/17/1976	I	112SPRD	--	--	1465
138-062-34BBB	NDSWC 11317	260	231	228	1.25	08/01/1980	--	--	U	112SPRD	1500	8.0	1457
138-062-34DCC	WHIPPLE, STACY	300	--	--	--	07/07/1980	--	--	U	--	--	--	1475
138-062-34DD	WHIPPLE, STACY	270	--	--	--	07/07/1983	--	--	U	--	--	--	1470
138-062-35AAA	NDSWC 11316	310	263	260	1.25	07/31/1980	--	--	U	112SPRD	3030	7.0	1441
138-063-01AAA	NDSWC 6078A	32	--	--	--	08/04/1982	--	--	U	--	--	--	1378
138-063-01DAC1	USBR DH72-112	35	30	--	--	10/03/1972	26.30	10/03/1972	U	--	--	--	1387
138-063-01DAC2	USBR DH72-111	50	10	--	--	11/02/1972	7.40	11/02/1972	U	--	--	--	1367
138-063-01DCC	NDSWC 6074A	122	74	69	1.25	07/30/1982	.32+	10/18/1982	U	112BGFV	1550	13.0	1366
138-063-01DDC	NDSWC 6072A	192	--	--	--	07/28/1982	--	--	U	--	--	--	1367
138-063-08AAA	DOMEK, ELMER	94	94	89	4	06/27/1975	50.00	06/27/1975	H,S	--	--	--	--
138-063-12ADC	USBR L-50	16	12	--	--	1967	9.45	1967	U	112YPSL	--	--	1365
138-063-12ADD	YPSILANTI ELEVATOR	31	31	--	4	04/27/1972	26.00	04/27/1972	H	--	--	--	--
138-063-12BBB	NDSWC 6073A	262	192	187	1.25	07/29/1982	122.16	10/18/1982	U	112BGFV	1700	12.0	1489
138-063-12BDA	EXNER, ALVIN	105	95	55	5	07/01/1978	7.50	07/01/1978	H	--	--	--	--
138-063-12DDD	USBR DH71-5	50	--	--	--	05/05/1971	14.50	05/05/1971	U	--	--	--	1366
138-063-13BDB	WEEKS, KEMP	100	83	73	4	12/03/1980	60.00	12/03/1980	H	--	--	--	--
138-063-13DAC	USBR 216	20	--	--	--	09/11/1968	--	--	U	--	--	--	--
138-063-25CBC	NDSWC 6080	162	96	91	1.25	08/05/1982	70.86	10/18/1982	U	112BGFV	1100	13.0	1488
138-063-26ABA	NDSWC 6084	142	--	--	--	08/05/1982	--	--	U	--	--	--	1495
138-063-26BAB3	NDSWC 6173	123	--	--	--	06/08/1983	--	--	U	--	--	--	1385
138-063-27AAD	NDSWC 6081	162	--	--	--	08/05/1982	--	--	U	--	--	--	1502
138-063-34ADD	LIMVERE, KARL	240	240	140	5	08/11/1977	96.00	08/11/1977	H	--	--	--	--
138-063-36BDD	NDSWC 6082	42	17	12	1.25	08/05/1982	9.76	10/18/1982	U	112YPSL	--	--	1377
139-062-01DDA	NDSWC 9499	200	--	--	--	11/06/1975	--	--	U	--	--	--	1470
139-062-02CCC	NDSWC	240	210	195	4	04/24/1967	27.94	05/04/1967	U	112SPRD	1220	7.0	1466
139-062-06BAB	USBR L-53	35	22	--	3	08/16/1967	18.50	10/18/1982	U	112SVMC	--	--	1412
139-062-06CCA	USBR 417	13	--	--	--	03/23/1971	--	--	U	--	--	--	1396
139-062-06CCC	NDSWC 6070	42	28	23	1.25	07/21/1982	18.32	10/18/1982	U	112SVMC	--	--	1390
139-062-07CCB	USBR 84	30	--	--	--	08/22/1962	26.00	08/22/1962	U	--	--	--	1396
139-062-07CCB	USBR L-57	14	14	--	3	--	11.70	10/17/1983	U	112SVMC	--	--	1373
139-062-07CCD2	IVERSON, JERRY	190	148	70	4	08/01/1979	43.00	08/01/1979	H	--	--	--	1420

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139-062-07CDC	SIMMERS, FRANCIS	178	126	126	4	07/06/1973	70.00	07/06/1973	H	--	--	--	1420
139-062-09DDD	HANSTAD, PERRY	188	183	183	4	04/17/1974	--	--	H	--	--	--	1480
139-062-11DCC	NDSWC 11320	221	211	208	1.25	08/05/1980	43.19	09/09/1980	U	112SPRD	1260	8.0	1475
139-062-12AAD	NDSWC 9497	140	116	113	1.25	11/06/1975	33.04	05/18/1976	U	112SPRD	--	--	1470
139-062-13AAA2	NDSWC 9501	300	201	198	1.25	11/10/1975	28.59	05/19/1976	U	112SPRD	765	--	1464
139-062-14CCC	NDSWC 11319	220	156	153	1.25	08/05/1980	10.63	09/10/1980	U	112SPRD	950	7.0	1443
139-062-15ABB	NDSWC 11322	240	211	208	1.25	08/11/1980	10.57	09/09/1980	U	112SPRD	1340	7.0	1442
139-062-15BBB	NDSWC 11321	220	--	--	--	08/11/1980	--	--	U	--	--	--	1450
139-062-18ABB	EXNER, TERRY	240	237	110	4	11/20/1978	32.00	11/20/1978	S	--	--	--	1465
139-062-18BAB	NDSWC 6071	202	--	--	--	07/22/1982	--	--	U	--	--	--	1425
139-062-18DAA	JOHNSON, JEROME	240	--	--	--	03/26/1981	--	--	U	--	--	--	1480
139-062-19B88	USBR DH71-3	50	--	--	--	04/29/1971	9.50	04/29/1971	U	--	--	--	1370
139-062-30DDD	MARKS, ROLAND	165	141	141	4	04/04/1978	37.00	04/04/1978	H	--	--	--	1475
139-062-33ACA	WILLY, LEROY	240	--	--	--	11/18/1976	--	--	U	--	--	--	1455
139-062-33CCC	WILLY, LEROY	131	131	126	4	07/24/1974	30.00	07/24/1974	H,S	--	--	--	1455
139-063-02ABB	FREY, ERVIN	318	240	230	4	09/28/1982	87.00	09/28/1982	H	--	--	--	1480
139-063-02BBA	NDSWC 6063	197	--	--	--	07/14/1982	--	--	U	--	--	--	1470
139-063-03BAA	KLOSE, F.	157	157	153	4	08/20/1973	90.00	08/20/1973	H	--	--	--	1490
139-063-03CCC	USGS FW-7	60	40	20	2	08/ /1962	--	--	U	--	--	--	1385
139-063-04DDC	USGS FW-9	90	--	--	--	08/ /1962	--	--	U	--	--	--	1375
139-063-05CDD	USBR DH71-1	50	11	--	--	04/20/1971	10.40	04/20/1971	U	--	--	--	1386
139-063-06ABC1	NDSWC 6060	100	55	50	1.25	07/12/1982	12.63	10/18/1982	U	112JMSN	1600	13.0	1389
139-063-06ABC2	NDSWC 6060A	40	27	22	1.25	07/12/1982	12.73	10/18/1982	U	112JMSN	1340	11.0	1389
139-063-06ABC3	STATE HOSPITAL	--	45	44	6	1955	15.70	12/15/1982	T	112JMSN	--	--	1390
139-063-06BBA	NDSWC 2-624	42	--	--	--	06/03/1963	--	--	U	--	--	--	1390
139-063-08AAB1	JAMESTOWN COUNTRY CLUB	40	35	15	12	05/02/1980	6.00	05/02/1980	I	112JMSN	--	--	1380
139-063-08AAB2	JAMESTOWN COUNTRY CLUB	45	37	27	6	07/16/1981	6.00	07/16/1981	I	112JMSN	--	--	1380
139-063-08ACC	NDSWC 6078	122	69	64	1.25	07/27/1982	18.91	10/18/1982	U	112JMSN	690	12.0	1395
139-063-08DDA	ENGLUND, ELDON	157	99	99	4	04/02/1974	77.00	04/02/1974	H	--	--	--	1490
139-063-09AAA	US FISH AND WILDLIFE	62	54	44	8	12/04/1978	19.80	12/04/1978	H	--	--	--	1380
139-063-09ABA1	USGS FW-8	75	70	20	2	08/ /1962	--	--	U	--	--	--	1380
139-063-09ABA2	USGS FW-10	82	43	33	8	08/ /1962	--	--	U	--	--	--	1380
139-063-09ABA3	USGS FW-11	49	40	36	1.25	08/ /1962	--	--	U	--	--	--	1380
139-063-09ABA4	USGS FW-12	44	41	37	1.25	08/ /1962	--	--	U	--	--	--	1380
139-063-09ABB	USGS FW-1	48	40	36	2	08/ /1962	--	--	U	--	--	--	1385
139-063-09ABC	USGS FW-3	75	--	--	--	08/ /1962	--	--	U	--	--	--	1380
139-063-09ACB	USGS FW-2	45	25	19	2	08/ /1962	--	--	U	--	--	--	1375
139-063-09CB	JAMESTOWN COUNTRY CLUB	80	67	55	8	07/13/1983	12.00	07/13/1983	I	112JMSN	--	--	1385
139-063-09CBB	USBR L-55	30	19	--	3	08/16/1967	16.22	07/25/1983	U	112JMSN	--	--	1392
139-063-09DAA	WALSH, JERRY	160	115	115	4	09/20/1974	100.00	09/20/1974	H	--	--	--	1490

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139-063-10ACD	MC DONALD, WAYNE	130	100	80	4	08/11/1978	97.00	08/11/1978	H	--	--	--	1485
139-063-10BBA	NDSWC 6062	62	35	30	1.25	07/13/1982	10.25	10/18/1982	U	112JMSN	1340	10.0	1379
139-063-10BBBB1	USGS FW-4	60	52	42	2	08/ /1962	--	--	U	--	--	--	1380
139-063-10BBBB2	USGS FW-5	40	30	22	2	08/ /1962	--	--	U	--	--	--	1380
139-063-10BBBB3	USGS FW-6	60	--	--	--	08/ /1962	--	--	U	--	--	--	1380
139-063-10CAA	TIERNEY, PATRICK	130	120	90	4	06/06/1978	108.00	06/06/1978	H	--	--	--	1485
139-063-11BDA	USBR 365	13	--	--	--	02/17/1971	--	--	U	--	--	--	1380
139-063-12ACD	USBR DH71-2	50	--	--	--	04/22/1971	7.60	05/14/1971	U	--	--	--	1375
139-063-12DAB	NDSWC 6169	36	22	17	1.25	06/08/1983	1.62	06/28/1983	U	112JMSN	1030	9.0	1370
139-063-12DCC	USBR L-51	13	8	--	--	08/16/1967	7.90	08/16/1967	U	--	--	--	1380
139-063-12DDA	USBR 439	13	--	--	--	03/31/1971	--	--	U	--	--	--	1372
139-063-12DDD	USBR L-52	18	17	--	3	08/16/1967	6.37	06/28/1983	U	111ALVM	--	--	1375
139-063-13AAA	NDSWC 6071	42	--	--	--	07/22/1982	--	--	U	--	--	--	1370
139-063-13BAA	NDSWC 6079	22	--	--	--	07/27/1982	--	--	U	--	--	--	1375
139-063-13BAB	NDSWC 6073	33	30	25	1.25	07/22/1982	14.64	10/18/1982	U	--	--	--	1393
139-063-13BBB	NDSWC 6074	102	--	--	--	07/23/1982	--	--	U	--	--	--	1435
139-063-15DCD	KITTELSON, LOREN	147	145	140	4	05/04/1979	63.00	05/04/1979	H	--	--	--	1485
139-063-15DDD	NDSWC 6075	142	--	--	--	07/23/1982	--	--	U	--	--	--	1480
139-063-16BAA	ZINKE, M.	167	133	133	4	09/10/1973	70.00	09/10/1973	H	--	--	--	1490
139-063-17ABB	MARSOLEK, RON	178	118	58	4	08/27/1982	65.00	08/27/1982	H	--	--	--	1480
139-063-19CBC	ERICKSON, FLOYD	120	120	115	4	10/04/1978	--	--	H	--	--	--	1470
139-063-23DDD	NDSWC 6076	162	--	--	--	07/26/1982	--	--	U	--	--	--	1475
139-063-24DDA	USBR 452	13	--	--	--	04/08/1971	--	--	U	--	--	--	1370
139-063-25AAC	NDSWC 6170	23	--	--	--	06/08/1983	--	--	U	--	--	--	1370
139-063-25ACD	USBR 214	13	--	--	--	09/10/1968	--	--	U	--	--	--	1370
139-063-25DDD	USBR 75	14	--	--	--	08/21/1967	--	--	U	--	--	--	1370
139-063-26CAD	DAEDE, WALDEMAR	155	155	95	4	08/01/1977	60.00	08/01/1977	H	--	--	--	1480
139-063-36ACC	USBR DH71-4	50	--	--	--	05/04/1971	4.90	05/14/1971	U	--	--	--	1364
139-063-36ADC	USBR 492	13	--	--	--	04/22/1971	--	--	U	--	--	--	1371
139-064-02ABB	TRAUT INC.	165	160	140	4	03/07/1980	97.00	03/07/1980	H	--	--	--	--
139-064-13BBC	MICHEL, DENNIS	160	145	135	4	12/14/1981	69.00	12/14/1981	H	--	--	--	--
139-064-15AAB	ANDERSON, DUANE	135	135	125	5	07/22/1977	40.00	07/22/1977	H	--	--	--	--
139-064-24AAA	NDSWC 6077	162	123	118	1.25	07/26/1982	58.33	10/18/1982	U	112HOMR	1060	13.0	1472
139-064-26ADD	RIPLEY, E.	100	95	90	4	12/17/1980	26.00	12/17/1980	H	--	--	--	--
140-062-01BBBB1	NDSWC 11817A	300	--	--	--	11/11/1981	--	--	U	--	--	--	1506
140-062-01BBB2	NDSWC 11817B	280	265	262	1.25	11/17/1981	--	--	U	112SPRD	1120	8.0	1500
140-062-02BAA	NDSWC 11816	260	230	225	1.25	11/11/1981	--	--	U	112SPRD	1060	8.0	1485
140-062-02CCC1	NDSWC 9281	280	161	158	1.25	06/04/1975	--	--	U	112SPRD	--	--	1481
140-062-02CCC2	NDSWC 11815	250	--	--	--	11/10/1981	--	--	U	--	--	--	1481
140-062-02DCC	NDSWC 11818	280	250	244	1.25	11/12/1981	50.88	05/06/1982	U	112SPRD	1160	8.0	1482

LOCAL NUMBER	OWNER	DEPTH DRILLED (FEET)	DEPTH OF WELL (FEET)	DEPTH TO FIRST OPENING (FEET)	CASING DIAMETER (INCHES)	DATE COMPLETED	WATER LEVEL (FEET)	DATE WATER LEVEL MEASURED	USE OF WATER	PRINCIPAL AQUIFER	SPECIFIC CONDUCTANCE (µS/CM AT 25°C)	TEMPERATURE (DEGREES C)	ALTITUDE OF LAND SURFACE (FEET)	
140-062-04DAD	NDSWC 11814	180	--	--	--	11/10/1981	--	--	U	--	--	--	1495	
140-062-09DDD1	NDSWC 11813A	260	--	--	--	11/09/1981	--	--	U	--	--	--	1473	
140-062-09DDD2	NDSWC 11813B	215	215	210	1.25	11/09/1981	47.11	05/06/1982	U	112SPRD	1550	8.0	1470	
140-062-16DDD1	NDSWC 9282	240	216	213	1.25	06/05/1975	--	--	U	112SPRD	1690	--	1474	
140-062-16DDD2	NDSWC 11811	60	34	29	1.25	11/05/1981	--	--	U	--	--	--	1474	
140-062-17CDB	CARLSON, GARY	260	--	--	--	10/10/1976	--	--	U	--	--	--	1425	
140-062-18DDD	NDSWC 6069	62	32	27	1.25	07/21/1982	13.25	10/18/1982	U	--	--	--	1420	
140-062-20AAA	NDSWC 6068	202	--	--	--	07/20/1982	--	--	U	--	--	--	1460	
140-062-20CDB	WEATHERLY, NEIL	60	25	15	4	05/24/1977	8.00	05/24/1977	U	--	--	--	1410	
140-062-22AAA2	NDSWC 8739	260	234	228	1.25	07/16/1973	--	--	U	112SPRD	--	--	1473	
140-062-23AAB	NDSWC 9280	340	258	258	1.25	06/04/1975	--	--	U	112SPRD	1110	--	1478	
140-062-23ABB	NDSWC 9279	340	261	258	1.25	06/03/1975	--	--	U	112SPRD	--	--	1481	
140-062-24ABB	NDSWC 11325	290	--	--	--	08/13/1980	--	--	U	--	--	--	1475	
140-062-24CBB	NDSWC 12272	311	240	235	1.25	08/09/1983	--	--	U	112SPRD	--	--	1483	
140-062-25AAB	NDSWC 12269	261	254	251	1.25	08/03/1983	--	--	U	112SPRD	--	--	1475	
5	140-062-26AAA1	NDSWC 12271A	297	290	285	1.25	08/08/1983	--	--	U	112SPRD	--	--	1471
	140-062-26AAA2	NDSWC 12271B	60	58	53	1.25	08/09/1983	--	--	U	--	--	--	1473
	140-062-27CCC1	NDSWC 9278	280	264	258	1.25	05/29/1975	--	--	U	112SPRD	--	--	1483
	140-062-27CCC2	NDSWC 9278A	60	46	43	1.25	05/29/1975	--	--	U	112BGFV	--	--	--
	140-062-29CCC1	USBR L-54	35	21	--	--	09/16/1967	16.90	, 16/1967	U	112SVMC	--	--	1417
140-062-29CCC2	NDSWC 6067	182	160	155	1.25	07/20/1982	8.21	10/18/1982	U	112MDWY	1480	12.0	1416	
140-062-29CCC3	NDSWC 6067A	55	50	45	1.25	07/20/1982	18.00	10/22/1982	U	112SVMC	960	10.0	1416	
140-062-30AAA	NDSWC 6167	143	57	52	1.25	06/07/1983	11.24	06/28/1983	U	112SVMC	1750	9.0	1409	
140-062-30ABA	USBR 318	12	3	--	--	12/15/1970	--	--	U	--	--	--	1400	
140-062-30ACC	USBR 313	13	--	--	--	12/14/1970	--	--	U	--	--	--	1396	
140-062-30BAC1	FREY, CARL	200	--	--	--	11/01/1973	--	--	U	--	--	--	1450	
140-062-30BAC2	FREY, CARL	145	140	85	8	1975	54.00	1975	I	112MDWY	--	--	1450	
140-062-30DCA	USBR 309	13	--	--	--	12/11/1970	--	--	U	--	--	--	1393	
140-062-31ABB	NDSWC 6065	162	127	122	1.25	07/15/1982	23.75	10/18/1982	U	--	--	--	1422	
140-062-31ACD	FREY, N.	40	40	21	12	11/08/1974	8.00	11/08/1974	I	112SVMC	--	--	1415	
140-062-31BBA	NDSWC 6066	82	50	45	1.25	07/15/1982	2.99	10/22/1982	U	112MDWY	970	10.0	1397	
140-062-31BBC	USBR 282	13	--	--	--	12/03/1970	--	--	U	--	--	--	1386	
140-062-31CCB	USBR 288	13	--	--	--	12/03/1970	--	--	U	--	--	--	1387	
140-062-31DBD	FREY, CARL	55	54	34	12	07/25/1974	15.00	07/25/1974	I	112SVMC	--	--	1420	
140-062-32AAA	NDSWC 6168	230	216	211	1.25	06/07/1983	31.81	06/28/1983	U	112SPRD	1420	10.0	1457	
140-062-34AAA	NDSWC 11323	280	225	222	1.25	08/12/1980	--	--	U	112SPRD	1220	8.0	1475	
140-062-35CCB	NDSWC 12264	300	263	258	1.25	08/01/1983	--	--	U	112SPRD	--	--	1475	
140-062-36ABB	NDSWC 12266	281	203	198	1.25	08/02/1983	--	--	U	112SPRD	--	--	1476	
140-062-36BBB	NDSWC 12265	210	178	173	1.25	08/01/1983	--	--	U	112SPRD	--	--	1471	
140-063-01CAC	FREY, KEN	38	30	20	4	07/28/1983	6.00	07/28/1983	H,S	--	--	--	1475	

LOCAL NUMBER	OWNER	DEPTH	DEPTH	DEPTH TO	CASING	DATE	WATER	DATE	USE	PRINCIPAL	SPECIFIC	ALTITUDE	
		DRILLED (FEET)	OF WELL (FEET)	FIRST OPENING (FEET)	DIAM- ETER (INCHES)						LEVEL AT 25°C)		
140-063-14ADD	BEBB, JOE	120	120	50	5	05/21/1979	34.00	05/21/1979	H	--	--	--	
140-063-24AAD	GASAL, GAYNE	157	87	87	4	10/08/1973	34.00	10/08/1973	H	--	--	1475	
140-063-27BBB	MARLOCK, LEROY	110	68	--	--	06/21/1974	18.00	06/21/1974	H	--	--	1505	
140-063-28BBB	BRINK, WILL	115	50	--	4	10/30/1973	30.00	10/30/1973	H	--	--	1505	
140-063-30DAA	WALCH, DAVID	220	215	95	4	06/21/1979	90.00	06/21/1979	H	--	--	1495	
140-063-31ABB	JAMESTOWN PARKS	250	230	215	8	10/13/1981	100.00	10/13/1981	I	112MDWY	--	--	
140-063-31ABD	JAMESTOWN PARKS	217	--	--	--	08/31/1981	--	--	U	--	--	1450	
140-063-31ACD	FORREST, LOIS	112	107	102	4	04/25/1981	42.00	04/25/1981	H	--	--	1420	
140-063-31ADB	JAMESTOWN PARKS	236	214	194	6	06/28/1982	98.00	06/28/1982	I	112MDWY	--	--	
140-063-31DCA	HICKEY, PATRICK	100	100	80	4	08/11/1978	40.00	08/11/1978	H	--	--	1410	
140-063-32CBB	NDSWC 6165	333	--	--	--	06/06/1983	--	--	U	--	--	1485	
140-063-32DBB	NDSWC 6061	202	105	100	1.25	07/13/1982	96.78	10/18/1982	U	112MDWY	--	--	
140-063-33BAD	MADSEN, J.	190	180	150	8	05/30/1976	98.00	05/30/1976	I	112MDWY	--	--	
140-063-33BDC	MADSEN, J.	180	160	122	12	06/13/1975	96.00	06/13/1975	I	112MDWY	--	--	
140-063-34BBB	NDSWC 6075A	232	45	40	1.25	07/30/1982	7.46	10/18/1982	U	112BGFV	1320	9.0	
9C	140-063-35AAA	NDSWC 6064	240	163	158	1.25	07/14/1982	79.97	10/22/1982	U	112MDWY	1080	14.0
	140-063-36ABA	JAMESTOWN, CITY OF	168	168	128	4	07/12/1976	--	H	--	--	--	1475
	140-063-36BBA	HORSTEAD, CLARENCE	132	132	127	4	08/03/1978	92.00	08/03/1978	H	--	--	1485
	140-064-25CAB	FOSSUM, JACK	60	43	35	4	06/02/1980	15.00	06/02/1980	H	--	--	--
	140-064-26ADD	WASHINGTON SCHOOL	60	55	45	4	07/02/1980	14.00	07/02/1980	H	--	--	--
140-064-36BCA	GOEHNER, CURTIS	71	64	56	4	05/16/1980	37.00	05/16/1980	H	--	--	--	

TABLE 1B.--Miscellaneous surface-water data-collection sites

Local number	Station name
129-060-34AAD	JAMES R NR LUDDEN, ND
129-060-34DDD	JAMES R AT ND-SD STATE LINE
131-059-08AAA	--
131-059-08DCC	--
131-059-30AAB	JAMES R AT OAKES, ND
132-059-31CCC	--
132-060-06ABB	JAMES R AT LAMOURE-DICKEY CO LINE
132-060-06BAD	--
132-061-01BAA	--
132-061-12ABA	--
132-061-24BBA	--
133-060-19ADD	--
133-060-20BCC	JAMES R NR LAMOURE, ND
133-060-32BBC	--
133-060-33CCC	--
133-061-11AAA	JAMES R AT LAMOURE, ND
134-061-04BBB	JAMES R NR GRAND RAPIDS, ND
134-061-04BBD	JAMES R NR GRAND RAPIDS, ND
134-061-09ACC	JAMES R NR GRAND RAPIDS, ND
134-061-09DCB	JAMES R NR GRAND RAPIDS, ND
134-061-35DCD	--
135-061-33CCC	--
135-062-03BBD	JAMES R AT DICKEY, ND
135-062-03CAA	--
135-062-04AAA	--
135-062-14ABA	--
135-062-16CDB	--
135-062-26ACD	JAMES R NR GRAND RAPIDS, ND
136-062-30BCC	--
136-062-31AAD	--
136-062-33ABC	--
136-062-33DDD	JAMES R NR DICKEY, ND
136-063-02BAB	--
136-063-02BAC	JAMES R AT STUTSMAN-LAMOURE CO LINE

Local number	Station name
136-063-02BBD	--
136-063-11DCA	JAMES R NR ADRIAN, ND
136-063-11DCB	--
136-063-13CBD	--
137-063-01BCC	JAMES R AT MONTPELIER, ND
137-063-02DCA	--
137-063-10BAB	BEAVER CR NR MONTPELIER, ND
137-063-11ABC	--
137-063-14DDB	JAMES R NR MONTPELIER, ND
137-063-14DDD	--
138-062-18CBB	--
138-062-18CCB	--
138-062-18CCD	JAMES R NR YPSILANTI, ND
138-062-30ADD	--
138-062-30CCC	STREAMAN COUL NR MONTPELIER, ND
138-062-31BBC	JAMES R NR MONTPELIER, ND
138-063-01DCD	--
138-063-35DDA	--
138-063-36AAA	--
138-063-36ADD	--
138-063-36DAA	--
138-063-36DBB	--
138-063-36DBC	--
138-063-36DCA	--
139-063-06ABC	JAMES R AT JAMESTOWN, ND
139-063-06DAA	--
139-063-12ADB	SEVEN MI COUL NR JAMESTOWN, ND
139-063-12DDC	--
139-063-13AAB	--
139-063-13AAD	JAMES R NR JAMESTOWN, ND
140-064-09DDD	--
140-064-10CBA	PIPESTEM CR NR JAMESTOWN, ND
140-064-24CAC	JAMES R BL JAMESTOWN RES, ND

TABLE 2.--Water levels in selected wells

EXPLANATION

Water levels shown have been adjusted to feet below or above (+) land surface

MP, measuring point lsd, land surface datum

Depth to water, in feet below or above (+) land surface

131-059-05DDD2 MP is top of 1-1/4-inch plastic pipe 1.64 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Aug. 25, 1983...	5.71	Oct. 18.....	5.76	Jan. 16, 1984....	5.02
Sept. 28.....	5.96	Nov. 30.....	5.48		

131-059-06CDD MP is top of 1-1/4-inch plastic pipe 5.58 ft above lsd.

Oct. 21, 1982...	+0.55	May 12.....	+3.66	Sept. 28.....	0.02
Nov. 17.....	+1.74	June 3.....	+3.44	Oct. 18.....	.57
Nov. 23.....	+1.55	July 1.....	+2.83	Dec. 1.....	+1.45
Dec. 8.....	+1.77	July 28.....	+1.08	Jan. 16, 1984...	+2.00
Feb. 2, 1983...	+2.45	Aug. 25.....	.57		

131-059-17ABA MP is top of 1-1/4-inch plastic pipe 1.93 ft above lsd.

Oct. 21, 1982...	3.20	Mar. 3.....	3.43	July 28.....	3.16
Nov. 4.....	3.35	Apr. 7.....	1.33	Aug. 25.....	3.97
Nov. 23.....	2.85	May 12.....	1.54	Sept. 28.....	4.40
Dec. 8.....	3.06	June 3.....	2.66	Oct. 18.....	3.85
Feb. 2, 1983...	3.88	July 1.....	2.77	Dec. 3.....	3.49

Depth to water, in feet below or above (+) land surface

131-059-17BBA MP is top of 1-1/4-inch plastic pipe 1.69 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 21, 1982...	2.62	Apr. 7.....	+0.25	Sept. 29.....	3.48
Nov. 4.....	2.50	May 12.....	.64	Oct. 17.....	2.69
Nov. 23.....	1.74	June 3.....	.49	Dec. 1.....	1.54
Dec. 8.....	1.41	July 1.....	.63	Dec. 3.....	1.46
Feb. 2, 1983...	.50	July 28.....	3.13		
Mar. 3.....	.18	Aug. 25.....	4.63		

131-059-17BBB MP is top of 1-1/4-inch plastic pipe 1.85 ft above lsd.

Oct. 21, 1982...	2.56	Apr. 7.....	+0.89	Aug. 25.....	3.84
Nov. 4.....	1.83	May 13.....	+1.22	Sept. 29.....	2.81
Nov. 23.....	1.07	June 3.....	+1.12	Oct. 18.....	2.03
Dec. 8.....	.72	July 1.....	.19	Dec. 1.....	1.90
Feb. 2, 1983...	+.14	July 28.....	2.15		

131-059-17BCC MP is top of 1-1/4-inch plastic pipe 4.73 ft above lsd.

Oct. 21, 1982...	0.88	Mar. 3.....	+1.34	Sept. 28.....	1.21
Nov. 5.....	.24	May 12.....	+3.19	Oct. 17.....	.37
Nov. 23.....	+.58	June 3.....	+2.91	Dec. 1.....	+.79
Dec. 8.....	+.99	July 1.....	+1.54	Jan. 16, 1984...	+1.49
Feb. 2, 1983...	+1.95	July 28.....	1.44		

131-059-20BBBB MP is top of 1-1/4-inch plastic pipe 1.69 ft above lsd.

Oct. 21, 1982...	6.00	June 3.....	4.09	Oct. 18.....	5.55
Dec. 8.....	5.52	July 1.....	3.67	Dec. 1.....	5.55
Feb. 2, 1983...	6.17	July 28.....	4.23	Jan. 16, 1984...	6.01
Mar. 3.....	6.02	Aug. 25.....	5.31		
May 12.....	2.94	Sept. 28.....	5.93		

Depth to water, in feet below or above (+) land surface

131-059-31AAA MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 21, 1982...	3.65	Apr. 7.....	3.42	Sept. 28.....	6.45
Nov. 4.....	4.46	May 12.....	4.00	Oct. 18.....	6.10
Nov. 23.....	4.02	June 3.....	4.95	Dec. 1.....	5.68
Dec. 8.....	4.42	July 1.....	5.24	Jan. 16, 1984...	7.09
Feb. 2, 1983...	6.44	July 28.....	5.18		
Mar. 3.....	6.25	Aug. 25.....	6.19		

131-060-01ABA MP is top of 1-1/4-inch plastic pipe 5.34 ft above lsd.

Oct. 6, 1982...	+0.13	Mar. 3.....	+2.11	Sept. 28.....	0.06
Oct. 21.....	+.81	May 12.....	+3.28	Oct. 18.....	+.40
Nov. 17.....	+1.43	June 3.....	+2.88	Dec. 1.....	+1.04
Nov. 23.....	+1.48	July 1.....	+2.44	Jan. 16.....	+1.45
Dec. 14.....	+1.63	July 28.....	+.97		
Feb. 2, 1983...	+1.88	Aug. 25.....	.50		

131-060-01BAA MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Oct. 21, 1982...	74.43	May 12.....	70.88	Sept. 28.....	75.42
Dec. 8.....	73.03	June 3.....	71.19	Oct. 4.....	75.04
Feb. 2, 1983...	72.29	July 1.....	71.74	Oct. 18.....	74.53
Mar. 3.....	72.09	July 28.....	74.58	Dec. 1.....	73.36
Apr. 7.....	71.47	Aug. 25.....	77.06	Jan. 16, 1984...	72.72

131-060-06BBB MP is top of 1-1/4-inch plastic pipe 2.04 ft above lsd.

Oct. 21, 1982...	33.36	Apr. 7.....	33.59	July 28.....	33.76
Dec. 8.....	33.53	May 12.....	33.51	Aug. 25.....	33.86
Feb. 2, 1983...	33.55	June 3.....	33.56	Sept. 28.....	34.02
Mar. 3.....	33.59	July 1.....	33.63	Oct. 18.....	33.96

Depth to water, in feet below or above (+) land surface

131-060-08DDD2 MP is top of 1-1/4-inch plastic pipe 1.96 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 21, 1982...	28.86	Apr. 7.....	29.00	July 28.....	29.04
Dec. 8.....	28.83	May 12.....	29.04	Aug. 25.....	29.06
Feb. 2, 1983...	28.92	June 3.....	29.02	Sept. 28.....	29.20
Mar. 3.....	28.96	July 1.....	29.06	Oct. 18.....	29.19

131-060-18DDD2 MP is top of 1-1/4-inch plastic pipe 2.01 ft above lsd.

Oct. 21, 1982...	25.96	Apr. 7.....	26.00	July 28.....	26.06
Dec. 8.....	25.96	May 12.....	26.01	Aug. 25.....	26.22
Feb. 2, 1983...	25.96	June 3.....	26.01	Sept. 28.....	26.38
Mar. 3.....	25.98	July 1.....	26.03	Oct. 18.....	26.38

132-059-27CCC MP is top of 1-1/4-inch plastic pipe 1.80 ft above lsd.

Oct. 21, 1982...	5.23	Apr. 7.....	4.72	Sept. 28.....	6.35
Nov. 4.....	5.20	May 12.....	4.33	Oct. 18.....	6.13
Nov. 23.....	5.03	June 3.....	4.76	Dec. 1.....	5.95
Dec. 8.....	5.02	July 1.....	4.89	Jan. 16, 1984...	5.95
Feb. 2, 1983...	5.70	July 28.....	5.40		
Mar. 3.....	5.59	Aug. 25.....	6.03		

132-059-27CDC1 MP is top of 1-1/4-inch plastic pipe 2.27 ft above lsd.

Aug. 3, 1983...	36.00	Sept. 28.....	24.45	Dec. 1.....	14.93
Aug. 25.....	38.43	Oct. 18.....	19.31	Jan. 16, 1984...	11.99

132-059-27CDC2 MP is top of 1-1/4-inch plastic pipe 1.47 ft above lsd.

Aug. 25, 1983...	22.93	Oct. 18.....	23.19	Jan. 16, 1984...	23.36
Sept. 28.....	23.11	Dec. 1.....	23.33		

Depth to water, in feet below or above (+) land surface

132-059-27CDD MP is top of 1-1/4-inch plastic pipe 2.17 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 21, 1982...	7.44	May 12.....	7.22	Sept. 28.....	7.77
Dec. 8.....	7.40	June 3.....	7.15	Oct. 18.....	7.79
Feb. 2, 1983...	7.53	July 1.....	7.25	Dec. 1.....	7.78
Mar. 3.....	7.57	July 28.....	7.39	Jan. 16, 1984...	7.82
Apr. 7.....	7.43	Aug. 25.....	7.61		

132-060-19ABB MP is top of 1-1/4-inch plastic pipe 1.69 ft above lsd.

Oct. 6, 1982...	8.00	Apr. 7.....	5.67	Aug. 25.....	7.21
Oct. 22.....	7.43	May 12.....	5.35	Sept. 23.....	6.85
Dec. 8.....	6.57	June 3.....	5.51	Oct. 18.....	6.60
Feb. 2, 1983...	6.13	July 1.....	5.69	Dec. 1.....	6.30
Mar. 3.....	6.04	July 28.....	6.11	Jan. 16, 1984...	6.16

132-060-23ADD MP is top of 1-1/4-inch plastic pipe 3.64 ft above lsd.

July 7, 1983...	18.04	Sept. 23.....	18.76	Jan. 16, 1984...	18.73
July 28.....	18.16	Oct. 18.....	18.80		
Aug. 25.....	18.66	Dec. 1.....	18.76		

132-060-23CDD MP is top of 1-1/4-inch plastic pipe 2.03 ft above lsd.

Oct. 7, 1982...	33.82	Apr. 7.....	31.60	Aug. 25.....	34.52
Oct. 20.....	32.73	May 12.....	31.35	Sept. 23.....	34.10
Dec. 8.....	32.32	June 3.....	31.73	Oct. 18.....	33.52
Feb. 2, 1983...	32.65	July 1.....	32.23	Dec. 1.....	33.03
Mar. 3.....	32.43	July 28.....	33.43	Jan. 16, 1984...	32.96

Depth to water, in feet below or above (+) land surface

132-060-26ABA MP is top of 1-1/4-inch plastic pipe 3.95 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 7, 1982...	0.98	Apr. 7.....	+1.76	Sept. 23.....	0.95
Oct. 20.....	+.06	May 13.....	+1.82	Sept. 27.....	.98
Nov. 4.....	+.13	June 3.....	+1.35	Oct. 18.....	.39
Nov. 22.....	+.89	July 1.....	+.91	Dec. 1.....	+.02
Dec. 8.....	+.89	July 28.....	+.30	Jan. 16, 1984...	+.11
Mar. 3, 1983...	+.95	Aug. 25.....	1.33		

132-060-28AAA MP is top of 1-1/4-inch plastic pipe 1.53 ft above lsd.

Oct. 20, 1982...	9.76	Apr. 7.....	4.02	Aug. 25.....	20.97
Nov. 4.....	6.89	May 12.....	3.36	Sept. 23.....	10.60
Dec. 8.....	6.47	June 3.....	5.75	Oct. 18.....	8.45
Feb. 2, 1983...	5.37	July 1.....	6.46	Dec. 1.....	6.67
Mar. 3.....	5.03	July 28.....	14.89	Jan. 16, 1984...	5.73

132-060-33DDD MP is top of 1-1/4-inch plastic pipe 2.93 ft above lsd.

Oct. 21, 1982...	45.14	Apr. 7.....	45.16	July 28.....	45.14
Dec. 8.....	45.12	May 12.....	45.17	Aug. 25.....	45.15
Feb. 2, 1983...	44.90	June 3.....	45.18	Sept. 28.....	45.21
Mar. 3.....	45.16	July 1.....	45.19	Oct. 18.....	45.21

132-060-34ADD MP is top of 1-1/4-inch plastic pipe 1.43 ft above lsd.

Oct. 20, 1982...	4.52	Mar. 3.....	2.29	Sept. 23.....	5.93
Nov. 4.....	3.75	May 13.....	.96	Oct. 18.....	4.38
Nov. 23.....	3.35	June 3.....	3.17	Dec. 3.....	3.32
Dec. 8.....	3.08	July 28.....	9.61	Jan. 16, 1984...	2.81
Feb. 2, 1983...	2.56	Aug. 25.....	12.32		

Depth to water, in feet below or above (+) land surface

132-061-01AAA MP is top of 1-1/4-inch plastic pipe 1.54 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1982...	6.69	Apr. 7.....	5.38	Aug. 25.....	7.82
Nov. 4.....	6.75	May 11.....	4.91	Sept. 21.....	7.73
Nov. 22.....	6.62	May 13.....	4.85	Oct. 18.....	7.20
Dec. 8.....	6.52	June 3.....	4.64	Nov. 30.....	6.79
Feb. 2, 1983...	6.07	June 30.....	4.53	Jan. 17, 1984...	6.47
Mar. 3.....	5.84	July 28.....	6.81		

132-061-12ABA2 MP is top of 1-1/4-inch plastic pipe 1.88 ft above lsd.

July 7, 1983...	5.50	Sept. 23.....	7.00	Dec. 1.....	6.97
July 28.....	5.99	Sept. 29.....	7.07	Jan. 16, 1984...	6.83
Aug. 25.....	6.62	Oct. 18.....	7.05		

132-061-12ABA3 MP is top of 1-1/4-inch plastic pipe 2.35 ft above lsd.

July 7, 1983...	7.43	Sept. 23.....	9.44	Jan. 16, 1984...	9.25
July 27.....	8.03	Oct. 18.....	9.34		
Aug. 25.....	8.94	Dec. 1.....	9.19		

132-061-12CBB MP is top of 1-1/4-inch plastic pipe 2.06 ft above lsd.

Oct. 7, 1982...	13.39	Apr. 7.....	12.44	Aug. 25.....	13.33
Oct. 20.....	12.93	May 12.....	12.05	Sept. 23.....	13.55
Dec. 8.....	12.81	June 3.....	12.23	Oct. 18.....	13.47
Feb. 2, 1983...	12.97	July 1.....	12.49	Dec. 1.....	13.39
Mar. 3.....	12.94	July 28.....	12.86	Jan. 16, 1984...	13.38

Depth to water, in feet below or above (+) land surface

132-061-15DAA MP is top of 1-1/4-inch plastic pipe 1.81 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1982...	14.29	June 3.....	12.64	Oct. 18.....	14.95
Dec. 8.....	14.04	July 1.....	13.76	Nov. 1.....	14.73
Feb. 2, 1983...	14.24	July 27.....	14.78	Jan. 16, 1984...	14.68
Apr. 7.....	13.69	Aug. 25.....	15.54		
May 12.....	13.28	Sept. 23.....	15.19		

132-061-16ADD MP is top of 1-1/4-inch plastic pipe 2.33 ft above lsd.

Oct. 20, 1982...	53.87	May 12.....	53.83	Sept. 23.....	53.82
Dec. 8.....	54.19	June 3.....	53.55	Oct. 18.....	53.99
Feb. 2, 1983...	53.74	July 1.....	53.56	Dec. 1.....	54.05
Mar. 3.....	54.03	July 28.....	53.50	Jan. 16, 1984...	54.09
Apr. 7.....	53.72	Aug. 25.....	53.68		

132-061-23AAD MP is top of 3-inch galvanized pipe 2.73 ft above lsd.

Oct. 20, 1982...	13.25	Apr. 7.....	12.95	July 28.....	13.79
Nov. 8.....	13.03	May 12.....	12.82	Aug. 25.....	14.44
Feb. 2, 1983...	12.97	June 3.....	12.80	Sept. 23.....	14.97
Mar. 3.....	13.00	July 1.....	13.27	Oct. 18.....	14.92

132-061-24ADD MP is top of 1-1/4-inch plastic pipe 2.25 ft above lsd.

Oct. 5, 1982...	8.43	Apr. 7.....	5.54	Aug. 25.....	7.28
Oct. 20.....	7.62	May 12.....	6.13	Sept. 23.....	7.61
Dec. 12.....	7.78	June 3.....	6.67	Oct. 18.....	7.20
Feb. 2, 1983...	7.74	July 1.....	6.26	Dec. 1.....	8.08
Mar. 3.....	7.45	July 28.....	6.82	Jan. 16, 1984...	7.38

Depth to water, in feet below or above (+) land surface

132-061-24BAA MP is top of 1-1/4-inch plastic pipe 4.01 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 6, 1982...	1.69	Mar. 3.....	+0.01	Aug. 25.....	1.27
Oct. 20.....	.93	Apr. 7.....	.44	Sept. 23.....	.90
Nov. 4.....	.66	May 13.....	.83	Sept. 27.....	.88
Nov. 23.....	.50	June 3.....	.46	Oct. 18.....	.66
Dec. 8.....	.30	July 1.....	.31	Dec. 1.....	.42
Feb. 2, 1983...	.15	July 28.....	.26	Jan. 16, 1984...	.29

133-060-07CCC2 MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

July 13, 1982...	15.38	Apr. 6.....	14.73	Aug. 25.....	16.50
Oct. 20.....	15.17	May 12.....	14.58	Sept. 21.....	16.59
Dec. 7.....	15.23	June 3.....	15.03	Oct. 18.....	16.36
Feb. 1, 1983...	15.40	June 30.....	15.35	Nov. 30.....	16.84
Mar. 2.....	15.46	July 27.....	15.89	Jan. 17, 1984...	16.78

133-060-07DAA2 MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

Oct. 20, 1982...	43.95	May 12.....	43.89	Sept. 21.....	44.41
Dec. 7.....	44.06	June 3.....	43.80	Oct. 18.....	44.60
Feb. 1, 1983...	44.17	June 30.....	43.79	Nov. 30.....	44.82
Mar. 2.....	44.23	July 27.....	43.93	Jan. 17, 1984...	45.07
Apr. 6.....	44.07	Aug. 25.....	44.18		

133-060-08DDD MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Oct. 20, 1982...	25.01	May 12.....	24.18	Sept. 21.....	25.80
Dec. 7.....	24.70	June 3.....	24.16	Oct. 18.....	25.83
Feb. 2, 1983...	24.43	June 30.....	24.40	Nov. 30.....	25.75
Mar. 2.....	24.40	July 27.....	24.93	Jan. 17, 1984...	25.61
Apr. 6.....	24.26	Aug. 25.....	25.41		

Depth to water, in feet below or above (+) land surface

133-060-15CCC MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1982...	11.40	May 12.....	10.62	Sept. 21.....	12.86
Dec. 7.....	11.07	June 3.....	10.65	Oct. 18.....	12.60
Feb. 2, 1983...	10.90	June 30.....	11.03	Nov. 30.....	12.36
Mar. 3.....	10.85	July 27.....	12.04	Jan. 17, 1984...	12.19
Apr. 6.....	10.79	Aug. 25.....	12.08		

133-060-15DCC MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

July 14, 1982...	25.04	Apr. 6.....	25.15	Aug. 25.....	26.82
Oct. 20.....	25.84	May 12.....	25.05	Sept. 21.....	26.98
Dec. 7.....	25.46	June 3.....	25.06	Oct. 18.....	26.90
Feb. 2, 1983...	25.24	June 30.....	25.25	Nov. 30.....	26.73
Mar. 3.....	25.23	July 27.....	25.95	Jan. 17, 1984...	26.68

133-060-16ABA2 MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

Oct. 20, 1982...	33.20	May 12.....	32.17	Sept. 21.....	34.34
Dec. 7.....	32.65	June 3.....	32.15	Oct. 18.....	34.24
Feb. 2, 1983...	32.43	June 30.....	32.29	Nov. 30.....	33.99
Mar. 2.....	32.37	July 27.....	32.86	Jan. 17, 1984...	33.78
Apr. 6.....	32.25	Aug. 25.....	33.66		

133-060-16DAA MP is top of 6-inch galvanized pipe 1.00 ft above lsd.

Oct. 21, 1982...	21.47	June 3.....	20.59	Oct. 18.....	21.58
Dec. 8.....	20.99	June 30.....	20.95	Nov. 30.....	21.32
Feb. 2, 1983...	20.80	July 27.....	21.94	Jan. 17, 1984...	22.18
Mar. 2.....	20.76	Aug. 25.....	22.00		
Apr. 6.....	20.68	Sept. 21.....	21.87		

Depth to water, in feet below or above (+) land surface

133-060-16DCC MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 15, 1982...	16.68	Apr. 6.....	16.75	Aug. 25.....	18.68
Oct. 20.....	17.49	May 12.....	16.59	Sept. 21.....	18.87
Dec. 7.....	17.01	June 3.....	16.56	Oct. 18.....	18.57
Feb. 2, 1983...	16.87	June 30.....	16.78	Nov. 30.....	18.31
Mar. 3.....	16.83	July 27.....	17.66	Jan. 17, 1984...	18.15

133-060-17ADA MP is top of 1-1/4-inch plastic pipe 1.70 ft above lsd.

Oct. 20, 1982...	18.44	May 12.....	17.40	Sept. 21.....	19.63
Dec. 7.....	17.94	June 3.....	17.62	Oct. 18.....	19.35
Feb. 2, 1983...	17.72	June 30.....	18.80	Nov. 30.....	19.11
Mar. 2.....	17.66	July 27.....	19.03	Jan. 17, 1984...	18.92
Apr. 6.....	17.52	Aug. 25.....	19.64		

133-060-17BCB MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

July 13, 1982...	6.51	Apr. 6.....	6.14	Aug. 25.....	8.99
Oct. 20.....	9.24	May 12.....	5.88	Sept. 21.....	8.42
Dec. 7.....	6.74	June 3.....	6.02	Oct. 18.....	8.07
Feb. 1, 1983...	6.61	June 30.....	7.12	Nov. 30.....	7.80
Mar. 2.....	6.59	July 27.....	7.92	Jan. 17, 1984...	7.71

133-060-17CCB1 MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

July 13, 1982...	2.00	Mar. 2.....	2.04	July 27.....	3.14
Oct. 20.....	2.77	Apr. 6.....	1.62	Aug. 25.....	4.63
Nov. 4.....	2.57	May 11.....	1.38	Sept. 21.....	4.07
Nov. 22.....	2.30	May 13.....	1.25	Oct. 18.....	3.64
Dec. 7.....	2.20	June 3.....	1.54	Dec. 3.....	3.33
Feb. 1, 1983...	2.08	June 30.....	2.70	Jan. 17, 1984...	3.24

Depth to water, in feet below or above (+) land surface

133-060-17CCB2 MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 13, 1982...	4.32	Mar. 2.....	5.91	Aug. 25.....	6.62
Oct. 20.....	4.26	Apr. 6.....	2.46	Sept. 21.....	7.06
Nov. 4.....	4.82	May 11.....	2.60	Oct. 18.....	6.83
Nov. 22.....	4.93	June 3.....	2.97	Nov. 30.....	6.69
Dec. 7.....	4.97	June 30.....	4.31	Jan. 17, 1984...	6.68
Feb. 1, 1983...	5.63	July 27.....	5.78		

133-060-17CDD MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

July 13, 1982...	2.74	Mar. 2.....	3.53	July 27.....	4.40
Oct. 20.....	4.24	Apr. 6.....	3.25	Aug. 25.....	5.31
Nov. 4.....	4.02	May 11.....	2.96	Sept. 21.....	5.39
Nov. 22.....	3.77	May 13.....	2.94	Oct. 18.....	5.10
Dec. 7.....	3.66	June 3.....	2.98	Dec. 3.....	4.80
Feb. 2, 1983...	3.53	June 30.....	3.54	Jan. 17, 1984...	4.69

133-060-17DAA MP is top of 1-1/4-inch plastic pipe 2.20 ft above lsd.

July 15, 1982...	20.36	Apr. 6.....	19.99	Aug. 25.....	22.78
Oct. 20.....	21.00	May 12.....	19.90	Sept. 21.....	22.51
Dec. 7.....	20.32	June 3.....	20.07	Oct. 18.....	22.05
Feb. 2, 1983...	20.17	June 30.....	21.14	Nov. 30.....	21.61
Mar. 2.....	20.03	July 27.....	21.95	Jan. 17, 1984...	21.40

133-060-18CBB MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

July 13, 1982...	5.30	Apr. 6.....	4.70	Aug. 25.....	7.43
Oct. 20.....	6.01	May 12.....	5.11	Sept. 21.....	7.07
Dec. 7.....	6.22	June 3.....	5.80	Oct. 18.....	6.54
Feb. 1, 1983...	6.28	June 30.....	5.75	Nov. 30.....	7.16
Mar. 2.....	6.19	July 27.....	6.39	Jan. 17, 1984...	6.93

Depth to water, in feet below or above (+) land surface

133-060-19ABA1 MP is top of 1-1/4-inch plastic pipe 1.70 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 14, 1982...	7.37	Apr. 6.....	7.22	Sept. 21.....	9.54
Oct. 20.....	8.30	June 3.....	7.07	Oct. 18.....	9.18
Dec. 7.....	7.82	June 30.....	8.24	Nov. 30.....	8.92
Feb. 1, 1983...	7.70	July 27.....	8.68	Jan. 17, 1984...	8.80
Mar. 2.....	7.65	Aug. 25.....	10.09		

133-060-19ABA2 MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

Oct. 20, 1982...	7.34	June 3.....	8.04	Oct. 18.....	8.66
Dec. 7.....	7.55	June 30.....	8.17	Nov. 30.....	8.72
Feb. 1, 1983...	7.76	July 27.....	8.37	Jan. 17, 1984...	8.56
Mar. 2.....	7.90	Aug. 25.....	8.55		
Apr. 6.....	7.74	Sept. 21.....	8.68		

133-060-19ABA3 MP is top of 1-1/4-inch plastic pipe 1.60 ft above lsd.

July 14, 1982...	12.52	Apr. 6.....	11.48	Sept. 21.....	13.52
Oct. 20.....	13.45	June 3.....	12.90	Oct. 18.....	13.41
Dec. 7.....	13.78	June 30.....	12.31	Nov. 30.....	13.91
Feb. 1, 1983...	13.78	July 27.....	12.86	Jan. 17, 1984...	13.68
Mar. 2.....	13.66	Aug. 25.....	13.27		

133-060-21CAA1 MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

July 15, 1982...	7.95	Apr. 7.....	6.40	Aug. 25.....	8.20
Oct. 20.....	8.66	May 12.....	7.24	Sept. 21.....	8.60
Dec. 7.....	8.79	June 3.....	7.59	Oct. 18.....	8.53
Feb. 2, 1983...	8.75	June 30.....	7.25	Nov. 30.....	9.20
Mar. 3.....	8.65	July 27.....	7.67	Jan. 17, 1984...	8.92

Depth to water, in feet below or above (+) land surface

133-060-21CAA2 MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 15, 1982...	7.95	Apr. 7.....	6.47	Aug. 25.....	8.25
Oct. 20.....	8.74	May 12.....	7.31	Sept. 21.....	8.68
Dec. 7.....	8.85	June 3.....	7.66	Oct. 18.....	8.61
Feb. 2, 1983...	8.80	June 30.....	7.28	Nov. 30.....	9.26
Mar. 3.....	8.72	July 27.....	7.72	Jan. 17, 1984...	8.98

133-060-21DDC MP is top of 1-1/4-inch plastic pipe 2.20 ft above lsd.

July 15, 1982...	30.10	Apr. 7.....	29.10	Aug. 25.....	31.30
Oct. 20.....	30.35	May 12.....	28.78	Sept. 21.....	31.26
Dec. 7.....	29.96	June 3.....	28.87	Oct. 18.....	30.82
Feb. 2, 1983...	29.85	June 30.....	29.06	Nov. 30.....	30.55
Mar. 3.....	29.82	July 27.....	29.90	Jan. 17, 1984...	30.45

133-060-28DAB MP is top of 1-1/4-inch plastic pipe 2.20 ft above lsd.

July 15, 1982...	9.55	Apr. 7.....	7.43	Sept. 21.....	10.34
Oct. 20.....	10.40	June 3.....	9.14	Oct. 18.....	9.83
Dec. 7.....	10.55	June 30.....	8.56	Nov. 30.....	10.98
Feb. 2, 1983...	10.68	July 27.....	9.30	Jan. 17, 1984...	10.37
Mar. 3.....	10.39	Aug. 25.....	10.09		

133-060-29AAD MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

July 15, 1982...	10.20	Apr. 7.....	9.14	Aug. 25.....	11.04
Oct. 20.....	11.40	May 12.....	9.69	Sept. 21.....	11.22
Dec. 8.....	11.50	June 3.....	10.02	Oct. 18.....	10.89
Feb. 2, 1983...	11.41	June 30.....	9.50	Nov. 30.....	11.84
Mar. 3.....	11.16	July 28.....	10.25	Jan. 17, 1984...	11.29

Depth to water, in feet below or above (+) land surface

133-060-29DDD1 MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 15, 1982...	6.95	Apr. 7.....	6.34	Aug. 25.....	9.15
Oct. 20.....	8.87	May 12.....	5.94	Sept. 21.....	8.87
Dec. 8.....	7.85	June 3.....	5.89	Oct. 18.....	8.23
Feb. 2, 1983...	7.30	June 30.....	5.68	Nov. 30.....	7.87
Mar. 3.....	6.93	July 27.....	7.49	Jan. 17, 1984...	7.43

133-060-29DDD2 MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

July 15, 1982...	8.08	Apr. 7.....	9.37	Aug. 25.....	9.44
Oct. 20.....	9.77	May 2.....	8.72	Sept. 21.....	9.74
Dec. 8.....	9.86	June 3.....	8.62	Oct. 18.....	9.70
Feb. 2, 1983...	9.89	June 30.....	8.54	Nov. 30.....	9.97
Mar. 3.....	9.97	July 27.....	8.90	Jan. 17, 1984...	10.16

133-061-01BCD1 MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

July 16, 1982...	5.38	Apr. 6.....	5.85	Aug. 24.....	6.73
Oct. 20.....	6.03	May 12.....	5.64	Sept. 21.....	7.23
Dec. 7.....	6.07	June 2.....	5.67	Oct. 18.....	7.50
Feb. 1, 1983...	6.26	June 30.....	5.93	Nov. 30.....	8.46
Mar. 2.....	6.31	July 27.....	6.32	Jan. 17, 1984...	7.88

133-061-01BCD2 MP is top of 1-1/4-inch plastic pipe 1.70 ft above lsd.

July 16, 1982...	6.06	Apr. 6.....	5.54	Aug. 24.....	7.35
Oct. 20.....	6.68	May 12.....	5.51	Sept. 21.....	7.61
Dec. 7.....	6.61	June 2.....	5.55	Oct. 18.....	7.79
Feb. 1, 1983...	7.09	June 30.....	6.09	Nov. 30.....	8.01
Mar. 2.....	7.33	July 27.....	6.80	Jan. 17, 1984...	8.21

Depth to water, in feet below or above (+) land surface

133-061-02BAA2 MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 15, 1982...	9.40	Apr. 6.....	8.84	Aug. 24.....	9.79
Oct. 20.....	9.70	May 12.....	9.18	Sept. 21.....	9.87
Dec. 7.....	9.92	June 2.....	9.28	Oct. 18.....	9.72
Feb. 1, 1983...	10.13	June 30.....	9.17	Nov. 30.....	10.13
Mar. 2.....	10.09	July 27.....	9.44	Jan. 17, 1984...	10.27

133-061-03BBB MP is top of 1-1/4-inch plastic pipe 1.89 ft above lsd.

Oct. 20, 1982...	14.71	May 11.....	15.20	Sept. 21.....	16.41
Dec. 7.....	15.66	June 2.....	15.15	Oct. 18.....	16.46
Feb. 1, 1983...	15.90	June 30.....	15.37	Nov. 30.....	16.40
Mar. 2.....	15.95	July 27.....	15.77	Jan. 18, 1984...	16.47
Apr. 6.....	15.42	Aug. 24.....	16.16		

133-061-03CCC MP is top of 3-inch galvanized pipe 3.12 ft above lsd.

Oct. 20, 1982...	13.76	May 11.....	13.31	Sept. 21.....	14.59
Dec. 7.....	13.77	June 2.....	13.30	Oct. 18.....	14.59
Feb. 1, 1983...	14.14	June 30.....	13.54	Nov. 30.....	14.53
Mar. 2.....	14.10	July 27.....	13.98	Jan. 18, 1984...	14.83
Apr. 6.....	13.53	Aug. 24.....	14.42		

133-061-04BBB MP is top of 1-1/4-inch plastic pipe 1.07 ft above lsd.

Oct. 20, 1982...	47.93	May 11.....	47.60	Sept. 21.....	48.25
Dec. 7.....	48.03	June 2.....	47.53	Oct. 19.....	48.31
Feb. 1, 1983...	47.89	June 30.....	47.62	Nov. 30.....	48.36
Mar. 2.....	47.78	July 27.....	47.81	Jan. 18, 1984...	48.30
Apr. 6.....	47.63	Aug. 24.....	48.05		

Depth to water, in feet below or above (+) land surface

133-061-06AAA3 MP is top of 1-1/4-inch plastic pipe 1.89 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1982...	47.14	May 11.....	46.72	Sept. 21.....	47.36
Dec. 7.....	47.13	June 2.....	46.66	Oct. 19.....	47.45
Feb. 1, 1983...	47.10	June 30.....	46.71	Nov. 30.....	47.44
Mar. 2.....	46.99	July 27.....	46.80	Jan. 18, 1984...	47.51
Apr. 6.....	46.81	Aug. 24.....	47.06		

133-061-10CCC1 MP is top of 1-1/4-inch plastic pipe 2.01 ft above lsd.

Oct. 20, 1982...	65.54	May 11.....	65.49	Sept. 21.....	65.83
Dec. 7.....	65.62	June 2.....	65.43	Oct. 18.....	65.79
Feb. 1, 1983...	65.49	June 30.....	65.47	Nov. 30.....	65.71
Mar. 2.....	65.40	July 27.....	65.59	Jan. 17, 1984...	65.71
Apr. 6.....	65.41	Aug. 24.....	65.75		

133-061-10CCC2 MP is top of 1-1/4-inch plastic pipe 2.01 ft above lsd.

Oct. 20, 1982...	50.14	June 2.....	49.26	Sept. 21.....	50.45
Dec. 7.....	50.36	June 30.....	49.26	Oct. 17.....	50.50
Mar. 2, 1983...	49.48	July 27.....	49.65	Nov. 30.....	50.70
May 11.....	49.56	Aug. 24.....	50.06	Jan. 17, 1984...	50.75

133-061-11CDC MP is top of 1-1/4-inch plastic pipe 1.65 ft above lsd.

Oct. 6, 1982...	24.42	Apr. 6.....	24.32	Aug. 24.....	24.81
Oct. 22.....	24.16	May 11.....	24.16	Sept. 21.....	25.02
Dec. 7.....	24.10	June 2.....	24.13	Oct. 18.....	25.07
Feb. 1, 1983...	24.36	June 30.....	24.29	Nov. 30.....	25.06
Mar. 2.....	24.48	July 27.....	24.51	Jan. 17, 1984...	25.18

Depth to water, in feet below or above (+) land surface

133-061-12AAD MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1982..	7.35	May 12.....	6.98	Sept. 21.....	8.37
Dec. 7.....	7.38	June 3.....	7.09	Oct. 18.....	8.64
Feb. 1, 1983..	7.53	June 30.....	7.22	Nov. 30.....	9.51
Mar. 2.....	7.60	July 27.....	7.69	Jan. 17, 1984...	9.17
Apr. 6.....	7.16	Aug. 25.....	8.20		

133-061-12BBB MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Oct. 20, 1982...	9.65	May 11.....	9.36	Sept. 21.....	9.95
Dec. 7.....	9.61	June 2.....	9.38	Oct. 18.....	10.47
Feb. 1, 1983...	9.66	June 30.....	9.35	Nov. 30.....	11.01
Mar. 2.....	9.69	July 27.....	9.58	Jan. 17, 1984...	10.58
Apr. 6.....	9.29	Aug. 24.....	9.90		

133-061-12DAA MP is top of 1-1/4-inch plastic pipe 2.20 ft above lsd.

July 13, 1982...	12.45	Apr. 6.....	12.41	Aug. 25.....	13.70
Oct. 20.....	12.70	May 12.....	12.23	Sept. 21.....	13.85
Dec. 7.....	12.74	June 3.....	12.40	Oct. 18.....	13.94
Feb. 1, 1983...	12.91	June 30.....	12.66	Nov. 30.....	14.64
Mar. 2.....	12.97	July 27.....	13.23	Jan. 17, 1984...	14.40

133-061-13BAC MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

Oct. 20, 1982...	5.88	June 30.....	5.50	Oct. 18.....	6.73
Dec. 7.....	5.93	July 27.....	5.93	Nov. 30.....	7.43
Feb. 1, 1983...	6.05	Aug. 25.....	6.43	Jan. 17, 1984...	7.14
June 3.....	5.37	Sept. 21.....	6.68		

Depth to water, in feet below or above (+) land surface

133-061-20CCCC2 MP is top of 1-1/4-inch plastic pipe 1.97 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1982...	46.30	Apr. 7.....	44.42	July 28.....	44.97
Dec. 8.....	45.55	May 12.....	44.23	Aug. 25.....	46.87
Feb. 2, 1983...	45.13	June 3.....	44.29	Sept. 23.....	47.30
Mar. 3.....	44.96	July 1.....	44.42	Oct. 18.....	46.92

133-061-23CDD MP is top of 1-1/4-inch plastic pipe 1.86 ft above lsd.

Oct. 20, 1982...	15.76	May 12.....	13.26	Sept. 23.....	14.51
Dec. 8.....	13.89	June 3.....	13.45	Oct. 18.....	14.89
Feb. 2, 1983...	14.31	July 1.....	13.77	Nov. 30.....	15.09
Mar. 3.....	14.42	July 28.....	14.15	Jan. 17, 1984...	15.32
Apr. 7.....	13.47	Aug. 25.....	14.44		

133-061-28BAB2 MP is top of 1-1/4-inch plastic pipe 2.01 ft above lsd.

Oct. 20, 1982...	39.00	Apr. 7.....	37.49	July 28.....	38.29
Dec. 8.....	38.50	May 12.....	37.40	Aug. 25.....	39.61
Feb. 2, 1983...	38.41	June 3.....	37.59	Sept. 23.....	40.12
Mar. 3.....	38.30	July 1.....	37.86	Oct. 18.....	39.94

133-061-30BBBB1 MP is top of 1-1/4-inch plastic pipe 2.07 ft above lsd.

July 28, 1983...	48.02	Sept. 23.....	48.83	Oct. 18.....	48.81
Aug. 25.....	48.58				

133-062-22DDDD2 MP is top of 1-1/4-inch plastic pipe 1.82 ft above lsd.

Oct. 20, 1982...	72.86	Apr. 7.....	70.74	July 28.....	71.20
Dec. 8.....	71.98	May 12.....	70.48	Aug. 25.....	73.28
Feb. 2, 1983...	71.31	June 3.....	70.50	Sept. 23.....	73.58
Mar. 3.....	71.03	July 1.....	70.54	Oct. 18.....	73.15

Depth to water, in feet below or above (+) land surface

133-062-24CCB1 MP is top of 1-1/4-inch plastic pipe 2.17 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 28, 1983...	55.90	Sept. 23.....	56.76	Oct. 18.....	56.72
Aug. 25.....	56.46				

133-062-24CCB2 MP is top of 1-1/4-inch plastic pipe 1.77 ft above lsd.

Oct. 20, 1982...	58.83	Apr. 7.....	56.73	July 28.....	57.12
Dec. 8.....	57.93	May 12.....	56.54	Aug. 25.....	59.28
Feb. 2, 1983...	57.33	June 3.....	56.49	Sept. 22.....	59.66
Mar. 3.....	57.07	July 1.....	56.54	Oct. 18.....	59.15

134-061-04AAA MP is top of 1-1/4-inch plastic pipe 2.03 ft above lsd.

Sept. 8, 1982...	121.08	Apr. 6.....	102.20	July 27.....	115.62
Oct. 19.....	109.99	May 11.....	101.47	Aug. 24.....	121.07
Dec. 7.....	105.19	June 2.....	102.87	Sept. 22.....	115.30
Feb. 1, 1983...	103.51	June 30.....	105.41	Oct. 19.....	110.36

134-061-04BAB MP is top of 1-1/4-inch plastic pipe 1.98 ft above lsd.

Oct. 19, 1982...	14.01	May 11.....	11.58	Sept. 22.....	12.95
Dec. 7.....	13.50	June 2.....	11.58	Oct. 19.....	12.60
Feb. 1, 1983...	13.11	June 30.....	11.71	Nov. 29.....	12.33
Mar. 2.....	12.46	July 27.....	12.40	Jan. 19, 1984...	12.15
Apr. 6.....	11.79	Aug. 24.....	12.86		

134-061-04DDD MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

July 21, 1983...	87.94	Aug. 24.....	89.44	Oct. 20.....	90.85
July 27.....	88.10	Sept. 21.....	90.60	Dec. 2.....	90.58

Depth to water, in feet below or above (+) land surface

134-061-05AAB MP is top of 1-1/4-inch plastic pipe 2.02 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Sept. 8, 1982...	15.93	Apr. 6.....	15.86	Aug. 24.....	15.88
Oct. 19.....	16.00	May 11.....	15.71	Sept. 22.....	16.02
Dec. 7.....	16.03	June 2.....	15.67	Oct. 19.....	16.03
Feb. 1, 1983...	16.10	June 30.....	15.65	Nov. 29.....	16.13
Mar. 2.....	16.14	July 27.....	15.65	Jan. 19, 1984...	16.22

134-061-05DCD1 MP is top of 3-inch galvanized pipe 1.60 ft above lsd.

June 10, 1981...	18.90	June 8.....	18.01	June 23.....	18.00
July 9.....	19.17	July 8.....	18.22	July 21.....	18.12
Aug. 6.....	19.00	Sept. 2.....	19.02	Aug. 18.....	18.80
Sept. 3.....	19.29	Sept. 30.....	18.73	Sept. 21.....	18.82
Sept. 30.....	19.16	Oct. 29.....	18.95	Oct. 20.....	18.76
Oct. 30.....	19.75	Dec. 2.....	18.96	Dec. 2.....	18.77
Apr. 14, 1982...	18.55	Apr. 28, 1983...	18.77		
May 13.....	18.09	May 25.....	18.05		

134-061-06CBB MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

July 22, 1980...	119.20	Oct. 30.....	120.67	Feb. 1, 1983...	120.14
Sept. 11.....	119.80	Nov. 23.....	120.58	Mar. 2.....	120.00
Oct. 9.....	118.73	Dec. 29.....	120.67	Apr. 6.....	118.46
Nov. 6.....	119.60	Apr. 15, 1982...	118.78	May 11.....	118.41
Dec. 2.....	119.81	June 8.....	118.77	June 2.....	118.53
Apr. 15, 1981...	119.90	July 8.....	119.09	June 30.....	118.55
May 15.....	120.05	Aug. 5.....	119.55	July 27.....	119.10
June 9.....	120.24	Sept. 2.....	120.38	Aug. 24.....	119.82
July 9.....	120.53	Sept. 30.....	120.39	Sept. 21.....	119.84
Sept. 3.....	120.86	Oct. 19.....	119.68	Oct. 20.....	119.45
Sept. 30.....	119.75	Dec. 7.....	119.98	Dec. 2.....	119.93

Depth to water, in feet below or above (+) land surface

134-061-08DBA MP is top of 1-1/4-inch plastic pipe 2.14 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1982...	9.31	May 11.....	8.24	Sept. 21.....	9.29
Dec. 7.....	9.38	June 2.....	8.37	Oct. 19.....	9.16
Feb. 1, 1983...	9.56	June 30.....	8.59	Nov. 30.....	9.38
Mar. 2.....	9.56	July 27.....	8.93	Jan. 18, 1984...	9.52
Apr. 6.....	8.21	Aug. 24.....	9.34		

134-061-10CBB MP is top of 1-1/4-inch plastic pipe 1.96 ft above lsd.

June 30, 1983...	64.58	Sept. 27.....	67.54	Dec. 2.....	67.54
July 27.....	64.99	Sept. 29.....	67.65	Jan. 18, 1984...	67.08
Aug. 24.....	66.31	Oct. 20.....	67.76		

134-061-15CCD MP is top of 1-1/4-inch plastic pipe 2.17 ft above lsd.

Oct. 20, 1982...	17.33	May 11.....	16.88	Sept. 21.....	17.60
Dec. 7.....	17.08	June 2.....	16.85	Oct. 19.....	17.74
Feb. 1, 1983...	17.30	June 30.....	16.93	Nov. 30.....	17.85
Mar. 2.....	17.35	July 27.....	17.14	Jan. 18, 1984...	17.94
Apr. 6.....	17.01	Aug. 24.....	17.34		

134-061-16AAB MP is top of 1-1/4-inch plastic pipe 2.01 ft above lsd.

June 29, 1983...	5.98	Sept. 21.....	6.44	Nov. 30.....	6.82
July 27.....	6.20	Sept. 29.....	6.55	Jan. 18, 1984...	6.94
Aug. 24.....	6.27	Oct. 18.....	6.61		

134-061-16BCB MP is top of 1-1/4-inch plastic pipe 2.16 ft above lsd.

June 29, 1983...	14.37	Sept. 21.....	14.88	Nov. 30.....	14.80
July 27.....	14.79	Sept. 29.....	14.70	Jan. 18, 1984...	14.95
Aug. 24.....	15.43	Oct. 19.....	14.52		

Depth to water, in feet below or above (+) land surface

134-061-20DDA MP is top of 1-1/4-inch plastic pipe 2.21 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Sept. 8, 1982...	39.95	Apr. 6.....	38.56	Aug. 24.....	39.42
Oct. 20.....	39.25	May 11.....	38.43	Sept. 21.....	39.81
Dec. 7.....	38.84	June 2.....	38.37	Oct. 19.....	39.72
Feb. 1, 1983...	38.68	June 30.....	38.46	Nov. 30.....	39.58
Mar. 2.....	38.65	July 27.....	38.82	Jan. 18, 1984...	39.44

134-061-21DAA MP is top of 1-1/4-inch plastic pipe 1.96 ft above lsd.

Oct. 20, 1982...	15.46	May 11.....	14.60	Sept. 20.....	16.58
Dec. 7.....	14.99	June 2.....	14.55	Oct. 20.....	16.19
Feb. 1, 1983...	14.90	June 30.....	15.07	Dec. 2.....	16.01
Mar. 2.....	14.88	July 27.....	15.81	Jan. 18, 1984...	15.82
Apr. 6.....	14.63	Aug. 24.....	16.86		

134-061-23CCC MP is top of 1-1/4-inch plastic pipe 1.76 ft above lsd.

Sept. 8, 1982...	12.99	Apr. 6.....	12.11	Aug. 24.....	13.12
Oct. 20.....	12.91	May 12.....	11.79	Sept. 21.....	13.56
Dec. 7.....	12.58	June 2.....	11.96	Oct. 18.....	13.55
Feb. 1, 1983...	12.40	June 30.....	12.11	Nov. 30.....	13.42
Mar. 2.....	12.34	July 27.....	12.54	Jan. 17, 1984...	13.27

134-061-25BBB MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Sept. 8, 1982...	10.90	Apr. 6.....	10.80	Aug. 24.....	10.85
Oct. 20.....	10.94	May 10.....	10.80	Sept. 21.....	10.97
Dec. 7.....	11.10	June 2.....	10.85	Oct. 18.....	11.05
Feb. 1, 1983...	11.24	June 30.....	10.80	Nov. 30.....	11.20
Mar. 2.....	11.30	July 27.....	10.79	Jan. 17, 1984...	11.37

Depth to water, in feet below or above (+) land surface

134-061-26CCC MP is top of 1-1/4-inch plastic pipe 2.05 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 20, 1982...	46.07	May 12.....	45.31	Sept. 21.....	46.52
Dec. 7.....	45.79	June 2.....	45.24	Oct. 18.....	46.47
Feb. 1, 1983...	45.58	June 30.....	45.21	Nov. 30.....	46.36
Mar. 2.....	45.53	July 27.....	45.58	Jan. 17, 1984...	46.26
Apr. 6.....	45.44	Aug. 24.....	46.13		

134-061-26DBC MP is top of 1-1/4-inch plastic pipe 2.03 ft above lsd.

July 6, 1983...	9.30	Sept. 21.....	10.71	Nov. 30.....	11.11
July 27.....	10.35	Sept. 29.....	10.77	Jan. 17, 1984...	11.27
Aug. 24.....	10.61	Oct. 18.....	10.61		

134-061-28CDD MP is top of 1-1/4-inch plastic pipe 2.04 ft above lsd.

Oct. 20, 1982...	57.67	May 11.....	57.42	Sept. 21.....	57.61
Dec. 7.....	57.79	June 2.....	57.19	Oct. 19.....	57.65
Feb. 1, 1983...	57.54	June 30.....	57.12	Nov. 30.....	57.55
Mar. 2.....	57.29	July 27.....	57.28	Jan. 18, 1984...	57.88
Apr. 6.....	57.60	Aug. 24.....	57.49		

134-061-30DDC MP is top of 1-1/4-inch plastic pipe 1.92 ft above lsd.

Oct. 20, 1982...	50.29	May 11.....	50.19	Sept. 21.....	50.58
Dec. 7.....	50.55	June 2.....	50.05	Oct. 19.....	50.68
Feb. 1, 1983...	50.27	June 30.....	50.03	Nov. 30.....	50.70
Mar. 2.....	50.21	July 27.....	50.16	Jan. 18, 1984...	50.72
Apr. 6.....	50.13	Aug. 24.....	50.36		

134-061-34DDDD MP is top of 3-inch galvanized pipe 2.94 ft above lsd.

Oct. 20, 1982...	1.70	June 2.....	0.82	Sept. 21.....	6.95
Dec. 7.....	2.42	June 30.....	3.88	Oct. 18.....	7.08
Feb. 1, 1983...	4.86	July 27.....	5.46	Nov. 30.....	6.86
Mar. 2.....	5.09	Aug. 24.....	6.43		

Depth to water, in feet below or above (+) land surface

134-062-03AAA MP is top of 1-1/4-inch plastic pipe 1.95 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
June 23, 1983...	94.85	Aug. 24.....	95.29	Oct. 19.....	95.55
June 30.....	94.75	Sept. 21.....	95.35	Nov. 30.....	95.69
July 27.....	95.09	Sept. 29.....	95.53	Jan. 18, 1984...	95.90

134-062-03DDD MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Aug. 27, 1979...	99.58	Dec. 2.....	101.53	Sept. 30.....	101.59
Sept. 12.....	99.64	Apr. 15, 1981...	101.97	Oct. 29.....	101.40
Sept. 26.....	99.76	May 15.....	102.05	Dec. 2.....	101.48
Oct. 10.....	99.82	June 10.....	102.09	Apr. 28, 1983...	101.56
Oct. 24.....	99.97	July 9.....	102.34	May 25.....	101.05
Nov. 14.....	100.04	Sept. 3.....	102.47	June 23.....	101.13
Dec. 4.....	100.05	Sept. 30.....	102.49	June 30.....	101.03
Apr. 2, 1980...	100.77	Oct. 30.....	102.47	July 27.....	101.06
Apr. 24.....	100.67	Nov. 23.....	102.55	Aug. 24.....	101.25
May 21.....	100.80	Dec. 29.....	102.77	Sept. 21.....	101.39
June 16.....	100.86	Apr. 14, 1982...	102.58	Oct. 19.....	101.46
July 11.....	101.00	June 8.....	101.31	Dec. 2.....	101.63
Sept. 11.....	101.24	July 8.....	101.32	Jan. 18, 1984...	101.81
Oct. 9.....	101.23	Aug. 5.....	101.43		
Nov. 6.....	101.25	Sept. 2.....	101.44		

134-062-04CCC MP is top of 1-1/4-inch plastic pipe 2.02 ft above lsd.

June 29, 1983...	113.22	Sept. 21.....	113.45	Nov. 30.....	114.10
July 27.....	113.19	Sept. 29.....	113.50	Jan. 18, 1984...	113.85
Aug. 24.....	113.32	Oct. 19.....	114.08		

134-062-06AAA MP is top of 1-1/4-inch plastic pipe 1.68 ft above lsd.

Aug. 24, 1983...	105.69	Oct. 19.....	105.71	Nov. 30.....	106.34
Sept. 27.....	105.56				

Depth to water, in feet below or above (+) land surface

134-062-09AAA MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
June 24, 1983...	106.50	Sept. 21.....	107.39	Nov. 30.....	107.78
July 27.....	106.70	Sept. 29.....	107.48	Jan. 18, 1984...	107.82
Aug. 24.....	107.00	Oct. 19.....	107.50		

134-062-09DDD MP is top of 1-1/4-inch plastic pipe 2.04 ft above lsd.

June 24, 1983...	108.27	Aug. 24.....	108.55	Nov. 30.....	108.93
June 29.....	108.36	Sept. 21.....	108.64	Jan. 18, 1984...	108.90
July 27.....	108.41	Oct. 19.....	108.77		

134-062-21DDA MP is top of 1-1/4-inch plastic pipe 1.89 ft above lsd.

Aug. 3, 1983...	79.21	Sept. 21.....	79.24	Nov. 30.....	79.21
Aug. 24.....	79.25	Oct. 19.....	79.26	Jan. 18, 1984...	79.26

134-062-33CBB MP is top of 1-1/4-inch plastic pipe 2.07 ft above lsd.

July 20, 1983...	89.60	Sept. 21.....	90.38	Jan. 18, 1984...	90.15
July 27.....	89.62	Oct. 19.....	90.43		
Aug. 24.....	90.90	Nov. 30.....	90.26		

134-062-34BCC MP is top of 1-1/4-inch plastic pipe 1.92 ft above lsd.

Aug. 24, 1983...	80.48	Oct. 19.....	80.97	Jan. 18, 1984...	80.74
Sept. 21.....	80.84	Nov. 30.....	80.80		

135-061-18CCC2 MP is top of 1-1/4-inch plastic pipe 1.91 ft above lsd.

July 5, 1983...	133.88	Sept. 22.....	134.54	Nov. 30.....	134.64
July 26.....	134.18	Sept. 29.....	134.59	Jan. 19, 1984...	134.81
Aug. 24.....	134.38	Oct. 19.....	134.60		

Depth to water, in feet below or above (+) land surface

135-061-28CCB MP is top of 1-1/4-inch plastic pipe 1.96 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 19, 1982...	26.54	May 11.....	25.86	Sept. 21.....	26.93
Dec. 7.....	26.26	June 2.....	25.96	Oct. 20.....	26.84
Feb. 1, 1983...	26.24	June 30.....	26.04	Nov. 30.....	26.67
Mar. 2.....	26.23	July 27.....	26.43	Jan. 19, 1984...	26.76
Apr. 6.....	25.91	Aug. 24.....	26.88		

135-061-29CCD MP is top of 1-1/4-inch plastic pipe 2.07 ft above lsd.

Sept. 8, 1982...	8.44	Apr. 6.....	6.68	Aug. 24.....	8.46
Oct. 19.....	7.72	May 11.....	6.63	Sept. 22.....	8.20
Dec. 7.....	7.40	June 2.....	6.73	Oct. 19.....	8.11
Feb. 1, 1983...	7.33	June 30.....	7.09	Nov. 29.....	8.01
Mar. 2.....	7.32	July 27.....	7.62	Jan. 19, 1984...	7.94

135-061-29CDC MP is top of 1-1/4-inch plastic pipe 1.98 ft above lsd.

July 6, 1983...	12.18	Sept. 22.....	20.27	Nov. 29.....	12.22
July 27.....	21.94	Sept. 29.....	18.63	Jan. 19, 1984...	10.91
Aug. 24.....	26.89	Oct. 19.....	15.01		

135-061-31ABC MP is top of 1-1/4-inch plastic pipe 2.01 ft above lsd.

Sept. 8, 1982...	13.48	Apr. 6.....	10.79	Aug. 24.....	12.96
Oct. 19.....	13.38	May 11.....	11.61	Sept. 22.....	13.29
Dec. 7.....	13.65	June 2.....	12.00	Oct. 19.....	13.03
Feb. 1, 1983...	14.03	June 30.....	11.86	Nov. 29.....	13.83
Mar. 2.....	13.85	July 27.....	12.28	Jan. 19, 1984...	14.17

Depth to water, in feet below or above (+) land surface

135-061-33DCD1 MP is top of 1-1/4-inch plastic pipe 5.10 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Sept. 8, 1982...	13.40	Mar. 2.....	+3.50	Aug. 24.....	13.54
Oct. 19.....	2.46	Apr. 6.....	+3.60	Sept. 22.....	7.77
Nov. 4.....	+.05	May 11.....	Flowing	Sept. 27.....	6.37
Nov. 22.....	+1.44	June 2.....	+4.63	Oct. 19.....	2.85
Dec. 7.....	+2.29	June 30.....	+2.02	Nov. 29.....	.56
Feb. 1, 1983...	+3.49	July 27.....	8.17	Jan. 19, 1984...	+.57

135-061-33DCD2 MP is top of 1-1/4-inch plastic pipe 2.09 ft above lsd.

Sept. 8, 1982...	11.94	May 11.....	11.47	Sept. 27.....	12.11
Oct. 19.....	11.71	June 2.....	11.52	Oct. 19.....	12.10
Dec. 7.....	11.81	June 30.....	11.63	Nov. 29.....	12.16
Feb. 1, 1983...	12.01	July 27.....	11.81	Jan. 19, 1984...	12.29
Mar. 2.....	11.99	Aug. 24.....	11.92		
Apr. 6.....	11.69	Sept. 22.....	12.07		

135-062-02BBA MP is top of 1-1/4-inch plastic pipe 1.99 ft above lsd.

Sept. 9, 1982...	137.58	Apr. 6.....	137.23	Aug. 24.....	137.50
Oct. 19.....	137.53	May 11.....	137.16	Sept. 22.....	137.64
Dec. 7.....	137.69	June 2.....	137.18	Oct. 19.....	137.66
Feb. 1, 1983...	137.81	June 29.....	137.16	Nov. 29.....	137.72
Mar. 2.....	137.81	July 26.....	137.29	Jan. 18, 1984...	137.81

135-062-03ACA MP is top of 1-1/4-inch plastic pipe 1.94 ft above lsd.

Sept. 9, 1982...	7.10	Apr. 6.....	6.76	Aug. 24.....	7.02
Oct. 19.....	7.04	May 11.....	6.70	Sept. 22.....	7.13
Dec. 7.....	7.22	June 2.....	6.74	Oct. 19.....	7.16
Feb. 1, 1983...	7.35	June 29.....	6.74	Nov. 29.....	7.23
Mar. 2.....	7.35	July 26.....	6.82	Jan. 18, 1984...	7.35

Depth to water, in feet below or above (+) land surface

135-062-03ADB MP is top of 3-inch galvanized pipe 3.46 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 19, 1982...	8.56	May 11.....	8.32	Sept. 22.....	8.90
Dec. 7.....	8.85	June 2.....	8.40	Oct. 19.....	8.90
Feb. 1, 1983...	9.05	June 29.....	8.34	Nov. 29.....	9.00
Mar. 2.....	9.09	July 26.....	8.50	Jan. 18, 1984...	9.12
Apr. 6.....	8.44	Aug. 24.....	8.85		

135-062-03BCB MP is top of 1-1/4-inch plastic pipe 1.96 ft above lsd.

Sept. 9, 1982...	36.77	Apr. 6.....	36.64	Aug. 24.....	36.70
Oct. 11.....	36.86	May 11.....	36.54	Sept. 22.....	36.77
Dec. 7.....	36.96	June 2.....	36.55	Oct. 19.....	36.84
Feb. 1, 1983...	37.07	June 29.....	36.56	Nov. 29.....	36.92
Mar. 2.....	37.12	July 26.....	36.55	Jan. 18, 1984...	37.04

135-062-04AAA2 MP is top of 1-1/4-inch plastic pipe 2.13 ft above lsd.

June 22, 1983...	19.95	Aug. 24.....	20.15	Oct. 19.....	20.14
June 29.....	19.92	Sept. 22.....	20.25	Nov. 29.....	20.23
July 26.....	19.97	Sept. 29.....	20.17	Jan. 18, 1984...	20.37

135-062-05BCC MP is top of 1-1/4-inch plastic pipe 1.99 ft above lsd.

Oct. 19, 1982...	165.51	May 11.....	165.12	Sept. 22.....	165.33
Dec. 7.....	165.74	June 2.....	164.91	Oct. 19.....	165.33
Feb. 1, 1983...	165.58	June 29.....	164.86	Nov. 29.....	165.53
Mar. 2.....	165.42	July 26.....	164.86	Jan. 18, 1984...	165.47
Apr. 6.....	165.24	Aug. 23.....	165.12		

Depth to water, in feet below or above (+) land surface

135-062-07DDD MP is top of 1-1/4-inch plastic pipe 2.20 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 19, 1982...	130.84	May 11.....	130.50	Sept. 22.....	130.72
Dec. 7.....	131.20	June 2.....	130.18	Oct. 19.....	130.67
Feb. 1, 1983...	130.98	June 29.....	130.10	Nov. 29.....	130.45
Mar. 2.....	130.56	July 26.....	130.16	Jan. 18, 1984...	130.70
Apr. 6.....	130.56	Aug. 23.....	130.40		

135-062-11DDD2 MP is top of 1-1/4-inch plastic pipe 1.39 ft above lsd.

Oct. 19, 1982...	28.39	May 11.....	28.01	Sept. 22.....	28.46
Dec. 7.....	28.55	June 2.....	27.99	Oct. 19.....	28.43
Feb. 1, 1983...	28.64	June 29.....	27.99	Nov. 29.....	28.64
Mar. 2.....	28.61	July 26.....	28.11	Jan. 19, 1984...	28.73
Apr. 6.....	28.00	Aug. 24.....	28.30		

135-062-14ABA MP is top of 1-1/4-inch plastic pipe 2.06 ft above lsd.

Sept. 9, 1982...	10.01	Apr. 6.....	8.24	Sept. 22.....	10.11
Oct. 19.....	9.95	May 11.....	8.31	Oct. 19.....	9.96
Nov. 4.....	9.96	June 2.....	8.46	Nov. 29.....	10.29
Dec. 7.....	10.02	June 29.....	8.60	Jan. 19, 1984...	10.38
Feb. 1, 1983...	10.18	July 26.....	9.15		
Mar. 2.....	10.04	Aug. 24.....	9.73		

135-062-14BAA MP is top of 1-1/4-inch plastic pipe 2.06 ft above lsd.

Sept. 9, 1982...	2.71	Apr. 6.....	2.18	Aug. 24.....	2.58
Oct. 19.....	2.69	May 10.....	2.12	Sept. 22.....	2.74
Nov. 26.....	2.72	May 13.....	2.14	Oct. 19.....	2.71
Dec. 7.....	2.81	June 2.....	2.24	Dec. 2.....	2.83
Feb. 1, 1983...	2.91	June 29.....	2.22	Jan. 19, 1984...	3.01
Mar. 2.....	2.87	July 26.....	2.37		

Depth to water, in feet below or above (+) land surface

135-062-16AAA MP is top of 1-1/4-inch plastic pipe 2.12 ft above lsd.

Date	Water Level	Date	Water Level	Date	Water level
Oct. 19, 1982...	137.88	May 11.....	137.51	Sept. 22.....	137.80
Dec. 7.....	138.12	June 2.....	137.33	Oct. 19.....	137.81
Feb. 1, 1983...	137.96	June 29.....	137.28	Nov. 29.....	137.68
Mar. 2.....	137.83	July 26.....	137.38	Jan. 18, 1984...	137.89
Apr. 6.....	137.61	Aug. 24.....	137.56		

135-062-16CCC MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

June 28, 1983...	97.03	Sept. 22.....	97.95	Nov. 30.....	98.20
July 27.....	97.35	Sept. 29.....	98.02	Jan. 18, 1984...	98.36
Aug. 24.....	97.64	Oct. 19.....	98.06		

135-062-20CCC MP is top of 1-1/4-inch plastic pipe 1.89 ft above lsd.

July 12, 1983...	104.63	Sept. 22.....	105.00	Nov. 30.....	104.94
July 27.....	104.73	Sept. 29.....	105.02		
Aug. 24.....	104.90	Oct. 19.....	105.03		

135-062-23CCC MP is top of 1-1/4-inch plastic pipe 2.05 ft above lsd.

June 22, 1983...	18.20	Aug. 24.....	18.98	Oct. 19.....	17.80
June 29.....	18.13	Sept. 22.....	19.07	Nov. 30.....	18.28
July 27.....	18.50	Sept. 29.....	19.13	Jan. 18, 1984...	18.42

Depth to water, in feet below or above (+) land surface

135-062-25DCB1 MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
June 22, 1979...	16.54	Nov. 6.....	20.11	Sept. 30.....	20.88
July 25.....	18.17	Dec. 2.....	20.34	Oct. 19.....	20.20
Aug. 9.....	18.60	Apr. 15, 1981...	20.42	Dec. 7.....	20.49
Aug. 27.....	18.44	May 15.....	20.63	Feb. 1, 1983...	20.67
Sept. 12.....	18.55	June 10.....	20.72	Mar. 2.....	20.48
Sept. 26.....	18.66	July 9.....	21.05	Apr. 6.....	18.85
Oct. 10.....	18.64	Aug. 6.....	21.11	May 11.....	18.87
Oct. 24.....	18.64	Sept. 3.....	21.36	June 2.....	19.06
Nov. 14.....	17.57	Sept. 30.....	20.04	June 30.....	19.03
Dec. 4.....	19.01	Oct. 30.....	21.13	July 27.....	19.64
Apr. 2, 1980...	18.10	Nov. 23.....	21.00	Aug. 24.....	20.38
Apr. 24.....	19.66	Dec. 29.....	21.13	Sept. 21.....	20.33
May 21.....	20.04	Apr. 14, 1982...	19.09	Oct. 20.....	19.93
June 16.....	20.04	May 13.....	19.00	Dec. 2.....	20.45
July 14.....	20.27	June 8.....	19.72	Jan. 19, 1984...	20.63
Aug. 12.....	20.25	July 8.....	19.60		
Sept. 10.....	19.34	Aug. 5.....	20.09		
Oct. 9.....	20.14	Sept. 2.....	20.98		

135-062-25DCB2 MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

June 22, 1979...	31.47	Oct. 9.....	35.68	Aug. 5.....	33.85
July 25.....	32.22	Nov. 6.....	35.46	Sept. 2.....	35.30
Aug. 9.....	32.70	Dec. 2.....	35.27	Sept. 30.....	35.43
Aug. 27.....	32.83	Apr. 15, 1981...	34.92	Oct. 19.....	34.99
Sept. 12.....	33.35	May 15.....	35.08	Dec. 7.....	34.98
Sept. 26.....	33.10	June 10.....	35.35	Feb. 1, 1983...	35.00
Oct. 10.....	33.36	July 9.....	35.50	Mar. 2.....	34.93
Oct. 24.....	33.37	Aug. 6.....	35.84	Apr. 6.....	33.25
Nov. 14.....	33.19	Sept. 3.....	36.73	May 11.....	33.05
Dec. 5.....	33.36	Sept. 30.....	35.70	June 2.....	33.03
Apr. 2, 1980...	33.48	Oct. 30.....	36.03	June 30.....	32.88
Apr. 24.....	33.86	Nov. 23.....	35.92	July 27.....	33.11
May 21.....	34.47	Dec. 24.....	35.80	Aug. 24.....	33.38
June 16.....	35.04	Apr. 14, 1982...	33.50	Sept. 21.....	34.28
July 14.....	35.33	May 13.....	33.33	Oct. 20.....	34.18
Aug. 12.....	36.17	June 8.....	33.32	Dec. 2.....	34.64
Sept. 10.....	35.02	July 8.....	33.57	Jan. 19, 1984...	34.83

Depth to water, in feet below or above (+) land surface

135-062-26ACA MP is top of 1-1/4-inch plastic pipe 1.75 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
June 30, 1983...	19.19	Sept. 22.....	20.61	Jan. 19, 1984...	22.09
July 27.....	19.42	Oct. 19.....	20.51		
Aug. 24.....	20.02	Nov. 29.....	21.49		

135-062-28ADD MP is top of 1-1/4-inch plastic pipe 2.25 ft above lsd.

June 23, 1983...	104.98	Aug. 24.....	105.05	Oct. 19.....	105.31
June 29.....	104.80	Sept. 22.....	105.25	Nov. 30.....	105.42
July 27.....	104.85	Sept. 29.....	105.30	Jan. 18, 1984...	105.62

135-062-33BBB MP is top of 1-1/4-inch plastic pipe 2.06 ft above lsd.

June 29, 1983...	102.19	Sept. 22.....	102.69	Nov. 30.....	102.36
July 27.....	102.23	Sept. 29.....	102.62	Jan. 18, 1984...	102.42
Aug. 24.....	102.45	Oct. 19.....	102.51		

135-062-35AAD MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

July 22, 1980...	106.60	Oct. 30.....	108.98	Feb. 1, 1983...	106.46
Sept. 11.....	107.03	Nov. 23.....	107.93	Apr. 6.....	106.37
Oct. 9.....	106.87	Dec. 29.....	108.06	May 11.....	106.11
Nov. 6.....	106.90	Apr. 14, 1982...	106.63	June 2.....	106.16
Dec. 2.....	107.11	June 8.....	106.30	June 30.....	106.18
Apr. 15, 1981...	107.30	July 8.....	106.52	July 27.....	106.58
June 10.....	107.48	Aug. 5.....	106.86	Aug. 24.....	107.09
July 9.....	107.56	Sept. 2.....	107.42	Sept. 21.....	107.14
Aug. 6.....	107.83	Sept. 30.....	107.50	Oct. 20.....	106.94
Sept. 3.....	108.07	Oct. 19.....	107.05	Dec. 2.....	107.28
Sept. 30.....	107.39	Dec. 7.....	107.28	Jan. 18, 1984...	107.43

Depth to water, in feet below or above (+) land surface

135-062-36DDD MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 22, 1980...	116.30	Oct. 30.....	116.50	Mar. 2.....	116.34
Sept. 11.....	113.47	Nov. 23.....	117.41	Apr. 6.....	115.32
Oct. 9.....	116.46	Apr. 14, 1982...	115.58	May 11.....	115.27
Nov. 6.....	116.45	June 8.....	115.59	June 2.....	115.40
Dec. 2.....	116.66	July 8.....	115.94	June 30.....	115.40
Apr. 15, 1981...	117.71	Aug. 5.....	116.40	July 27.....	115.95
May 15.....	117.00	Sept. 2.....	117.21	Aug. 24.....	116.68
June 10.....	117.10	Sept. 30.....	117.23	Sept. 21.....	116.67
July 9.....	117.97	Oct. 19.....	116.53	Oct. 20.....	116.27
Sept. 3.....	117.70	Dec. 7.....	116.83	Dec. 2.....	116.77
Sept. 30.....	117.38	Feb. 1, 1983...	117.00	Jan. 18, 1984...	117.54

135-063-05AAA MP is top of 1-1/4-inch plastic pipe 1.59 ft above lsd.

July 27, 1983...	54.24	Sept. 22.....	54.44	Nov. 29.....	54.22
Aug. 23.....	54.41	Oct. 19.....	54.33	Jan. 18, 1984...	54.18

135-063-12BBB MP is top of 1-1/4-inch plastic pipe 2.06 ft above lsd.

July 14, 1983...	140.06	Sept. 22.....	140.70	Nov. 29.....	140.34
July 26.....	140.21	Sept. 29.....	140.80	Jan. 18, 1984...	140.70
Aug. 23.....	140.47	Oct. 19.....	140.64		

135-063-13AAA MP is top of 1-1/4-inch plastic pipe 2.01 ft above lsd.

Oct. 19, 1982...	133.37	May 11.....	133.11	Sept. 22.....	133.29
Dec. 7.....	133.81	June 2.....	132.68	Oct. 19.....	133.21
Feb. 1, 1983...	133.29	June 29.....	132.59	Nov. 29.....	132.91
Mar. 2.....	133.02	July 26.....	132.66	Jan. 18, 1984...	133.19
Apr. 6.....	133.23	Aug. 23.....	132.89		

Depth to water, in feet below or above (+) land surface

135-063-15CCC MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 14, 1983...	91.46	July 26.....	91.62		

135-063-20DDD MP is top of 1-1/4-inch plastic pipe 1.83 ft above lsd.

July 14, 1983...	98.37	Aug. 23.....	98.45	Oct. 19.....	98.30
July 26.....	98.31	Sept. 22.....	98.42	Nov. 29.....	98.11

135-063-23AAA MP is top of 1-1/4-inch plastic pipe 2.52 ft above lsd.

June 28, 1983...	80.73	July 26.....	81.28	Aug. 23.....	81.28
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135-063-23CCC MP is top of 1-1/4-inch plastic pipe 1.89 ft above lsd.

July 14, 1983...	87.36	Sept. 22.....	87.49	Jan. 18, 1984...	87.58
July 26.....	87.41	Oct. 19.....	87.48		
Aug. 23.....	87.46	Nov. 29.....	87.23		

135-063-24DDD MP is top of 1-1/4-inch plastic pipe 1.95 ft above lsd.

July 14, 1983...	100.03	Sept. 22.....	99.88	Nov. 29.....	99.80
July 26.....	99.70	Sept. 29.....	99.91	Jan. 18, 1984...	99.84
Aug. 23.....	99.85	Oct. 19.....	99.95		

135-063-36BBB1 MP is top of 1-1/4-inch plastic pipe 1.83 ft above lsd.

July 13, 1983...	80.36	Sept. 22.....	80.46	Jan. 18, 1984...	80.48
July 26.....	80.37	Oct. 19.....	80.41		
Aug. 23.....	80.42	Nov. 29.....	80.16		

Depth to water, in feet below or above (+) land surface

135-063-36BBBB2 MP is top of 1-1/4-inch plastic pipe 1.86 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 13, 1983...	81.08	Sept. 22.....	81.36	Jan. 18, 1984...	81.24
July 26.....	81.00	Oct. 19.....	81.27		
Aug. 23.....	81.20	Nov. 29.....	80.80		

136-062-03CCCC MP is top of 1-1/4-inch plastic pipe 1.89 ft above lsd.

Oct. 18, 1982...	56.62	May 11.....	56.82	Sept. 20.....	56.86
Dec. 7.....	56.75	June 2.....	56.76	Oct. 17.....	56.75
Feb. 1, 1983...	56.78	June 29.....	56.71	Nov. 29.....	56.89
Mar. 2.....	56.72	July 26.....	56.74	Jan. 18, 1984...	56.66
Apr. 6.....	56.74	Aug. 23.....	56.87		

136-062-06DDDD MP is top of 1-1/4-inch plastic pipe 2.13 ft above lsd.

Oct. 19, 1982...	65.55	May 11.....	65.72	Sept. 20.....	65.76
Dec. 7.....	65.66	June 2.....	65.66	Oct. 17.....	65.67
Feb. 1, 1983...	65.68	June 29.....	65.62	Nov. 29.....	65.54
Mar. 2.....	65.61	July 26.....	65.66	Jan. 18, 1984...	65.65
Apr. 6.....	65.66	Aug. 23.....	65.77		

136-062-07DCC MP is top of 1-1/4-inch plastic pipe 2.05 ft above lsd.

June 14, 1983...	125.90	Aug. 23.....	126.10	Oct. 17.....	126.24
June 29.....	126.00	Sept. 20.....	126.18	Nov. 29.....	126.14
July 26.....	125.85	Sept. 26.....	126.17	Jan. 18, 1984...	126.49

136-062-09CCCC1 MP is top of 1-1/4-inch plastic pipe 2.01 ft above lsd.

June 29, 1983...	86.47	Sept. 26.....	86.64	Jan. 18, 1984...	86.50
July 26.....	86.57	Oct. 17.....	86.59		
Aug. 23.....	86.67	Nov. 29.....	86.38		

Depth to water, in feet below or above (+) land surface

136-062-09CCC2 MP is top of 1-1/4-inch plastic pipe 2.65 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
June 15, 1983...	65.45	Aug. 23.....	65.25	Nov. 29.....	65.04
June 29.....	65.05	Sept. 20.....	65.44	Jan. 18, 1984...	65.21
July 26.....	65.02	Oct. 17.....	65.30		

136-062-15CCC MP is top of 1-1/4-inch plastic pipe 0.00 ft above lsd.

June 15, 1983...	56.84	Aug. 23.....	56.67	Oct. 17.....	56.43
June 29.....	59.34	Sept. 20.....	56.60	Nov. 29.....	56.30
July 26.....	57.19	Sept. 26.....	56.57	Jan. 18, 1984...	56.41

136-062-19DAA MP is top of 1-1/4-inch plastic pipe 2.23 ft above lsd.

Sept. 9, 1982...	137.30	May 11.....	136.94	Sept. 20.....	137.11
Oct. 19.....	137.53	June 2.....	136.92	Oct. 17.....	137.16
Dec. 7.....	137.29	June 29.....	136.84	Nov. 29.....	137.25
Feb. 1, 1983...	137.53	July 26.....	136.88	Jan. 18, 1984...	137.41
May 10.....	137.00	Aug. 23.....	136.86		

136-062-21BBB1 MP is top of 1-1/4-inch plastic pipe 2.08 ft above lsd.

June 16, 1983...	71.97	July 26.....	71.58	Oct. 17.....	71.61
June 29.....	71.55	Aug. 23.....	71.76	Nov. 29.....	71.47
July 15.....	71.62	Sept. 20.....	71.68		

136-062-21BBB2 MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

June 16, 1983...	70.93	July 26.....	71.23	Oct. 17.....	71.27
June 29.....	71.15	Aug. 23.....	71.39	Nov. 29.....	71.12
July 15.....	71.20	Sept. 20.....	71.30		

Depth to water, in feet below or above (+) land surface

136-062-29AAA2 MP is top of 1-1/4-inch plastic pipe 2.36 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
June 17, 1983...	73.70	Aug. 23.....	74.59	Nov. 29.....	75.14
June 29.....	74.47	Sept. 20.....	74.77	Jan. 18, 1984...	74.54
July 26.....	75.22	Oct. 17.....	74.66		

136-062-30DDD2 MP is top of 1-1/4-inch plastic pipe 2.14 ft above lsd.

Oct. 19. 1982...	11.59	May 11.....	10.99	Sept. 22.....	11.31
Dec. 7.....	11.71	June 2.....	10.96	Oct. 17.....	11.28
Feb. 1, 1983...	11.71	June 29.....	10.91	Nov. 29.....	11.35
Mar. 2.....	11.62	July 26.....	10.96	Jan. 18, 1984...	11.58
Apr. 6.....	11.33	Aug. 23.....	11.15		

136-062-30DDD3 MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

Oct. 19, 1982...	11.67	May 11.....	11.12	Sept. 22.....	11.40
Dec. 7.....	11.79	June 2.....	11.00	Oct. 17.....	11.36
Feb. 1, 1983...	11.79	June 29.....	10.95	Nov. 29.....	11.43
Mar. 2.....	11.70	July 26.....	11.05	Jan. 18, 1984...	11.65
Apr. 6.....	11.01	Aug. 23.....	11.23		

136-062-34BBB MP is top of 1-1/4-inch plastic pipe 2.09 ft above lsd.

Sept. 9, 1982...	133.37	Apr. 6.....	132.65	Aug. 24.....	132.81
Oct. 19.....	132.95	May 11.....	132.59	Sept. 22.....	133.00
Dec. 7.....	133.14	June 2.....	132.53	Oct. 19.....	133.01
Feb. 1, 1983...	133.18	June 29.....	132.55	Nov. 29.....	133.01
Mar. 2.....	133.13	July 26.....	132.63	Jan. 18, 1984...	133.16

136-063-01CCC MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Oct. 19, 1982...	146.22	May 11.....	145.57	Sept. 20.....	145.90
Dec. 7.....	146.53	June 2.....	145.30	Oct. 17.....	145.84
Feb. 1, 1983...	146.24	June 29.....	145.30	Nov. 29.....	145.74
Mar. 2.....	146.10	July 26.....	145.37	Jan. 18, 1984...	146.01
Apr. 6.....	145.67	Aug. 23.....	145.64		

Depth to water, in feet below or above (+) land surface

136-063-02AAA MP is top of 1-1/4-inch plastic pipe 1.97 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Aug. 17, 1982...	114.05	Apr. 6.....	114.03	Aug. 23.....	113.95
Oct. 19.....	114.32	May 11.....	113.95	Sept. 20.....	114.13
Dec. 6.....	114.29	June 2.....	113.59	Oct. 17.....	114.06
Feb. 1, 1983...	114.26	June 29.....	113.60	Nov. 29.....	113.74
Mar. 2.....	113.95	July 26.....	113.69	Jan. 17, 1984...	114.41

136-063-02ABB MP is top of 3-inch galvanized pipe 3.25 ft above lsd.

Oct. 19, 1982...	14.09	May 11.....	14.41	Sept. 20.....	15.05
Dec. 6.....	14.64	June 2.....	14.24	Oct. 17.....	15.50
Feb. 1, 1983...	15.25	June 29.....	13.43	Nov. 29.....	15.91
Mar. 2.....	15.65	July 26.....	13.62		
Apr. 6.....	14.62	Aug. 23.....	14.36		

136-063-02BAD1 MP is top of 1-1/4-inch plastic pipe 1.78 ft above lsd.

Aug. 8, 1982...	8.11	Apr. 6.....	6.39	Aug. 23.....	8.24
Oct. 19.....	7.36	May 11.....	6.79	Sept. 20.....	8.52
Dec. 6.....	8.54	June 2.....	7.04	Oct. 17.....	8.40
Feb. 1, 1983...	8.90	June 29.....	7.21	Nov. 29.....	8.63
Mar. 2.....	8.67	July 26.....	7.64	Jan. 17, 1984...	8.90

136-063-02BAD2 MP is top of 1-1/4-inch plastic pipe 1.88 ft above lsd.

Aug. 18, 1982...	6.98	Apr. 6.....	6.39	Aug. 23.....	6.92
Oct. 19.....	7.30	May 11.....	6.38	Sept. 20.....	7.16
Dec. 6.....	7.45	June 2.....	6.37	Oct. 17.....	7.13
Feb. 1, 1983...	7.74	June 29.....	6.39	Nov. 29.....	7.30
Mar. 2.....	7.57	July 26.....	6.58	Jan. 17, 1984...	7.72

Depth to water, in feet below or above (+) land surface

136-063-03ABA MP is top of 1-1/4-inch plastic pipe 1.52 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 19, 1982...	13.38	May 11.....	13.60	Sept. 20.....	13.93
Dec. 6.....	13.36	June 2.....	13.55	Oct. 17.....	13.93
Feb. 1, 1983...	13.78	June 29.....	13.65	Nov. 29.....	14.00
Mar. 2.....	13.85	July 26.....	13.70	Jan. 17, 1984...	14.46
Apr. 6.....	13.50	Aug. 23.....	13.88		

136-063-08AAB MP is top of 1-1/4-inch plastic pipe 2.03 ft above lsd.

Oct. 19, 1982...	23.90	May 11.....	23.46	Sept. 20.....	23.87
Dec. 6.....	23.80	June 2.....	23.42	Oct. 17.....	23.80
Feb. 1, 1983...	23.68	June 29.....	23.40	Nov. 29.....	23.70
Mar. 2.....	23.56	July 26.....	23.56	Jan. 18, 1984...	23.72
Apr. 6.....	23.46	Aug. 23.....	23.77		

136-063-10BBB MP is top of 1-1/4-inch plastic pipe 1.79 ft above lsd.

Oct 19, 1982...	135.64	May 11.....	135.01	Sept. 20.....	135.25
Dec. 6.....	135.79	June 2.....	134.87	Oct. 17.....	135.26
Feb. 1, 1983...	135.94	June 29.....	134.85	Nov. 29.....	135.38
Mar. 2.....	135.95	July 26.....	134.86	Jan. 18, 1984...	135.77
Apr. 6.....	135.43	Aug. 23.....	135.04		

136-063-11BBB MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

Oct. 19, 1982...	38.90	June 2.....	38.59	Sept. 20.....	38.54
Dec. 6.....	39.08	June 29.....	38.19	Oct. 17.....	38.48
Feb. 1, 1983...	39.30	July 26.....	38.17	Nov. 29.....	38.70
May 11.....	38.26	Aug. 23.....	38.36	Jan. 17, 1984...	39.15

Depth to water, in feet below or above (+) land surface

136-063-12AAA MP is top of 1-1/4-inch plastic pipe 2.29 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 19, 1982...	76.85	May 11.....	76.84	Sept. 20.....	76.85
Dec. 7.....	77.14	June 2.....	76.56	Oct. 17.....	76.75
Feb. 1, 1983...	76.71	June 29.....	76.53	Nov. 29.....	76.54
Mar. 2.....	76.55	July 26.....	76.54	Jan. 18, 1984...	76.71
Apr. 6.....	76.80	Aug. 23.....	76.73		

136-063-13CBD1 MP is top of 1-1/4-inch plastic pipe 1.96 ft above lsd.

Aug. 8, 1982...	13.20	Apr. 6.....	12.33	Aug. 23.....	12.57
Oct. 19.....	12.99	May 11.....	12.29	Sept. 20.....	12.92
Dec. 7.....	13.02	June 2.....	12.21	Oct. 17.....	12.61
Feb. 1, 1983...	12.87	June 29.....	12.17	Nov. 29.....	12.55
Mar. 2.....	12.78	July 26.....	12.30	Jan. 18, 1984...	12.72

136-063-13CBD2 MP is top of 1-1/4-inch plastic pipe 2.06 ft above lsd.

Aug. 18, 1982...	12.04	Apr. 6.....	10.21	Aug. 23.....	11.58
Oct. 18.....	11.94	May 11.....	10.64	Sept. 20.....	11.94
Dec. 7.....	12.10	June 2.....	10.87	Oct. 17.....	11.74
Feb. 1, 1983...	12.17	June 29.....	10.78	Nov. 29.....	12.00
Mar. 2.....	12.00	July 26.....	11.04	Jan. 18, 1984...	12.15

136-063-13DCC MP is top of 3-inch galvanized pipe 3.26 ft above lsd.

Oct. 19, 1982...	16.73	May 11.....	16.23	Sept. 20.....	16.54
Dec. 7.....	16.83	June 2.....	16.18	Oct. 17.....	16.53
Feb. 1, 1983...	16.92	June 29.....	16.21	Nov. 29.....	16.61
Mar. 2.....	16.90	July 26.....	16.16	Jan. 18, 1984...	16.83
Apr. 6.....	16.32	Aug. 23.....	16.36		

Depth to water, in feet below or above (+) land surface

136-063-14BCB MP is top of 1-1/4-inch plastic pipe 2.05 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Dec. 7, 1982...	141.89	June 2.....	141.90	Sept. 20.....	141.95
Feb. 1, 1983...	141.90	June 29.....	141.90	Oct. 17.....	141.95
Mar. 2.....	141.91	July 26.....	141.89	Nov. 29.....	141.97
May 11.....	141.91	Aug. 23.....	141.92		

136-063-17DDD MP is top of 1-1/4-inch plastic pipe 2.28 ft above lsd.

June 29, 1983...	44.17	Sept. 20.....	44.35	Nov. 29.....	44.03
July 26.....	44.19	Sept. 26.....	44.21	Jan. 18, 1984...	44.15
Aug. 23.....	44.30	Oct. 17.....	44.08		

136-063-18CCD MP is top of 1-1/4-inch plastic pipe 1.83 ft above lsd.

July 26, 1983...	37.31	Sept. 20.....	37.97	Jan. 18, 1984...	37.40
July 27.....	37.31	Oct. 17.....	37.84		
Aug. 23.....	37.93	Nov. 29.....	37.60		

136-063-25ADA MP is top of 2-inch plastic pipe 1.55 ft above lsd.

June 16, 1983...	8.59	Aug. 23.....	8.82	Oct. 17.....	8.98
June 29.....	8.61	Sept. 22.....	8.97	Nov. 29.....	9.05
July 26.....	8.67	Sept. 26.....	8.98	Jan. 19, 1984...	9.28

136-063-29AAA MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

June 21, 1983...	86.22	Aug. 23.....	86.42	Oct. 17.....	86.53
June 29.....	86.22	Sept. 20.....	86.50	Nov. 29.....	86.22
July 26.....	86.24	Sept. 26.....	86.38	Jan. 18, 1984...	86.56

Depth to water, in feet below or above (+) land surface

136-063-35AAA MP is top of 1-1/4-inch plastic pipe 2.14 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 19, 1982...	154.16	June 2.....	153.51	Sept. 22.....	154.01
Dec. 7.....	154.45	June 29.....	153.43	Oct. 19.....	153.95
Feb. 1, 1983...	154.06	July 26.....	153.44	Nov. 29.....	153.72
May 12.....	153.37	Aug. 23.....	153.66	Jan. 18, 1984...	153.93

137-062-07BBC MP is top of 1-1/4-inch plastic pipe 1.93 ft above lsd.

July 19, 1983...	88.52	Sept. 20.....	89.17	Jan. 17, 1984...	88.57
July 26.....	88.45	Oct. 17.....	88.40		
Aug. 23.....	88.63	Nov. 28.....	88.11		

137-062-19BBBB1 MP is top of 1-1/4-inch plastic pipe 2.09 ft above lsd.

June 29, 1983...	86.98	Sept. 1.....	87.11	Nov. 28.....	87.21
July 26.....	86.94	Sept. 20.....	87.18	Jan. 17, 1984...	87.21
Aug. 23.....	87.11	Oct. 17.....	87.01		

137-062-19BBBB2 MP is top of 1-1/4-inch plastic pipe 2.72 ft above lsd.

June 10, 1983...	87.75	Aug. 23.....	88.06	Nov. 28.....	87.78
June 29.....	87.77	Sept. 20.....	87.98	Jan. 17, 1984...	87.71
July 26.....	87.76	Oct. 17.....	87.76		

137-062-29CDD MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

Dec. 8, 1982...	95.43	June 2.....	94.02	Sept. 20.....	94.30
Mar. 2, 1983...	94.19	June 29.....	94.02	Oct. 17.....	94.20
Apr. 6.....	94.45	July 26.....	94.01	Nov. 28.....	93.82
May 11.....	94.40	Aug. 23.....	94.15	Jan. 17, 1984...	94.25

Depth to water, in feet below or above (+) land surface

137-062-30BBB1 MP is top of 1-1/4-inch plastic pipe 2.05 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Aug. 17, 1982...	91.20	Apr. 6.....	89.93	Aug. 23.....	89.91
Oct. 18.....	90.60	May 11.....	89.80	Sept. 20.....	89.84
Dec. 16.....	90.19	June 2.....	89.71	Oct. 17.....	89.80
Jan. 31, 1983...	90.20	June 29.....	89.70	Nov. 28.....	89.75
Mar. 2.....	89.96	July 26.....	89.80	Jan. 17, 1984...	89.88

137-062-30BBB2 MP is top of 1-1/4-inch plastic pipe 1.90 ft above lsd.

Aug. 17, 1982...	47.12	Apr. 6.....	48.34	Aug. 23.....	48.98
Oct. 18.....	47.73	May 11.....	48.60	Sept. 20.....	49.11
Dec. 6.....	48.07	June 2.....	48.62	Oct. 17.....	49.07
Jan. 31, 1983...	48.29	June 29.....	48.68	Nov. 28.....	49.00
Mar. 2.....	48.26	July 26.....	48.86	Jan. 17, 1984...	49.09

137-063-02ADD MP is top of 1-1/4-inch plastic pipe 1.88 ft above lsd.

Aug. 12, 1982...	9.30	Apr. 5.....	7.55	Aug. 28.....	9.17
Oct. 18.....	9.98	May 10.....	8.02	Sept. 20.....	9.67
Dec. 6.....	10.24	June 1.....	8.35	Oct. 17.....	9.55
Jan. 31, 1983...	10.28	June 28.....	8.08	Nov. 28.....	10.15
Mar. 2.....	10.00	July 26.....	8.32	Jan. 17, 1984...	10.33

137-063-11ABD MP is top of 1-1/4-inch plastic pipe 1.80 ft above lsd.

Aug. 12, 1982...	11.15	Apr. 6.....	10.23	Aug. 23.....	11.00
Oct. 18.....	12.03	May 10.....	10.46	Sept. 20.....	11.58
Dec. 6.....	12.42	June 1.....	10.66	Oct. 17.....	11.78
Jan. 31, 1983...	12.69	June 28.....	10.64	Nov. 28.....	12.23
Mar. 2.....	12.64	July 26.....	10.40	Jan. 17, 1984...	12.49

Depth to water, in feet below or above (+) land surface

137-063-12BCC MP is top of 3-inch galvanized pipe 2.67 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 22, 1982...	22.35	May 10.....	22.37	Sept. 20.....	20.48
Dec. 6.....	22.39	June 1.....	22.02	Oct. 17.....	20.92
Jan. 31, 1983...	22.65	June 29.....	21.37	Nov. 28.....	21.41
Mar. 2.....	23.08	July 26.....	19.86		
Apr. 6.....	23.58	Aug. 23.....	20.03		

137-063-24BBB MP is top of 1-1/4-inch plastic pipe 1.52 ft above lsd.

Aug. 12, 1982...	7.58	Apr. 6.....	4.15	Aug. 23.....	6.63
Oct. 18.....	8.19	May 10.....	4.92	Sept. 20.....	6.61
Dec. 6.....	8.29	June 1.....	5.37	Oct. 17.....	7.26
Jan. 31, 1983...	8.48	June 29.....	5.60	Nov. 28.....	7.69
Mar. 2.....	8.24	July 26.....	5.86	Jan. 17, 1984...	8.05

137-063-25DDD1 MP is top of 1-1/4-inch plastic pipe 2.09 ft above lsd.

June 13, 1983...	99.67	Aug. 23.....	100.06	Oct. 17.....	100.08
June 29.....	99.80	Sept. 1.....	99.98	Nov. 28.....	100.09
July 26.....	99.91	Sept. 20.....	100.13	Jan. 17, 1984...	100.28

137-063-25DDD2 MP is top of 1-1/4-inch plastic pipe 2.39 ft above lsd.

June 13, 1983...	100.08	Aug. 23.....	100.39	Nov. 28.....	101.09
June 29.....	100.23	Sept. 20.....	100.55	Jan. 17, 1984...	100.44
July 26.....	100.21	Oct. 17.....	101.11		

137-063-34CCC MP is top of 1-1/4-inch plastic pipe 1.94 ft above lsd.

July 15, 1983...	30.94	Sept. 20.....	31.65	Nov. 29.....	31.49
July 26.....	31.24	Sept. 26.....	31.56	Jan. 18, 1984...	31.71
Aug. 23.....	31.38	Oct. 17.....	31.49		

Depth to water, in feet below or above (+) land surface

137-063-36ABB1 MP is top of 1-1/4-inch plastic pipe 5.42 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
July 26, 1983...	+2.58	Sept. 27.....	+2.12	Jan. 17, 1984...	+1.55
Aug. 23.....	+2.26	Oct. 17.....	+2.05		
Sept. 20.....	+2.08	Nov. 29.....	+1.60		

137-063-36ABB2 MP is top of 1-1/4-inch plastic pipe 1.81 ft above lsd.

July 22, 1983...	10.09	Sept. 20.....	11.11	Jan. 17, 1984...	11.59
July 26.....	10.21	Oct. 17.....	10.96		
Aug. 23.....	10.79	Nov. 29.....	11.53		

138-062-18BBBB MP is top of 1-1/4-inch plastic pipe 1.93 ft above lsd.

June 28, 1983...	18.04	Sept. 1.....	17.80	Nov. 28.....	17.75
July 26.....	17.85	Sept. 20.....	17.85	Jan. 17, 1984...	17.74
Aug. 23.....	17.84	Oct. 17.....	17.71		

138-062-18BCC1 MP is top of 3-inch galvanized pipe 3.35 ft above lsd.

Oct. 18, 1982...	11.61	May 10.....	11.08	Sept. 20.....	13.30
Dec. 6.....	12.82	June 1.....	11.51	Oct. 17.....	13.05
Jan. 31, 1983...	13.36	June 28.....	11.05	Nov. 28.....	13.43
Mar. 1.....	12.94	July 26.....	11.63		
Apr. 5.....	10.36	Aug. 23.....	12.97		

138-062-18BCC2 MP is top of 1-1/4-inch plastic pipe 2.30 ft above lsd.

June 9, 1983...	4.30	Aug. 23.....	4.50	Oct. 17.....	4.56
June 28.....	4.34	Sept. 20.....	4.62	Nov. 28.....	4.55
July 26.....	4.34	Sept. 29.....	4.63	Jan. 17, 1984...	4.73

Depth to water, in feet below or above (+) land surface

138-062-19BCC MP is top of 1-1/4-inch plastic pipe 2.09 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Aug. 12, 1982...	7.44	Apr. 5.....	4.30	Aug. 23.....	6.71
Oct. 18.....	7.90	May 10.....	4.63	Sept. 20.....	7.39
Dec. 6.....	8.29	June 1.....	5.13	Oct. 17.....	7.55
Jan. 31, 1983...	9.23	June 28.....	5.79	Nov. 28.....	7.92
Mar. 1.....	9.38	July 26.....	6.00	Jan. 17, 1984...	8.74

138-062-20BBB MP is top of 1-1/4-inch plastic pipe 2.04 ft above lsd.

Dec. 6, 1982...	49.89	June 1.....	49.50	Oct. 17.....	50.31
Jan. 31, 1983...	49.82	June 28.....	49.56	Nov. 28.....	50.23
Mar. 1.....	49.68	July 26.....	49.70	Jan. 17, 1984...	50.24
Apr. 5.....	49.56	Aug. 23.....	50.00		
May 10.....	49.56	Sept. 20.....	50.26		

138-062-31AAA MP is top of 1-1/4-inch plastic pipe 2.02 ft above lsd.

Oct. 18, 1982...	95.41	May 10.....	86.15	Sept. 20.....	86.31
Dec. 16.....	88.85	June 1.....	86.04	Oct. 17.....	85.96
Jan. 31, 1983...	87.01	June 28.....	86.18	Nov. 28.....	85.64
Mar. 1.....	86.52	July 26.....	86.03	Jan. 17, 1984...	85.71
Apr. 5.....	86.23	Aug. 23.....	86.17		

138-062-31CCC1 MP is top of 1-1/4-inch plastic pipe 2.65 ft above lsd.

July 26, 1983...	105.25	Sept. 20.....	105.05	Nov. 28.....	104.48
Aug. 23.....	104.90	Oct. 17.....	104.75		

138-062-31CCC2 MP is top of 1-1/4-inch plastic pipe 2.80 ft above lsd.

July 8, 1983...	77.25	Aug. 23.....	77.26	Oct. 17.....	77.29
July 26.....	77.14	Sept. 20.....	77.36	Nov. 28.....	78.00

Depth to water, in feet below or above (+) land surface

138-063-01DCC MP is top of 1-1/4-inch plastic pipe 2.05 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 18, 1982...	+0.32	Apr. 5.....	+0.29	Aug. 23.....	0.01
Nov. 4.....	+.25	May 10.....	+.40	Sept. 20.....	.05
Nov. 22.....	+.25	May 13.....	+.34	Sept. 27.....	.04
Dec. 8.....	+.21	June 1.....	+.32	Oct. 17.....	.12
Jan. 31, 1983...	.40	June 28.....	+.18	Nov. 28.....	.12
Mar. 1.....	.43	July 26.....	+.30	Jan. 17, 1984...	.30

138-063-12BBB MP is top of 1-1/4-inch plastic pipe 1.94 ft above lsd.

Oct. 18, 1982...	122.16	May 10.....	122.18	Sept. 20.....	122.51
Dec. 6.....	122.24	June 1.....	122.05	Oct. 17.....	122.26
Jan. 31, 1983...	122.80	June 28.....	122.22	Nov. 28.....	122.17
Mar. 1.....	122.84	July 26.....	122.11	Jan. 17, 1984...	122.65
Apr. 5.....	122.29	Aug. 23.....	122.47		

138-063-25CBC MP is top of 1-1/4-inch plastic pipe 1.96 ft above lsd.

Oct. 18, 1982...	70.86	June 1.....	70.74	Sept. 20.....	71.69
Dec. 6.....	70.74	June 28.....	70.74	Oct. 17.....	71.54
Jan. 31, 1983...	70.77	July 26.....	70.61	Nov. 28.....	71.30
May 10.....	70.82	Aug. 23.....	70.80		

138-063-36BDD MP is top of 1-1/4-inch plastic pipe 2.04 ft above lsd.

Oct. 18, 1982...	9.76	May 10.....	9.33	Sept. 20.....	10.54
Dec. 6.....	9.80	June 1.....	9.58	Oct. 17.....	10.43
Jan. 31, 1983...	10.54	June 28.....	9.90	Nov. 28.....	10.23
Mar. 2.....	7.35	July 26.....	9.96	Jan. 17, 1984...	10.18
Apr. 5.....	8.33	Aug. 23.....	10.04		

Depth to water, in feet below or above (+) land surface

139-062-06BAB MP is top of 3-inch galvanized pipe 3.13 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 18, 1982...	18.50	May 10.....	17.56	Sept. 19.....	18.83
Dec. 6.....	18.23	June 1.....	17.52	Oct. 17.....	18.70
Jan. 31, 1983...	17.96	June 28.....	17.72	Nov. 28.....	18.67
Mar. 1.....	17.99	July 25.....	17.90		
Apr. 5.....	17.68	Aug. 22.....	18.32		

139-062-06CCC MP is top of 1-1/4-inch plastic pipe 1.96 ft above lsd.

Oct. 18, 1982...	18.32	June 1.....	17.71	Oct. 17.....	18.49
Dec. 6.....	18.22	June 28.....	17.51	Nov. 28.....	18.43
Jan. 31, 1983...	18.21	July 25.....	17.60	Jan. 17, 1984...	18.63
Mar. 1.....	18.21	Aug. 22.....	18.12		
May 10.....	17.57	Sept. 19.....	18.44		

139-062-07CCB MP is top of 3-inch galvanized pipe 1.10 ft above lsd.

May 10, 1983...	12.38	July 25.....	10.94	Oct. 17.....	11.70
June 1.....	11.93	Aug. 22.....	11.08	Nov. 28.....	11.98
June 28.....	11.65	Sept. 19.....	11.40	Jan. 17, 1984...	12.20

139-063-06ABC1 MP is top of 1-1/4-inch plastic pipe 2.09 ft above lsd.

Aug. 11, 1982...	12.11	Apr. 5.....	10.59	Aug. 22.....	11.43
Oct. 18.....	12.63	May 10.....	11.16	Sept. 19.....	11.51
Dec. 6.....	13.01	June 1.....	11.50	Oct. 17.....	11.02
Jan. 31, 1983...	13.65	June 28.....	10.78	Nov. 28.....	11.84
Mar. 1.....	13.01	July 25.....	10.48	Jan. 17, 1984...	12.28

Depth to water, in feet below or above (+) land surface

139-063-06ABC2 MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Aug. 11, 1982...	12.15	Apr. 5.....	10.69	Aug. 22.....	11.55
Oct. 18.....	12.73	May 10.....	11.26	Sept. 19.....	11.64
Dec. 6.....	13.10	June 1.....	11.56	Oct. 17.....	11.14
Jan. 31, 1983...	13.75	June 28.....	10.96	Nov. 28.....	11.96
Mar. 1.....	13.20	July 25.....	10.64	Jan. 17, 1984...	12.42

139-063-08ACC MP is top of 1-1/4-inch plastic pipe 2.00 ft above lsd.

Oct. 18, 1982...	18.91	May 10.....	17.03	Sept. 19.....	18.43
Dec. 6.....	19.25	June 1.....	17.20	Oct. 17.....	18.78
Jan. 31, 1983...	19.73	June 28.....	17.34	Nov. 28.....	19.10
Mar. 1.....	19.94	July 25.....	17.25	Jan. 17, 1984...	19.66
Apr. 5.....	17.75	Aug. 22.....	17.73		

139-063-09CBB MP is top of 3-inch galvanized pipe 2.98 ft above lsd.

Apr. 5, 1983...	16.57	June 28.....	15.64	Sept. 19.....	17.07
May 10.....	15.78	July 25.....	16.22	Oct. 17.....	17.03
June 1.....	15.69	Aug. 22.....	16.94	Nov. 28.....	17.25

139-063-10BBA MP is top of 1-1/4-inch plastic pipe 2.04 ft above lsd.

Oct. 18, 1982...	10.25	May 10.....	8.24	Sept. 19.....	10.16
Dec. 6.....	10.70	June 1.....	8.56	Oct. 17.....	10.06
Jan. 31, 1983...	11.32	June 28.....	8.62	Nov. 28.....	10.76
Mar. 1.....	11.08	July 25.....	9.02	Jan. 16, 1984...	11.06
Apr. 5.....	8.47	Aug. 22.....	9.62		

Depth to water, in feet below or above (+) land surface

139-063-12DAB MP is top of 1-1/4-inch plastic pipe 2.10 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
June 8, 1983...	2.05	Sept. 19.....	2.54	Dec. 3.....	1.96
June 28.....	1.62	Sept. 27.....	2.36	Jan. 17, 1984...	2.19
July 25.....	2.05	Oct. 17.....	2.13		
Aug. 22.....	2.49	Nov. 28.....	1.94		

139-063-12DDD MP is top of 3-inch galvanized pipe 2.96 ft above lsd.

Oct. 18, 1982...	7.11	May 10.....	6.23	Sept. 19.....	7.56
Dec. 6.....	7.05	June 1.....	6.46	Oct. 17.....	7.62
Jan. 31, 1983...	8.17	June 28.....	6.37	Nov. 28.....	7.26
Mar. 1.....	8.34	July 25.....	5.92		
Apr. 5.....	6.24	Aug. 22.....	6.96		

139-063-13BAB MP is top of 1-1/4-inch plastic pipe 1.96 ft above lsd.

Oct. 18, 1982...	14.64	May 10.....	14.24	Sept. 19.....	14.62
Dec. 6.....	14.82	June 1.....	14.45	Oct. 17.....	14.74
Jan. 31, 1983...	14.79	June 28.....	14.55	Nov. 28.....	14.86
Mar. 1.....	14.80	July 25.....	14.59	Jan. 17, 1984...	15.04
Apr. 5.....	13.69	Aug. 22.....	14.54		

139-064-24AAA MP is top of 1-1/4-inch plastic pipe 2.07 ft above lsd.

Oct. 18, 1982...	58.33	May 10.....	58.34	Sept. 19.....	58.53
Dec. 6.....	58.48	June 1.....	58.39	Oct. 17.....	58.53
Jan. 31, 1983...	58.77	June 28.....	58.32	Nov. 28.....	58.55
Mar. 1.....	58.73	July 26.....	58.38	Jan. 17, 1984...	58.91
Apr. 5.....	58.52	Aug. 23.....	58.61		

Depth to water, in feet below or above (+) land surface

140-062-18DDD MP is top of 1-1/4-inch plastic pipe 2.05 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 18, 1982...	13.25	May 10.....	11.93	Sept. 19.....	12.61
Dec. 6.....	12.90	June 1.....	11.86	Oct. 17.....	12.71
Jan. 31, 1983...	13.02	June 28.....	11.85	Nov. 28.....	12.86
Mar. 1.....	13.09	July 25.....	12.02	Jan. 16, 1984...	13.01
Apr. 5.....	12.39	Aug. 22.....	12.43		

140-062-29CCC2 MP is top of 1-1/4-inch plastic pipe 1.93 ft above lsd.

Oct. 18, 1982...	8.21	May 10.....	5.81	Sept. 19.....	9.02
Dec. 6.....	7.14	June 1.....	5.81	Oct. 17.....	8.13
Jan. 31, 1983...	6.68	June 28.....	6.91	Nov. 28.....	7.15
Mar. 1.....	6.54	July 25.....	6.78	Jan. 16, 1984...	8.11
Apr. 5.....	5.98	Aug. 22.....	9.83		

140-062-29CCC3 MP is top of 1-1/4-inch plastic pipe 1.93 ft above lsd.

Oct. 22, 1982...	18.00	May 10.....	17.05	Sept. 19.....	17.23
Dec. 6.....	17.80	June 1.....	17.03	Oct. 17.....	18.27
Jan. 31, 1983...	17.89	June 28.....	17.07	Nov. 28.....	18.28
Mar. 1.....	17.83	July 25.....	17.36	Jan. 16, 1984...	18.35
Apr. 5.....	17.23	Aug. 22.....	17.80		

140-062-30AAA MP is top of 1-1/4-inch plastic pipe 2.95 ft above lsd.

June 6, 1983...	11.74	Aug. 22.....	12.30	Nov. 28.....	12.92
June 28.....	11.24	Sept. 19.....	12.70	Jan. 16, 1984...	13.12
July 25.....	11.60	Oct. 17.....	12.84		

Depth to water, in feet below or above (+) land surface

140-062-31ABB MP is top of 1-1/4-inch plastic pipe 2.03 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 18, 1982...	23.75	June 1.....	21.53	Oct. 17.....	23.67
Dec. 6.....	22.73	June 28.....	22.70	Nov. 28.....	23.16
Mar. 1, 1983...	22.47	July 25.....	22.59	Jan. 16, 1984...	23.04
Apr. 5.....	21.69	Aug. 22.....	26.98		
May 10.....	21.48	Sept. 19.....	24.42		

140-062-31BBA MP is top of 1-1/4-inch plastic pipe 1.94 ft above lsd.

Oct. 22, 1982...	2.99	May 10.....	0.98	Sept. 19.....	3.68
Nov. 4.....	2.71	May 13.....	.83	Sept. 27.....	3.53
Nov. 22.....	2.39	June 1.....	1.56	Oct. 17.....	3.18
Dec. 6.....	1.80	June 28.....	1.80	Nov. 28.....	2.79
Mar. 1, 1983...	1.67	July 25.....	2.62	Jan. 16, 1984...	2.65
Apr. 5.....	.83	Aug. 22.....	4.60		

140-062-32AAA MP is top of 1-1/4-inch plastic pipe 2.42 ft above lsd.

June 7, 1983...	29.97	Aug. 22.....	34.33	Nov. 28.....	32.99
June 28.....	31.81	Sept. 19.....	33.46	Jan. 16, 1984...	33.85
July 25.....	32.01	Oct. 17.....	32.54		

140-063-32DBB MP is top of 1-1/4-inch plastic pipe 1.98 ft above lsd.

Oct. 18, 1982...	96.78	May 10.....	96.66	Sept. 19.....	97.13
Dec. 6.....	97.06	June 1.....	96.58	Oct. 17.....	97.26
Jan. 31, 1983...	97.11	June 28.....	96.95	Nov. 28.....	96.95
Mar. 1.....	96.72	July 25.....	96.95	Jan. 16, 1984...	96.85
Apr. 5.....	97.20	Aug. 22.....	97.17		

Depth to water, in feet below or above (+) land surface

140-063-34BBB MP is top of 1-1/4-inch plastic pipe 1.94 ft above lsd.

Date	Water level	Date	Water level	Date	Water level
Oct. 18, 1982...	7.46	May 10.....	4.91	Sept. 19.....	7.33
Dec. 6.....	7.13	June 1.....	5.13	Oct. 17.....	7.56
Jan. 31, 1983...	7.54	June 28.....	3.07	Nov. 28.....	7.41
Mar. 1.....	7.98	July 25.....	4.58		
Apr. 5.....	7.29	Aug. 22.....	6.43		

140-063-35AAA MP is top of 1-1/4-inch plastic pipe 1.97 ft above lsd.

Oct. 22, 1982...	79.97	May 10.....	79.42	Sept. 19.....	80.23
Dec. 6.....	79.80	June 1.....	79.49	Oct. 17.....	80.13
Jan. 31, 1983...	79.87	June 28.....	79.73	Nov. 28.....	79.93
Mar. 1.....	79.63	July 25.....	79.43	Jan. 16, 1984...	80.08
Apr. 5.....	79.73	Aug. 22.....	80.44		

TABLE 3.--Logs of selected wells and test holes

[Depths shown are base of unit, in feet below land surface]

129-059-04BBB2
USBR W-64

Altitude: 1306 feet Date drilled: 6/22/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Loam, fine, sandy-----	1	1
	Sand, fine, loamy-----	2	3
	Sand, loamy-----	9	12
	Sand, fine-----	2	14
	Sand-----	6	20

129-059-06CCC
USBR W-71

Altitude: 1297 feet Date drilled: 6/22/66

Alluvium and glacial drift:			
	Loam, very fine, sandy-----	3	3
	Loam-----	1	4
	Loam, very fine, sandy-----	1	5
	Loam, very fine, sandy; with silty loam-----	8	13
	Sand, very fine, loamy; with silty loam-----	27	40

129-059-06CDD
(Log modified from Lenius Well Drilling)

Altitude: 1300 feet Date drilled: 5/11/81

Soil-----	2	2
Clay, yellow-----	10	12
Sand, fine-----	12	24
Clay, blue-----	77	101
Sand, coarse-----	19	120

129-059-07CAA
USBR 68

Altitude: 1304 feet

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Loam, sandy-----	1	1	
Sand, fine-----	14	15	
Sand, fine; with fine loamy sand-----	15	30	
Loam, silty-----	5	35	

129-059-08CBB
USBR 66

Altitude: 1307 feet

Date drilled: 8/24/66

Glacial drift:			
Loam, sandy-----	3	3	
Sand, fine, loamy-----	3	6	
Sand, fine-----	3	9	
Sand, fine, loamy-----	10	19	
Loam, silty-----	10	29	
Loam, silty, clayey-----	14	43	

129-059-16CCC
USBR W-85

Altitude: 1303 feet

Date drilled: 7/29/66

Glacial drift:			
Loam, sandy-----	2	2	
Sand, loamy-----	11	13	
Loam, silty, clayey-----	12	25	

129-059-17CBB
USBR 77

Altitude: 1303 feet

Date drilled: 8/28/66

Glacial drift:			
Loam, sandy-----	4	4	
Loam, silty, and sandy loam-----	4	8	
Sand, very fine, loamy-----	3	11	
Sand, very fine-----	29	40	
Loam, silty, dense-----	15	55	

129-059-18BAA
USBR 67

Altitude: 1303 feet Date drilled: 8/24/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Loam, sandy-----	6	6	
Sand, loamy; with sandy loam-----	5	11	
Sand, fine, loamy-----	33	44	
Loam, silty-----	14	58	

129-059-18DDD2
USBR W-84

Altitude: 1306 feet Date drilled: 7/28/66

Glacial drift:			
Loam, sandy-----	2	2	
Loam, very fine, sandy; with silty loam-----	7	9	
Sand, very fine-----	2	11	
Sand, fine-----	4	15	
Loam, silty-----	5	20	

129-059-19CCC
USBR W-88

Altitude: 1292 feet Date drilled: 6/22/66

Alluvium and glacial drift:			
Sand, fine, loamy-----	9	9	
Loam, silty, and silty clayey loam-----	4	13	

129-059-20CCC
NDSWC 10959

Altitude: 1305 feet

Date drilled: 6/15/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Silt; no samples-----	17	17	
Silt, greenish-gray-----	43	60	
Clay, greenish-gray-----	68	128	
Sand and gravel-----	1	129	
Clay, silty, sandy, pebbly, olive-gray (till)-----	6	135	
Pierre Shale:			
Shale, black, noncalcareous-----	5	140	

129-059-20DBB
USBR 62

Altitude: 1305 feet

Date drilled: 8/23/66

Glacial drift:			
Loam, sandy-----	3	3	
Loam, silty-----	7	10	
Sand, very fine, loamy-----	6	16	
Loam, silty-----	16	32	

129-059-20DDC
NDSWC 10960

Altitude: 1305 feet

Date drilled: 6/15/79

Glacial drift:			
Silt; no samples-----	17	17	
Silt, dark-brown-----	6	23	
Silt, clayey, greenish-gray----	27	50	
Clay, silty, greenish-gray----	35	85	
Clay, silty, sandy, pebbly, olive-gray (till)-----	60	145	

129-059-29CCC2
USBR W-94

Altitude: 1299 feet Date drilled: 6/10/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Loam, fine, sandy-----	8	8	
Sand, very fine, loamy-----	7	15	

129-059-30DDD
NDSWC 10958

Altitude: 1300 feet Date drilled: 6/14/79

Glacial drift:			
Sand, fine, silty, yellowish-brown, oxidized-----	3	3	
Clay, silty, yellowish-brown, oxidized-----	13	16	
Clay, greenish-gray-----	53	69	
Sand and gravel; interbedded with clay-----	4	73	
Clay(?); no samples-----	3	76	
Sand, coarse, pebbly-----	31	107	
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel beds from 107 to 110 feet (till)-----	19	126	
Pierre Shale:			
Shale, black, noncalcareous-----	4	130	

129-059-31BBB
USBR W-93

Altitude: 1293 feet Date drilled: 8/05/66

Glacial drift:			
Loam-----	1	1	
Sand-----	16	17	
Loam, silty-----	3	20	

129-059-31CCC
USBR 93

Altitude: 1295 feet

Date drilled: 9/15/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Sand, loamy-----	4	4	
Sand, very fine, loamy-----	1	5	
Sand, very fine-----	4	9	
Loam, silty-----	3	12	
Sand, fine-----	28	40	

129-059-31DDA

(Log modified from M & W Exploration and Water Well, Inc.)

Altitude: 1295 feet

Date drilled: 3/10/79

Soil-----	1	1
Sand, silty, brown-----	5	6
Clay, brown-----	11	17
Till, clayey, brown-----	16	33
Clay, very soft-----	31	64
Sand, medium-----	9	73
Sand and gravel, coarse-----	32	105
Till, clayey, gray-----	6	111

129-059-33CBB
USBR 51

Altitude: 1300 feet

Date drilled: 8/17/66

Glacial drift:

Loam, sandy-----	1	1
Sand, very fine, loamy-----	5	6
Sand, fine-----	19	25
Loam, silty-----	10	35

129-059-33CCC2
USBR 28

Altitude: 1293 feet Date drilled: 6/10/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Loam, fine, sandy-----	5	5	
Loam, silty-----	7	12	
Loam, silty, clayey-----	3	15	
Loam, silty-----	3	18	
Clay, silty-----	13	31	
Loam, silty-----	2	33	
Loam, silty, clayey-----	17	50	

129-060-11CDB

(Log modified from Empire Irrigation and Drilling Co., Inc.)

Altitude: 1320 feet Date drilled: 10/21/74

Soil-----	2	2
Till, yellow-----	18	20
Till, gray-----	70	90
Sand-----	8	98
Clay-----	--	98

129-060-12ACC

USBR 70

Altitude: 1301 feet Date drilled: 8/25/66

Alluvium and glacial drift:

Loam, silty-----	4	4
Sand-----	18	22
Loam, silty; with silty clayey loam-----	2	24
Loam, silty-----	4	28

129-060-12BBA

USBR W-70

Altitude: 1301 feet Date drilled: 6/22/66

Glacial drift:

Loam-----	2	2
Loam, silty-----	18	20

129-060-12DAA
USBR 69

Altitude: 1299 feet Date drilled: 8/25/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Loam, sandy-----	3	3	
Sand, fine-----	12	15	
Loam, silty-----	6	21	
Loam, silty; with silty clayey loam-----	22	43	

129-060-12DDD
USBR W-79

Altitude: 1297 feet Date drilled: 7/08/66

Alluvium and glacial drift:			
Loam, silty-----	2	2	
Loam, fine, sandy-----	2	4	
Sand, fine, loamy-----	4	8	
Loam, sandy-----	2	10	
Loam, silty, clayey (till)-----	3	13	

129-060-13BCC
USBR 75

Altitude: 1298 feet Date drilled: 8/29/66

Alluvium and glacial drift:			
Loam, sandy-----	2	2	
Sand, loamy-----	2	4	
Sand, fine-----	8	12	
Loam, silty-----	3	15	
Loam, silty, clayey (till)-----	5	20	

129-060-13BDD
USBR 76

Altitude: 1299 feet Date drilled: 8/28/66

Alluvium and glacial drift:			
Loam, sandy-----	3	3	
Loam, silty-----	4	7	
Loam, silty, clayey-----	3	10	
Sand-----	8	18	
Loam, silty, clayey (till)-----	2	20	

129-060-13DDD
USBR W-83

Altitude: 1298 feet Date drilled: 6/15/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Loam, very fine, sandy-----	3	3	
Sand, fine-----	6	9	
Loam, silty-----	11	20	

129-060-23ACC
USBR 151

Altitude: 1298 feet Date drilled: 10/06/66

Alluvium and glacial drift:			
Loam, sandy-----	2	2	
Sand-----	10	12	
Sand, loamy-----	5	17	
Till-----	13	30	

129-060-23CDD
USBR W-86

Altitude: 1296 feet Date drilled: 6/15/66

Alluvium and glacial drift:			
Loam, silty-----	3	3	
Sand, loamy-----	2	5	
Loam, silty, clayey-----	7	12	

129-060-23DDD
USBR W-87

Altitude: 1302 feet Date drilled: 6/22/66

Glacial drift:			
Loam-----	2	2	
Loam, silty-----	8	10	
Clay, silty; with silty clayey loam-----	6	16	
Loam, silty; with silty clayey loam-----	9	25	

129-060-25BAC

(Log modified from Empire Irrigation and Drilling Co., Inc.)

Altitude: 1300 feet

Date drilled: 9/17/74

GEOLOGIC SOURCE

MATERIAL

THICKNESS
(FEET)

DEPTH
(FEET)

Glacial drift:

Soil-----	2	2
Clay, sandy-----	8	10
Sand, fine-----	12	22
Silt-----	23	45
Till, gray-----	23	68
Gravel-----	5	73
Till, gray-----	52	125
Shale-----	5	130

129-060-35AAA

USBR W-92

Altitude: 1301 feet

Date drilled: 6/27/66

Glacial drift:

Loam, silty-----	13	13
Sand, fine, loamy-----	3	16
Loam, silty-----	9	25
Loam, silty, clayey-----	10	35

129-060-35ACC

USBR 150

Altitude: 1292 feet

Date drilled: 10/06/66

Alluvium and glacial drift:

Loam, silty-----	3	3
Loam, silty, clayey-----	3	6
Sand-----	9	15
Sand, very fine, loamy-----	10	25

129-060-36CCB
USBR W-98

Altitude: 1292 feet Date drilled: 6/23/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Loam-----	4	4	
Loam, fine, sandy-----	1	5	
Sand, fine-----	5	10	
Loam, very fine, sandy-----	2	12	
Loam, silty-----	3	15	

130-059-01BCC
NDSWC 11927

Altitude: 1310 feet Date drilled: 7/14/82

Glacial drift:			
Soil-----	1	1	
Clay, yellowish-brown, oxidized-----	6	7	
Sand, fine to medium-----	16	23	
Gravel, sandy-----	22	45	
Silt; poor samples-----	4	49	
Clay, silty, sandy, pebbly, olive-gray (till)-----	75	124	
Gravel, sandy-----	7	131	

Niobrara Formation:			
Shale, gray; small white inclusions-----	9	140	

130-059-01CDD1
NDSWC 11920

Altitude: 1309 feet

Date drilled: 7/09/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, light-brown, oxidized-----	6	6
	Sand, medium to coarse, oxidized-----	4	10
	Sand, medium to coarse-----	9	19
	Sand, coarse to very coarse, pebbly-----	10	29
	Silt, olive-gray; clayey in part-----	31	60
	Clay, silty, sandy, pebbly, olive-gray (till)-----	16	76
	Gravel, medium to coarse, pebbly, cobbly-----	12	88
	Clay, silty, sandy, pebbly, olive-gray (till)-----	21	109

130-059-05DBB
USBR W-137

Altitude: 1303 feet

Date drilled: 9/20/79

Glacial drift:

Loam, very fine, sandy-----	2	2
Loam, fine, sandy-----	2	4
Sand, very fine, loamy-----	1	5
Loam, very fine, sandy-----	1	6
Sand, very fine, loamy-----	12	18
Loam, silty, clayey-----	3	21
Clay, silty-----	4	25
Sand, coarse, loamy-----	5	30
Clay, silty-----	3	33

130-059-05DDD
USBR 38

Altitude: 1308 feet Date drilled: 4/06/51

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, light-brown-----		8	9
Sand, fine to medium-----		13	22
Clay, silty, sandy, pebbly, gray (till)-----		8	30

130-059-06DDD
NDSWC 6161

Altitude: 1290 feet Date drilled: 9/24/82

Alluvium and glacial drift:			
Silt, clayey, dark-brown-----		7	7
Sand, fine, gray-----		31	38
Silt, olive-gray-----		14	52
Clay, olive-gray-----		18	70
Silt, clayey, olive-gray-----		46	116

Niobrara Formation:			
Shale, brownish-gray, calcareous, nonfissile-----		16	132

130-059-07ABD
USBR 3452

Altitude: 1307 feet Date drilled: 2/20/80

Glacial drift:			
Loam, fine, sandy-----		1	1
Loam, very fine, sandy-----		2	3
Loam, silty-----		1	4
Loam, sandy, gravelly-----		1	5
Loam (till)-----		8	13

130-059-08BDD
USBR W-147

Altitude: 1297 feet

Date drilled: 11/15/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Loam-----	2	2
	Sand, fine, loamy-----	2	4
	Loam, very fine, sandy-----	1	5
	Sand, loamy-----	4	9
	Sand, coarse, gravelly-----	1	10
	Loam (till)-----	3	13

130-059-08CCC
USBR W-31

Altitude: 1298 feet

Date drilled: 7/26/66

Glacial drift:			
	Loam, sandy-----	1	1
	Loam, silty-----	2	3
	Sand, very fine-----	3	6
	Loam, very fine, sandy-----	1	7
	Sand, very fine, loamy-----	4	11
	Loam, silty-----	4	15

130-059-08DDB
(Log modified from M & W Exploration and Water Well, Inc.)

Altitude: 1310 feet

Date drilled: 5/01/78

Soil-----	3	3
Sand and gravel, brown-----	9	12
Sand, fine, silty, brown-----	11	23
Sand, fine, silty, gray-----	17	40
Sand, fine, gray-----	8	48
Clay, gray-----	12	60

130-059-09CCC
USBR W-32

Altitude: 1311 feet Date drilled: 7/01/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Loam, fine, sandy-----	2	2
Sand-----	3	5
Sand, coarse-----	5	10
Sand-----	6	16
Loam, silty-----	2	18
Loam, silty (till)-----	7	25

130-059-13AAA1
NDSWC 11921A

Altitude: 1307 feet Date drilled: 7/12/82

Alluvium and glacial drift:

Clay, silty, olive-gray-----	5	5
Sand, fine; oxidized from 5 to 10 feet-----	28	33
Silt; poor samples-----	36	69
Clay, silty, sandy, pebbly, olive-gray (till)-----	80	149

Niobrara Formation:

Shale, silty, brownish-gray, calcareous; small white inclusions-----	11	160
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130-059-13BBB
NDSWC 11925

Altitude: 1309 feet

Date drilled: 7/13/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, brownish-yellow, oxidized-----		2	3
Sand, fine to medium; abundant detrital shale-----		46	49
Clay, silty, sandy, pebbly, olive-gray (till)-----		84	133
Niobrara Formation:			
Shale, gray; small white inclusions-----		7	140

130-059-16CCC
USBR W-40

Altitude: 1311 feet

Date drilled: 6/15/66

Glacial drift:			
Loam, sandy-----		2	2
Loam, silty, clayey-----		3	5
Sand, fine to medium-----		9	14

130-059-17DBB2
USBR W-158

Altitude: 1300 feet

Date drilled: 10/04/79

Loam-----		2	2
Sand, very fine-----		2	4
Sand, very fine, loamy-----		21	25
Loam, silty-----		1	26
Clay, silty-----		3	29

130-059-18ABB2
(Log modified from Traut Wells Inc.)

Altitude: 1310 feet

Date drilled: 10/05/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, sandy, brown-----		5	6
Sand-----		3	9
Clay, sandy, brown-----		5	14
Clay, gray-----		86	100
Sand; detrital shale-----		5	105
Clay, gray-----		11	116
Clay, gray, hard-----		18	134
Clay, gray, soft-----		25	159
Sand, fine-----		15	174
Sand, fine, silty-----		16	190
Sand and gravel, coarse-----		6	196
Sand, clayey-----		2	198
Gravel-----		2	200
Clay, gray-----		15	215

130-059-18BDD
USBR 145

Altitude: 1308 feet

Date drilled: 10/04/66

Glacial drift:

Loam, silty-----	9	9
Sand, loamy-----	1	10
Loam, silty (till)-----	3	13
Loam, silty, clayey (till)-----	2	15

130-059-19AAA
USBR W-38

Altitude: 1297 feet

Date drilled: 10/04/79

Alluvium and glacial drift:

Loam, clayey-----	4	4
Loam-----	1	5
Loam, very fine, sandy-----	5	10
Sand, very fine, loamy-----	9	19
Loam, silty-----	4	23
Clay, silty-----	1	24
Loam, silty-----	10	34

130-059-19BAA
USBR W-37

Altitude: 1303 feet Date drilled: 7/06/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Loam, silty-----		4	4
Loam, clayey-----		2	6
Sand, loamy-----		2	8
Loam, silty (till)-----		20	28

130-059-20ABB1
USBR W-39

Altitude: 1301 feet Date drilled: 7/05/66

Glacial drift:			
Loam, silty-----		2	2
Sand, very fine, loamy-----		1	3
Sand, very fine-----		15	18
Loam, silty-----		12	30

130-059-20ABB2
USBR W-39

Altitude: 1301 feet Date drilled: 10/04/79

Glacial drift:			
Loam-----		1	1
Sand, very fine, loamy-----		6	7
Loam, very fine, sandy-----		3	10
Sand, very fine, loamy-----		11	21
Loam, silty-----		3	24

130-059-20CCC
USBR W-50

Altitude: 1303 feet Date drilled: 7/07/66

Glacial drift:			
Loam-----		2	2
Sand, very fine-----		8	10
Sand, fine-----		32	42
Loam, silty-----		1	43

130-059-20DAA
USBR W-48

Altitude: 1306 feet

Date drilled: 11/01/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Loam, fine, sandy-----	3	3
	Sand, loamy-----	11	14
	Sand; detrital lignite-----	1	15
	Loam, silty-----	4	19
	Loam (till)-----	4	23

130-059-26AAA1
NDSWC 11924A

Altitude: 1312 feet

Date drilled: 7/13/82

Glacial drift:			
	Soil-----	1	1
	Sand, fine, brown, oxidized-----	12	13
	Sand, medium to coarse-----	29	42
	Clay, olive-gray-----	36	78
	Clay, silty, sandy, pebbly, olive-gray (till); with sand and gravel from 93 to 95 and 96 to 99 feet-----	28	106
	Clay, silty, sandy, olive- gray-----	18	124
	Gravel, sandy; abundant detrital shale-----	12	136
	Clay, silty, sandy, pebbly, olive-gray (till)-----	14	150
Niobrara Formation:			
	Shale, brown; small white inclusions-----	10	160

130-059-29CCC
USBR W-57

Altitude: 1306 feet

Date drilled: 7/01/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Loam, very fine, sandy-----	3	3	
Loam-----	2	5	
Sand, very fine, loamy-----	13	18	
Sand, fine-----	4	22	
Clay-----	7	29	
Loam, clay (till)-----	6	35	

130-059-30ACD
USBR W-178

Altitude: 1302 feet

Date drilled: 10/15/79

Glacial drift:

Loam-----	7	7
Sand, fine-----	11	18
Sand, fine, loamy-----	9	27
Clay, silty-----	1	28

130-059-31DAA
USBR W-191

Altitude: 1302 feet

Date drilled: 10/13/79

Glacial drift:

Loam, fine, sandy-----	1	1
Loam, very fine, sandy-----	1	2
Loam, fine, sandy-----	1	3
Sand, fine, loamy-----	6	9
Sand, loamy-----	7	16
Loam (till)-----	18	34

130-059-31DDD
USBR 212

Altitude: 1304 feet

Date drilled: 11/13/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Loam, very fine, sandy; with silt loam-----	3	3
Sand, very fine, loamy-----	3	6
Sand, coarse-----	9	15
Loam, silty, clayey (till)-----	8	23

130-059-32DCC
USBR 222

Altitude: 1304 feet

Date drilled: 11/15/67

Glacial drift:

Loam, very fine, sandy-----	2	2
Loam, fine, sandy-----	3	5
Sand, fine-----	11	16
Sand, fine; detrital lignite---	6	22
Sand-----	2	24

130-060-12DDD
USBR W-30

Altitude: 1305 feet

Date drilled: 7/26/66

Glacial drift:

Loam, silty-----	2	2
Loam, silty, clayey-----	2	4
Loam, silty-----	3	7
Sand, coarse, loamy-----	1	8
Sand, very fine-----	2	10
Loam-----	2	12

130-060-13DDD
USBR W-36

Altitude: 1307 feet

Date drilled: 1966

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Loam-----		3	3
Loam, silty-----		2	5
Loam (till)-----		3	8
Loam, silty, clayey-----		2	10
Loam, clayey (till)-----		5	15

130-060-24DBB
USBR 1685

Altitude: 1294 feet

Date drilled: 1/13/70

Alluvium and glacial drift:

Loam-----	3	3
Loam, silty, clayey (till)-----	12	15

131-059-03BBA
NDSWC 11657

Altitude:	1334 feet	Date drilled:	8/19/81
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	10	10
	Sand, medium to very coarse, pebbly, oxidized-----	16	26
	Clay, silty, sandy, pebbly, olive-gray (till)-----	37	63
	Silt, clayey, greenish-gray; interbedded with till-----	17	80
	Silt, clayey, greenish-gray; with silty clay-----	23	103
	Clay, silty, sandy, pebbly, olive-gray (till); gravel from 138 to 141 feet-----	47	150
	Sand, medium to coarse, pebbly; coarse gravel and cobbles from 177 to 181 and 196 to 201 feet-----	55	205
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	16	221

131-059-04CDC
NDSWC 11972

Altitude: 1336 feet

Date drilled: 9/09/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, fine, silty, oxidized-----	3	3
	Sand, medium to coarse, oxidized-----	11	14
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	9	23
	Clay, silty, sandy, pebbly, olive-gray (till)-----	6	29
	Silt, clayey, greenish-gray-----	5	34
	Clay, silty, sandy, pebbly, olive-gray (till)-----	8	42
	Silt, greenish-gray; inter- bedded with sandy silt and silty sand from 60 to 89 feet-----	47	89
	Clay, silty, sandy, pebbly, olive-gray (till?)-----	3	92
	Sand, coarse to very coarse; clay bed from 117 to 119 feet-----	33	125
	Clay, silty, sandy, pebbly, olive-gray (till)-----	14	139
	Sand(?); abundant detrital lignite; poor samples-----	4	143
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	17	160

131-059-05AAA
NDSWC 11656

Altitude: 1347 feet Date drilled: 8/19/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	20	20
Sand, fine-----	3	23
Silt, greenish-gray-----	9	32
Sand, fine-----	13	45
Silt, greenish-gray; inter- bedded with fine sand-----	40	85
Clay, silty, sandy, pebbly, olive-gray (till)-----	67	152
Sand, coarse, pebbly-----	44	196

Niobrara Formation:

Shale, dark-brown, calcareous; small white inclusions-----	25	221
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131-059-05BAA1
NDSWC 11970A

Altitude: 1352 feet Date drilled: 9/08/82

Glacial drift:

Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	18	18
Clay, silty, sandy, pebbly, olive-gray (till)-----	25	43
Silt, clayey, greenish-gray-----	23	66
Clay, silty, sandy, pebbly, olive-gray (till)-----	41	107
Gravel, sandy, cobbly-----	9	116
Clay, silty, sandy, pebbly, olive-gray (till)-----	35	151
Sand, medium to very coarse, pebbly-----	23	174
Boulders, cobbles, and pebbles-----	8	182

Niobrara Formation:

Shale, brown, calcareous; small white inclusions-----	3	185
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131-059-05DDD2
NDSWC 12262

Altitude: 1297 feet

Date drilled: 7/29/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----	1	1	
Clay, very silty, dark-brown, organic-----	5	6	
Sand, very fine, silty; gastropod shells-----	4	10	
Sand, coarse to very coarse, very pebbly; abundant gray detrital shale-----	13	23	
Silt, clayey, olive-gray; gravel bed from 30 to 31 feet-----	17	40	

131-059-06BAA
NDSWC 6146

Altitude: 1300 feet

Date drilled: 9/20/82

Glacial drift:

Soil-----	1	1
Clay, silty; yellowish brown and oxidized in upper part; olive gray in lower part-----	30	31
Silt, clayey to sandy, olive-brown to olive-gray-----	5	36
Gravel, fine to very coarse, cobbly-----	2	38
Silt, sandy; poor samples-----	5	43
Clay, silty, sandy, pebbly, olive-gray (till); cobbles and gravel from 87 to 88 feet-----	66	109
Boulder-----	2	111

Niobrara Formation:

Shale, medium-gray, calcareous-----	11	122
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131-059-06CDD
NDSWC 6163

Altitude: 1293 feet Date drilled: 9/24/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Soil-----	1	1
	Clay, silty, pebbly; bivalve fragments-----	9	10
Glacial drift:			
	Clay, olive-gray-----	94	104
	Sand, coarse to very coarse, pebbly, cobbly-----	8	112
	Sand, very fine(?); poor samples-----	18	130
	Gravel, cobbly; interbedded with sand, silt, and clay-----	15	145

131-059-08ABB
NDSWC 11971

Altitude: 1347 feet Date drilled: 9/09/82

Glacial drift:

Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	24	24
Silt, clayey, yellowish- brown, oxidized-----	19	43
Silt, clayey, pebbly, greenish-gray to olive-gray (till?)-----	26	69
Clay, silty, sandy, pebbly, olive-gray (till)-----	77	146
Sand, medium to coarse, pebbly-----	16	162

Niobrara Formation:
Shale, brown, calcareous;
small white inclusions-----

131-059-08BBB
NDSWC 6162

Altitude: 1295 feet

Date drilled: 9/24/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Clay, dark-brown-----		6	7
Silt, clayey, yellowish- brown, oxidized-----		9	16
Clay, olive-gray-----		8	24
Gravel, sandy-----		2	26
Clay, silty, sandy, pebbly, olive-gray (till); several thin gravel beds-----		65	91
Niobrara Formation:			
Shale, brownish-gray, calcareous; very silty in part-----		11	102

131-059-08CDD
NDSWC 11973

Altitude: 1330 feet

Date drilled: 9/09/82

Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		40	40
Clay, silty, sandy, pebbly, olive-gray (till)-----		2	42
Silt, clayey, greenish-gray-----		35	77
Clay, silty, sandy, pebbly, olive-gray (till)-----		36	113
Silt(?); no samples-----		9	122
Clay, silty, sandy, pebbly, olive-gray (till)-----		14	136
Niobrara Formation:			
Shale, brown, calcareous; small white inclusions-----		24	160

131-059-09BBBB
NDSWC 12263

Altitude: 1300 feet

Date drilled: 7/29/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Silt, clayey to sandy, yellowish-brown-----		3	4
Gravel, fine to medium, pebbly, sandy; coarse in part; abundant gray detrital shale-----		2	6
Silt, clayey, olive-gray-----		2	8
Gravel, fine to medium, pebbly, sandy; coarse in part; abundant gray detrital shale-----		1	9
Silt, clayey, olive-gray-----		1	10
Gravel, fine to medium, pebbly, sandy; coarse in part; abundant gray detrital shale-----		1	11
Silt, sandy; some thin silty clay beds; poor samples-----		28	39
Clay, silty, sandy, pebbly, olive-gray (till)-----		11	50

131-059-17ABA
NDSWC 6155

Altitude: 1294 feet Date drilled: 9/22/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Soil-----	1	1
	Silt, dark-brown to olive-gray-----	6	7
Glacial drift:			
	Sand, coarse to very coarse, pebbly; silt bed from 19 to 22 feet-----	31	38
	Silt, olive-gray-----	29	67
	Clay, brownish-gray-----	12	79
	Clay, silty, sandy, pebbly, brownish-gray (till)-----	15	94
	Gravel, fine to medium, pebbly, sandy-----	11	105
Niobrara Formation:			
	Shale, brownish-gray, calcareous-----	17	122

131-059-17ACC
USBR 45

Altitude: 1292 feet Date drilled: 7/05/66

Alluvium and glacial drift:			
	Loam, silty-----	2	2
	Sand, very fine, loamy-----	2	4
	Sand, fine, loamy-----	6	10
	Loam, silty-----	5	15
	Loam, silty, clayey, very dense-----	8	23

131-059-17BBA
NDSWC 6157

Altitude: 1296 feet Date drilled: 9/23/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Soil-----	1	1
Silt, yellowish-brown, oxidized-----	14	15
Silt, olive-gray-----	26	41
Sand, coarse to very coarse, pebbly, oxidized-----	5	46
Clay, silty, sandy, pebbly, brownish-gray (till)-----	11	57

131-059-17BBB
NDSWC 6156

Altitude: 1295 feet Date drilled: 9/23/82

Glacial drift:

Soil-----	1	1
Silt, yellowish-brown, oxidized-----	12	13
Silt, olive-gray-----	6	19
Clay, olive-gray-----	9	28
Sand and gravel; no description-----	2	30
Clay(?); no description-----	2	32
Sand and gravel; no description-----	1	33
Clay, silty, sandy, pebbly, olive-gray (till); many thin gravel beds-----	65	98

Niobrara Formation:

Shale, brownish-gray, calcareous-----	14	112
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131-059-17BCC
NDSWC 6159

Altitude: 1294 feet Date drilled: 9/23/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Silt, clayey, dark-brown-----		13	14
Sand, very fine, gray-----		4	18
Silt, olive-gray-----		51	69
Clay, greenish-gray-----		5	74
Silt, olive-gray-----		17	91
Sand, coarse to very coarse, pebbly-----		19	110
Silt, clayey, brownish-gray-----		37	147
Niobrara Formation:			
Shale, silty, brownish-gray-----		15	162

131-059-17DAA
USBR W-1

Altitude: 1331 feet Date drilled: 6/08/66

Glacial drift:			
Loam, sandy-----		1	1
Sand, very fine, loamy-----		2	3
Sand, fine-----		10	13
Sand-----		20	33
Clay, sandy, dense; with silt loam-----		5	38

131-059-20ACC
USBR 176

Altitude: 1298 feet Date drilled: 10/12/66

Loam, silty; with sandy loam-----		3	3
Sand, very fine-----		7	10
Loam, silty-----		16	26
Loam, silty; with silty clay loam-----		2	28

131-059-20BBB
NDSWC 6158

Altitude: 1294 feet Date drilled: 9/23/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Alluvium:

Soil-----	1	1
Clay, dark-brown-----	4	5

Glacial drift:

Sand, coarse to very coarse, pebbly; abundant gray detrital shale-----	15	20
Sand, very fine; detrital lignite-----	18	38
Silt, olive-gray-----	2	40
Clay, olive-gray-----	24	64
Silt, olive-gray; clayey in part-----	30	94
Clay, olive-gray-----	14	108

Niobrara Formation:

Shale, brownish-gray, calcareous; some silty zones-----	14	122
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131-059-22ABB
NDSWC 11974

Altitude: 1341 feet Date drilled: 9/09/82

Glacial drift:

Sand, medium to coarse, pebbly, oxidized-----	15	15
Silt(?); no samples-----	7	22
Sand, medium to coarse; upper part oxidized-----	27	49
Silt; sandy in part; clayey in part; poor samples-----	114	163
Sand, silty; poor samples-----	34	197
Sand, medium to coarse, pebbly; boulder at base-----	4	201

131-059-22CBB1
NDSWC 11917

Altitude: 1321 feet

Date drilled: 7/07/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, medium to coarse-----	33	33
	Silt; abundant detrital lignite; poor samples-----	89	122
	Sand, coarse-----	10	132
	Sand(?), silty(?); poor samples-----	5	137
	Gravel, fine to medium, pebbly, sandy-----	3	140
	Gravel, coarse, pebbly; cobble in part-----	33	173
	Boulders, cobbles, and pebbles-----	5	178
Niobrara Formation:			
	Shale, silty, brownish-gray, calcareous; small white inclusions-----	22	200

131-059-27CBB1
NDSWC 11918

Altitude: 1311 feet

Date drilled: 7/08/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Clay, silty, sandy, light-brown, oxidized-----	3	3
Sand, medium to coarse, pebbly; oxidized from 3 to 20 feet-----	49	52
Gravel, fine to medium, pebbly-----	6	58
Sand, medium to coarse, pebbly-----	3	61
Clay, silty, sandy, olive-gray-----	8	69
Clay, silty, sandy, pebbly, olive-gray (till)-----	52	121
Gravel, very fine to fine, pebbly, sandy-----	16	137

Niobrara Formation:

Shale, silty, brownish-gray, calcareous; small white inclusions-----	23	160
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131-059-28ACC
USBR W-5

Altitude: 1304 feet

Date drilled: 7/15/66

Glacial drift:

Loam-----	1	1
Loam, silty-----	3	4
Sand, loamy-----	3	7
Sand-----	13	20
Sand, fine; detrital lignite-----	5	25

131-059-29DCD
USBR W-7

Altitude: 1310 feet

Date drilled: 7/19/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, fine, loamy; with fine sandy loam-----	2	2
	Sand, fine, loamy-----	4	6
	Sand-----	4	10
	Sand, very fine-----	2	12
	Sand-----	38	50
	Loam, silty; reworked till-----	10	60
	Sand-----	15	75
	Till-----	1	76

131-059-29DDD
USBR W-8

Altitude: 1312 feet

Date drilled: 6/30/66

Glacial drift:

Loam, sandy-----	2	2
Sand, loamy-----	2	4
Sand, fine-----	9	13
Sand, fine, loamy-----	37	50

131-059-30BAA

(Log modified from M & W Exploration and Water Well, Inc.)

Altitude: 1330 feet

Soil-----	1	1
Clay, gravelly, brown-----	27	28
Clay, gravelly, gray-----	4	32
Clay; with some thin sand beds-----	9	41
Till, gravelly-----	12	53
Sand, medium; thin clay lenses-----	9	62
Till-----	66	128
Gravel, medium, dirty-----	2	130
Till-----	43	173
Shale-----	2	175

131-059-31AAA
NDSWC 6160

Altitude: 1295 feet Date drilled: 9/23/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Soil-----	1	1
Silt, yellowish-brown, oxidized-----	9	10
Silt, dark-olive-gray-----	14	24
Sand, very fine, silty-----	12	36
Silt, olive-gray-----	60	96
Clay, olive-gray; thin gravel or sand lenses from 102 to 105 feet-----	9	105
Clay, silty, brownish-gray-----	14	119

Niobrara Formation:

Shale, brownish-gray, calcareous-----	13	132
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131-059-32ABA

(Log modified from M & W Exploration and Water Well, Inc.)

Altitude: 1310 feet Date drilled: 1/03/83

Soil-----	2	2
Sand, medium, brown-----	13	15
Sand, fine, brown-----	15	30
Sand, medium, gray-----	20	50
Sand, coarse; with some gravel-----	11	61
Gravel, coarse-----	4	65
Clay-----	--	65

131-059-32CBC
USBR 3494

Altitude: 1295 feet Date drilled: 9/04/80

Alluvium and glacial drift:

Loam, fine, sandy-----	1	1
Loam, sandy-----	11	12
Sand, loamy-----	2	14
Loam, silty-----	39	53

131-059-32DCC
USBR W-20

Altitude: 1302 feet

Date drilled: 7/20/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Loam, silty-----		1	1
Sand, loamy-----		3	4
Loam, very fine, sandy-----		6	10
Loam, silty, clayey-----		10	20

131-059-33BBA
USBR W-9

Altitude: 1307 feet

Date drilled: 7/15/66

Glacial drift:			
Loam, sandy-----		2	2
Sand, fine-----		4	6
Sand-----		10	16
Sand, fine-----		19	35

131-059-33CCCC1
USBR 62

Altitude: 1305 feet

Date drilled: 12/18/52

Glacial drift:			
Clay-----		4	4
Sand, fine, light-brown-----		5	9
Clay-----		2	11
Sand and gravel-----		19	30
Silt, gray-----		1	31
Till-----		5	36

131-059-33CCC2
USBR W-21

Altitude: 1302 feet Date drilled: 7/19/66

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Loam, fine, sandy-----	1	1
Loam, sandy-----	3	4
Sand, very fine, loamy-----	2	6
Loam, sandy, clayey-----	6	12
Loam, sandy-----	12	24
Loam, sandy, clayey-----	6	30

131-059-34BCC1
NDSWC 11926

Altitude: 1309 feet Date drilled: 7/14/82

Glacial drift:

Soil-----	1	1
Sand, fine to coarse, yellowish-brown, oxidized-----	5	6
Clay, silty, sandy, yellowish-brown, oxidized-----	2	8
Sand, fine to coarse; pebbles and cobbles at base-----	27	35
Clay, silty, sandy, pebbly, olive-gray (till)-----	81	116

Niobrara Formation:

Shale, olive-gray-----	24	140
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131-059-35BCC2
NDSWC 11919

Altitude: 1315 feet

Date drilled: 7/08/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Sand, fine to medium, dark-brown to gray; organic material-----	6	6	
Silt, clayey, light-brown to olive-gray-----	5	11	
Sand, medium to coarse; oxidized from 11 to 17 feet-----	26	37	
Gravel; no samples-----	4	41	
Clay, silty, sandy, pebbly, olive-gray (till)-----	11	52	
Clay, silty, sandy, olive-gray-----	5	57	
Sand; poor samples-----	16	73	
Gravel, fine to medium, pebbly-----	8	81	
Clay, silty, sandy, pebbly, olive-gray (till)-----	26	107	
Gravel, fine to medium, pebbly-----	8	115	
Clay, silty, sandy, pebbly, olive-gray (till)-----	7	122	
Gravel, fine, pebbly; coarse in part-----	11	133	
Niobrara Formation:			
Shale, silty, brownish-gray, calcareous; small white inclusions-----	7	140	

131-060-01ABA
NDSWC 6145

Altitude: 1293 feet

Date drilled: 9/17/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, brownish-gray-----		14	15
Clay, yellowish-brown, oxidized-----		3	18
Clay, olive-gray-----		34	52
Sand, coarse; abundant detrital lignite-----		14	66
Sand, fine; abundant detrital lignite-----		75	141
Clay, cobbly-----		5	146
Niobrara Formation:			
Shale, greenish-gray, calcareous-----		10	156

131-060-01BAA
NDSWC 6144

Altitude: 1370 feet

Date drilled: 9/16/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand and gravel, oxidized; interbedded with silt-----		16	17
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		14	31
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); interbedded with silt and gravel-----		7	38
Gravel, fine to medium, pebbly, sandy; sandy clay bed from 55 to 58 feet-----		23	61
Clay, silty, sandy, pebbly, olive-gray (till)-----		35	96
Silt, sandy, clayey, olive-gray-----		20	116
Clay(?), olive-gray; poor samples-----		20	136
Silt, olive-gray-----		5	141
Sand, coarse to very coarse, pebbly; interbedded with clay from 150 to 158 feet-----		17	158
Clay, silty, sandy, pebbly, olive-gray (till)-----		27	185
Niobrara Formation:			
Shale, greenish-gray, calcareous-----		12	197

131-060-13DDD
NDSWC 6219

Altitude: 1350 feet

Date drilled: 7/02/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		18	19
Clay, silty, sandy, pebbly, olive-gray (till)-----		6	25
Sand, medium to coarse-----		10	35
Clay, silty, sandy, pebbly, medium-gray (till)-----		6	41
Sand, very coarse, pebbly-----		2	43
Silt, clayey, olive-gray-----		2	45
Gravel, fine-----		1	46
Clay, very silty, sandy, pebbly, medium-gray (till); numerous gravel lenses-----		55	101
Clay, silty, sandy, gray; gravel lens from 108 to 110 feet-----		9	110
Clay, very silty, sandy, pebbly, medium-gray (till); numerous gravel lenses-----		40	150
Niobrara Formation:			
Shale, silty, brown, very calcareous; minute white limey inclusions-----		13	163

132-059-04CCC
NDSWC 10950

Altitude: 1367 feet

Date drilled: 6/07/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	17	17
	Silt, clayey, greenish-gray-----	30	47
	Sand, fine, clayey, silty-----	3	50
	Clay, silty, sandy, pebbly, olive-gray (till)-----	28	78
	Sand, fine, clayey, silty-----	6	84
	Silt, clayey, greenish-gray-----	9	93
	Clay, silty, sandy, pebbly, olive-gray (till); sand from 96 to 100 feet-----	80	173
	Sand, coarse; abundant detrital shale-----	8	181
	Clay, silty, sandy, pebbly, olive-gray (till)-----	10	191
	Sand, coarse, pebbly-----	10	201
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	19	220

132-059-04DCC
NDSWC 10951

Altitude: 1363 feet

Date drilled: 6/11/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); sand from 9 to 12 feet-----	14	14
	Clay, silty, sandy, pebbly, olive-gray (till); pebbly sand from 19 to 21 feet-----	27	41
	Silt, clayey, greenish-gray-----	8	49
	Sand, fine-----	6	55
	Silt, clayey, greenish-gray-----	8	63
	Sand, fine-----	3	66
	Silt, clayey, greenish-gray-----	14	80
	Silt, very clayey, grayish-brown-----	8	88
	Clay, silty, sandy, pebbly, olive-gray (till)-----	61	149
	Sand, coarse to very coarse, pebbly; clay(?) from 167 to 169 feet-----	22	171
Niobrara Formation:			
	Clay, brown, calcareous; small white inclusions-----	29	200

132-059-05CCC
NDSWC 10949

Altitude: 1380 feet

Date drilled: 6/07/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	31	31
	Clay, silty, sandy, pebbly, olive-gray (till)-----	3	34
	Silt, greenish-gray-----	10	44
	Sand, medium-----	13	57
	Silt, greenish-gray-----	34	91
	Sand, coarse; abundant detrital shale-----	1	92
	Clay, silty, sandy, pebbly, olive-gray (till)-----	80	172
	Sand, fine-----	6	178
	Clay, silty, sandy, pebbly, olive-gray (till)-----	17	195
	Sand, fine(?); poor samples-----	9	204
Niobrara Formation:			
	Clay, grayish-brown, calcareous; small white inclusions-----	36	240

132-059-06CDD
NDSWC 11963

Altitude: 1368 feet

Date drilled: 8/30/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	20	20
	Clay, silty, sandy, pebbly, olive-gray (till)-----	9	29
	Sand, medium to coarse-----	24	53
	Clay, silty, sandy, pebbly, olive-gray (till)-----	149	202
	Clay, silty, sandy, greenish-gray; some thin sand beds-----	8	210
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	30	240

132-059-08BAA
NDSWC 10953

Altitude: 1380 feet

Date drilled: 6/12/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); pebbly sand from 3 to 5 feet-----	22	22
	Silt, clayey, yellowish- brown, oxidized-----	2	24
	Clay, silty, sandy, pebbly, olive-gray (till)-----	6	30
	Silt, greenish-gray-----	12	42
	Sand, medium-----	12	54
	Silt, greenish-gray; interbedded with medium sand-----	39	93
	Sand, medium-----	8	101
	Sand, silty, clayey-----	29	130
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 161 to 164 feet-----	52	182
Niobrara Formation:			
	Clay, grayish-brown, calcareous; small white inclusions-----	18	200

132-059-09CDD
NDSWC 11200

Altitude: 1364 feet

Date drilled: 11/06/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		17	18
Clay, silty, sandy, pebbly, olive-gray (till)-----		24	42
Silt, clayey, sandy, olive-gray-----		30	72
Silt, clayey, olive-gray; interbedded with fine sand and clay-----		17	89
Clay, silty, sandy, pebbly, olive-gray (till)-----		29	118
Sand and gravel; interbedded with clay-----		6	124
Clay, silty, sandy, pebbly, olive-gray (till); interbedded with gravel from 124 to 130 feet-----		23	147
Sand, coarse to very coarse, pebbly; cobbly in part-----		23	170
Niobrara Formation:			
Shale, brownish-gray, calcareous-----		30	200

132-059-10ADD
NDSWC 10952

Altitude: 1355 feet

Date drilled: 6/12/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	18	18
	Clay, silty, sandy, pebbly, olive-gray (till)-----	10	28
	Silt, clayey, greenish- gray-----	67	95
	Sand, fine, silty, clayey, greenish-gray to black-----	8	103
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 118 to 120 feet-----	56	159
Niobrara Formation:			
	Shale, grayish-brown, calcareous; small white inclusions-----	21	180

132-059-15CDD
NDSWC 10957

Altitude: 1340 feet

Date drilled: 6/14/79

Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	19	19
	Sand, pebbly, oxidized-----	7	26
	Clay, silty, sandy, pebbly, olive-gray (till)-----	3	29
	Sand, fine-----	3	32
	Silt, clayey, greenish- gray-----	59	91
	Clay, silty, sandy, pebbly, olive-gray (till)-----	53	144
Niobrara Formation:			
	Shale, grayish-brown, calcareous; small white inclusions-----	16	160

132-059-15DDD
NDSWC 11199

Altitude: 1367 feet

Date drilled: 11/06/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		33	34
Clay, silty, sandy, pebbly, olive-gray (till)-----		22	56
Silt, clayey, olive-gray; some sand beds-----		68	124
Sand, medium to coarse-----		6	130
Cobbles-----		2	132
Clay, silty, sandy, pebbly, olive-gray (till); sand beds from 161 to 174 feet-----		42	174
Niobrara Formation:			
Shale-----		26	200

132-059-17CDD1
NDSWC 11967A

Altitude: 1357 feet

Date drilled: 8/31/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	7	7
	Sand, fine, silty, oxidized-----	15	22
	Sand, fine, silty; inter- bedded with thin silty clayey sand beds-----	31	53
	Clay, silty, sandy, pebbly, olive-gray (till)-----	7	60
	Clay, silty, greenish- gray-----	20	80
	Silt, gray; some thin silty clay beds-----	15	95
	Clay, silty, sandy, pebbly, olive-gray (till)-----	6	101
	Sand, coarse, pebbly-----	14	115
	Clay, silty, sandy, pebbly, olive-gray (till)-----	6	121
	Sand, coarse, pebbly-----	10	131
	Clay, silty, sandy, pebbly, olive-gray (till)-----	30	161
	Sand, coarse, pebbly-----	34	195
	Clay, silty, sandy, olive- gray; poor samples-----	6	201
	Cobbles, pebbles, and sand; boulders at base-----	13	214
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	26	240

132-059-17DCD1
NDSWC 11969A

Altitude: 1371 feet Date drilled: 9/03/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	21	21	
Clay, silty, sandy, pebbly, olive-gray (till)-----	10	31	
Silt, clayey, greenish-gray-----	4	35	
Sand and gravel-----	1	36	
Clay, silty, sandy, pebbly, olive-gray (till); silty sand from 52 to 54 feet-----	22	58	
Sand, fine, silty-----	11	69	
Silt, clayey, grayish-brown-----	47	116	
Clay, silty, sandy, pebbly, olive-gray (till)-----	6	122	
Sand and gravel; inter- bedded with till-----	15	137	
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 143 to 146 feet-----	19	156	
Sand, medium to coarse; detrital lignite-----	37	193	
Boulders, cobbles, and pebbles; interbedded with clay-----	19	212	
Niobrara Formation:			
Shale, brownish-gray, calcareous; small white inclusions-----	8	220	

132-059-18DCC
NDSWC 11968

Altitude: 1364 feet

Date drilled: 9/02/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	13	13
	Clay, silty, yellowish- brown, oxidized-----	2	15
	Clay, silty, greenish- gray-----	2	17
	Clay, silty, sandy, pebbly, olive-gray (till)-----	4	21
	Sand, medium; oxidized from 21 to 28 feet-----	8	29
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 33 to 35 and 37 to 40 feet-----	68	97
	Sand, fine, silty-----	8	105
	Clay, silty, sandy, pebbly, olive-gray (till)-----	88	193
	Sand, medium; coarse and pebbly in part-----	8	201
	Clay, silty, gray-----	3	204
	Sand, medium; coarse and pebbly in part; several silty clay beds-----	33	237
	Clay, silty, olive-gray-----	6	243
	Sand, medium; coarse and pebbly in part; many thin silty clay beds from 243 to 247 and 254 to 257 feet; boulders near base-----	20	263
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	17	280

132-059-19AAA
NDSWC 10955

Altitude: 1369 feet

Date drilled: 6/13/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Silt, clayey, dark-brown-----	3	3
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	18	21
	Silt, clayey, yellowish- brown, oxidized-----	4	25
	Clay, silty; interbedded with clayey silt; light-gray to black laminations-----	22	47
	Sand, fine-----	19	66
	Silt(?); poor samples-----	7	73
	Sand, fine, silty, clayey-----	13	86
	Clay, silty, pebbly, sandy, olive-gray (till)-----	101	187
	Sand, coarse to very coarse, pebbly-----	77	264
	Cobbles, pebbles, and sand-----	17	281
Niobrara Formation(?):			
	No samples-----	19	300

132-059-21BBA
NDSWC 10956

Altitude: 1378 feet

Date drilled: 6/14/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Silt, clayey, yellowish-brown, oxidized; some pebbles-----	13	13
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	16	29
	Clay, silty, sandy, pebbly, olive-gray (till)-----	10	39
	Silt, very sandy, dark-greenish-gray-----	3	42
	Clay, silty, greenish-gray; with silty clay-----	17	59
	Sand and gravel (till); interbedded with clay-----	3	62
	Silt, very sandy, dark-greenish-gray-----	3	65
	Silt, clayey, greenish-gray-----	27	92
	Clay, silty, sandy, pebbly, olive-gray (till)-----	19	111
	Silt, clayey, greenish-gray-----	15	126
	Clay, silty, sandy, pebbly, olive-gray (till)-----	42	168
	Sand, coarse to very coarse, pebbly; numerous clay beds from 199 to 210 feet-----	54	222
	Gravel, sandy, very cobbley-----	8	230
Niobrara Formation:			
	Shale, grayish-brown, calcareous; small white inclusions-----	10	240

132-059-21CBD
NDSWC 5672

Altitude: 1360 feet

Date drilled: 11/28/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized-----		29	30
Clay, silty, sandy, pebbly, olive-gray (till)-----		14	44
Sand, fine, silty-----		13	57
Clay, silty, sandy, olive- gray-----		18	75
Clay, silty, sandy, pebbly, olive-gray (till)-----		30	105
Sand, very coarse, pebbly-----		5	110
Clay, silty, sandy, pebbly, olive-gray (till)-----		42	152
Sand, coarse, pebbly-----		43	195
Gravel, fine to medium, pebbly, sandy; cobbly and coarse near base of unit-----		32	227

132-059-21CCA1
NDSWC 5673

Altitude: 1361 feet

Date drilled: 11/30/79

Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		36	36
Silt, olive-gray-----		9	45
Sand, very fine-----		7	52
Clay, sandy, silty, olive- gray-----		33	85
Clay, silty, sandy, pebbly, olive-gray (till)-----		27	112
Sand, fine to medium-----		10	122
Clay, silty, sandy, pebbly, olive-gray (till)-----		38	160
Sand, fine to medium-----		20	180
Gravel, fine, pebbly, sandy-----		47	227

132-059-21CCA2
NDSWC 5676

Altitude: 1360 feet

Date drilled: 12/04/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		27	28
Sand, fine-----		5	33
Clay, silty, sandy, pebbly, olive-gray (till)-----		15	48
Sand, fine-----		14	62
Silt, clayey, olive-gray-----		8	70
Clay, silty, sandy, pebbly, olive-gray (till)-----		35	105
Sand, fine to medium-----		7	112
Clay, silty, sandy, pebbly, olive-gray (till); sand from 124 to 126 and 133 to 135 feet-----		28	140

132-059-21CCD1
NDSWC 5674

Altitude: 1360 feet

Date drilled: 11/30/79

Glacial drift:

Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		31	32
Silt, olive-gray-----		20	52
Clay, silty, sandy, pebbly, olive-gray (till)-----		64	116
Sand, very coarse, pebbly-----		12	128
Clay, silty, sandy, pebbly, olive-gray (till)-----		32	160
Sand, coarse-----		15	175
Sand, very coarse, pebbly-----		45	220

132-059-21CCD2
NDSWC 5675

Altitude: 1357 feet

Date drilled: 12/03/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		27	28
Sand, fine, silty-----		17	45
Clay, silty, sandy, olive- gray-----		23	68
Clay, silty, sandy, pebbly, olive-gray (till)-----		44	112
Sand, medium to coarse, pebbly-----		13	125
Clay, silty, sandy, pebbly, olive-gray (till); numerous thin sand beds-----		25	150
Sand, fine-----		10	160
Sand, medium-----		15	175
Clay(?), sandy(?); no samples-----		15	190
Gravel, fine, pebbly, sandy-----		30	220
Gravel, coarse, pebbly, cobbly-----		15	235

132-059-27ADD
NDSWC 11198

Altitude: 1327 feet

Date drilled: 10/30/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Gravel, sandy, oxidized-----		1	2
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		8	10
Sand, pebbly; oxidized from 10 to 24 feet-----		18	28
Clay, silty, sandy, pebbly, olive-gray (till)-----		16	44
Silt, clayey, olive-gray-----		46	90
Clay, silty, sandy, pebbly, olive-gray (till)-----		50	140
Sand, fine to coarse-----		16	156
Niobrara Formation:			
Shale, brownish-gray, calcareous-----		24	180

132-059-27CCC
NDSWC 6153

Altitude: 1300 feet

Date drilled: 9/22/82

Alluvium:

Clay, silty, brown-----	8	8
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Glacial drift:

Sand, coarse to very coarse, pebbly; interbedded with clay-----	19	27
Clay, olive-gray-----	8	35
Silt, brownish-gray-----	32	67
Clay, silty, sandy, pebbly, brownish-gray (till)-----	15	82

132-059-27CDC1
NDSWC 12260

Altitude:	1332 feet	Date drilled:	7/28/83
GEOLOGIC SOURCE	MATERIAL	THICKNESS (FEET)	DEPTH (FEET)
Glacial drift:			
Soil-----		1	1
Sand, fine to coarse, oxidized-----		11	12
Gravel, fine to very coarse, pebbly, cobbly, oxidized-----		13	25
Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----		1	26
Clay, silty, sandy, pebbly, olive-gray (till)-----		12	38
Silt, clayey, olive-gray-----		43	81
Clay, silty, sandy, pebbly, olive-gray (till?)-----		2	83
Silt, clayey, olive-gray-----		6	89
Clay, silty, sandy, pebbly, olive-gray (till)-----		32	121
Sand(?), fine; abundant detrital lignite; poor samples-----		10	131
Clay, silty, olive-gray; interbedded with sandy clay and sand-----		10	141
Clay, silty, sandy, pebbly, olive-gray (till?)-----		6	147
Gravel, fine, pebbly, very sandy; abundant detrital lignite-----		47	194
Gravel, fine to very coarse, pebbly, sandy-----		19	213
Boulders, cobbles, and pebbles-----		5	218
Niobrara Formation:			
Shale, medium-gray, calcareous; small white inclusions-----		42	260

132-059-27CDC2
NDSWC 12261

Altitude: 1333 feet

Date drilled: 7/28/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Sand, fine to coarse, oxidized-----	15	16
	Gravel, fine to coarse, pebbly, sandy, oxidized-----	6	22
	Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----	4	26
	Clay, silty, sandy, pebbly, olive-gray (till)-----	10	36
	Silt, clayey, olive-gray-----	35	71
	Clay, silty, sandy, pebbly, olive-gray (till)-----	8	79
	Silt, clayey, olive-gray-----	10	89
	Clay, silty, sandy, pebbly, olive-gray (till); several gravel beds composed of gray detrital shale from 96 to 101 feet-----	22	111

132-059-27CDD
NDSWC 6154

Altitude: 1317 feet Date drilled: 9/22/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Silt, yellowish-brown to dark-orangish-brown, oxidized-----	16	17	
Silt, olive-gray-----	2	19	
Sand, coarse to very coarse, pebbly; abundant gray detrital shale-----	3	22	
Sand, fine(?), silty(?); poor samples-----	4	26	
Sand, coarse to very coarse, pebbly; cobbles and gravel lenses at 54 and 60 feet-----	34	60	
Clay, silty, gray-----	5	65	
Clay, silty, pebbly, brownish-gray (till); numerous lenses of brown silt-----	17	82	

132-059-29DDD
NDSWC 11197

Altitude: 1356 feet Date drilled: 10/30/79

Glacial drift:			
Soil-----	1	1	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	24	25	
Silt, clayey, olive-gray-----	71	96	
Clay, silty, sandy, pebbly, olive-gray (till)-----	60	156	
Sand, medium to coarse, pebbly-----	40	196	

Niobrara Formation:			
Shale, medium-gray, calcareous-----	24	220	

132-059-35CCC
NDSWC 11658

Altitude: 1339 feet

Date drilled: 8/20/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, medium to coarse, oxidized; some gravel-----	17	17
	Silt, clayey, yellowish- brown, oxidized-----	2	19
	Silt, clayey, greenish- gray-----	3	22
	Sand, medium to coarse; some gravel-----	6	28
	Clay, silty, sandy, pebbly, olive-gray (till)-----	4	32
	Sand, medium to coarse; some gravel-----	4	36
	Clay, silty, sandy, pebbly, olive-gray (till)-----	14	50
	Clay, silty, greenish-gray-----	37	87
	Clay, silty, sandy, pebbly, olive-gray (till)-----	23	110
	Sand, pebbly, cobbly; interbedded with clay or till-----	23	133
	Clay, silty, sandy, pebbly, olive-gray (till)-----	23	156
	Clay, silty, dark-brown-----	10	166
	Gravel, sandy; very coarse in part; numerous silty grayish-brown clay beds-----	41	207

132-060-01DCC
NDSWC 11962

Altitude: 1358 feet Date drilled: 8/26/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	12	12	
Clay, silty, sandy, pebbly, olive-gray (till)-----	10	22	
Sand, fine to medium-----	5	27	
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with sand and gravel from 40 to 52 feet-----	165	192	
Sand, medium to coarse, pebbly-----	5	197	
Sand, coarse, pebbly-----	9	206	
Cobbles, pebbles, and sand-----	17	223	
Niobrara Formation:			
Shale, brown, calcareous; small white inclusions-----	17	240	

132-060-02CCC
NDSWC 11960

Altitude: 1380 feet Date drilled: 8/25/82

Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	10	10	
Clay, silty, sandy, pebbly, olive-gray (till)-----	10	20	
Clay, very silty, greenish-gray-----	6	26	
Clay, silty, sandy, pebbly, olive-gray (till)-----	179	205	
Niobrara Formation:			
Shale, brown, calcareous; small white inclusions-----	25	230	

132-060-04CCC
NDSWC 11956

Altitude: 1388 feet

Date drilled: 8/24/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	21	21
Sand, fine to medium, oxidized-----	8	29
Clay, silty, yellowish- brown, oxidized-----	2	31
Clay, silty, greenish-gray-----	15	46
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 66 to 69 and 131 to 134 feet-----	177	223

Niobrara Formation:

Shale, brown, calcareous; small white inclusions-----	17	240
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132-060-09BAA
NDSWC 11957

Altitude: 1381 feet

Date drilled: 8/24/82

Glacial drift:

Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	19	19
Clay, silty, sandy, pebbly, olive-gray (till)-----	17	36
Clay, silty, greenish-gray-----	2	38
Clay, silty, sandy, pebbly, olive-gray (till)-----	14	52
Sand, medium to coarse-----	8	60
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 136 to 140 feet-----	149	209

Pierre Shale:

Shale, brown, calcareous; small white inclusions-----	31	240
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132-060-10BAA
NDSWC 11959

Altitude: 1386 feet Date drilled: 8/25/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	18	18
Sand, medium, oxidized-----	10	28
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 68 to 71 feet-----	59	87
Sand, medium to coarse, pebbly; detrital shale-----	13	100
Clay, silty, sandy, pebbly, olive-gray (till)-----	69	169
Sand, medium to coarse, pebbly; abundant detrital shale; interbedded with till from 178 to 183 and 196 to 203 feet-----	34	203
Sand, medium to coarse, pebbly-----	7	210

Niobrara Formation:

Shale, brown, calcareous; small white inclusions-----	10	220
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132-060-10BBBB
NDSWC 11958

Altitude: 1387 feet Date drilled: 8/25/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	20	20	
Sand, medium to coarse, oxidized-----	12	32	
Clay, very silty, greenish-gray-----	2	34	
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 110 to 114 feet-----	176	210	
Niobrara Formation:			
Shale, brown, calcareous; small white inclusions-----	30	240	

132-060-11BAA
NDSWC 11961

Altitude: 1384 feet Date drilled: 8/26/82

Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	20	20	
Clay, silty, sandy, pebbly, olive-gray (till)-----	12	32	
Clay, very silty, greenish- gray-----	12	44	
Clay, silty, sandy, pebbly, olive-gray (till)-----	63	107	
Sand and gravel-----	7	114	
Clay, silty, sandy, pebbly, olive-gray (till)-----	49	163	
Sand, medium to coarse, pebbly-----	10	173	
Sand, clayey, silty, dark- greenish-gray-----	5	178	
Gravel, sandy, cobbley-----	37	215	

Niobrara Formation:			
Shale, brown, calcareous; small white inclusions-----	21	236	

132-060-12BBB
NDSWC 10954

Altitude: 1370 feet

Date drilled: 6/12/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); oxidized sand and gravel from 14 to 15 feet-----	15	15
Silt, very clayey, olive- gray-----	5	20
Silt, very clayey, olive- gray; with silty olive- gray clay-----	4	24
Sand, fine-----	3	27
Silt, very clayey, olive- gray-----	4	31
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 157 to 161 feet-----	173	204
Sand, coarse to very coarse, pebbly-----	38	242

Niobrara Formation:

Shale, grayish-brown, calcareous; small white inclusions-----	18	260
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132-060-13CDD
NDSWC 11966

Altitude: 1373 feet

Date drilled: 8/31/82

Glacial drift:

Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	21	21
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 63 to 65 and 71 to 73 feet-----	191	212

Niobrara Formation:

Shale, brown, calcareous; small white inclusions-----	28	240
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132-060-19ABB
NDSWC 6136

Altitude: 1303 feet

Date drilled: 9/13/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		2	2
Clay, olive-brown to olive-gray; oxidized in part-----		8	10
Sand, fine to medium; gravel beds near base of unit; abundant detrital lignite-----		8	18
Silt(?); abundant detrital lignite; poor samples-----		4	22
Sand, fine to medium; abundant detrital lignite-----		5	27
Sand, fine to coarse; abundant detrital lignite-----		43	70
Silt(?); poor samples-----		7	77
Gravel, fine to coarse, sandy; cobbly in part-----		11	88
Cobbles and coarse gravel; some sandy clay beds-----		9	97

132-060-19BAD

(Log modified from M & W Exploration and Water Well, Inc.)

Altitude: 1305 feet

Date drilled: 4/11/81

Soil-----	1	1
Sand, brown-----	3	4
Clay, brown-----	1	5
Gravel, brown-----	13	18
Sand, coarse, gray-----	2	20
Sand, medium, gray-----	35	55
Sand, coarse, brown-----	8	63
Sand, coarse-----	10	73
Sand, fine-----	7	80
Sand, medium to coarse-----	10	90
Sand, fine to medium-----	7	97
Sand, coarse; with gravel-----	8	105
Gravel, coarse-----	7	112

132-060-20ABA
NDSWC 6216

Altitude: 1385 feet

Date drilled: 7/06/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, pebbly, yellowish-brown, oxidized (till)-----	8	8
	Sand, very coarse, pebbly, oxidized-----	22	30
	Gravel, fine to medium, sandy, oxidized-----	9	39
	Clay, silty, pebbly, yellowish-brown, oxidized (till)-----	3	42
	Clay, silty, pebbly, olive- gray (till)-----	7	49
	Clay, silty, sandy, pebbly, olive-gray (till)-----	31	80
	Sand, very coarse, pebbly; abundant gray detrital shale-----	3	83
	Silt, clayey, olive-gray-----	2	85
	Clay, silty, olive-gray to brownish-gray-----	13	98
	Clay, silty, sandy, very pebbly, olive-gray (till)-----	135	233
Niobrara Formation:			
	Shale, silty, brown, very calcareous; minute white limey inclusions-----	30	263

132-060-21CDB

(Log modified from M & W Exploration and Water Well, Inc.)

Altitude: 1305 feet

Date drilled: 6/ /78

Soil-----	1	1
Clay, brown-----	13	14
Clay, silty, gray-----	64	78
Sand, medium, clean-----	22	100
Sand, coarse-----	6	106
Gravel, medium-----	10	116
Shale-----	4	120
Till, clayey, gray-----	--	120

132-060-23AAA
NDSWC 11965

Altitude: 1348 feet

Date drilled: 8/31/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, yellowish-brown, oxidized-----	3	3
	Sand, medium, oxidized-----	13	16
	Silt, clayey, yellowish-brown, oxidized; with silty clay-----	2	18
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	2	20
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel beds from 21 to 23, 25 to 27, and 63 to 65 feet-----	173	193
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	27	220

132-060-23ADD
NDSWC 6218

Altitude: 1313 feet

Date drilled: 7/07/83

Glacial drift:			
	Soil-----	1	1
	Silt, dark-yellowish-orange, oxidized-----	6	7
	Sand, very fine; inter-bedded with silt-----	126	133
	Gravel, coarse-----	2	135
	Sand, very coarse, pebbly-----	30	165
	Gravel, fine to very coarse, cobbley-----	8	173

Niobrara Formation:

Shale, brown, very calcareous; small white limey inclusions-----	10	183
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132-060-23BBB
NDSWC 11964

Altitude: 1345 feet

Date drilled: 8/31/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	13	13
	Clay, silty, sandy, pebbly, olive-gray (till); silty sand from 41 to 43 feet-----	171	184
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	16	200

132-060-23CDD
NDSWC 6151

Altitude: 1326 feet

Date drilled: 9/22/82

Glacial drift:			
Soil-----	1	1	
Clay, silty to very silty, yellowish-brown, oxidized----	17	18	
Silt, olive-gray-----	34	52	
Sand(?), very fine, silty; poor samples-----	8	60	
Silt, olive-gray-----	48	108	
Clay, sandy, silty, olive- gray; poor samples-----	5	113	
Clay, silty, sandy, olive- gray; interbedded with gravel and sand-----	7	120	
Sand, fine to very coarse, pebbly, clayey-----	10	130	
Gravel, fine to very coarse, sandy, cobbley-----	8	138	
Clay, silty, sandy, pebbly, medium-gray to olive- gray (till)-----	10	148	
Niobrara Formation:			
Shale, brownish-gray, calcareous-----	14	162	

132-060-26ABA
NDSWC 6152

Altitude:	1294 feet	Date drilled:	9/22/82
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Soil-----	1	1
	Clay, dark-brown-----	13	14
Glacial drift:			
	Clay, yellowish-brown, oxidized-----	4	18
	Clay, olive-gray-----	50	68
	Sand, fine, gray; detrital lignite-----	59	127
	Gravel, fine to very coarse, pebbly, cobbly, sandy-----	5	132
Niobrara Formation:			
	Shale, brownish-gray, very calcareous; small white limey inclusions-----	30	162

132-060-27ADC
(Log modified from K and K Drilling)

Altitude:	1345 feet	Date drilled:	7/22/77
	Soil-----	1	1
	Gravel, coarse-----	15	16
	Clay, yellow-----	19	35
	Gravel-----	5	40
	Clay; with rocks-----	69	109
	Gravel-----	3	112
	Clay, gray-----	73	185
	Shale, chalky-----	10	195

132-060-27DAA
NDSWC 6217

Altitude: 1340 feet Date drilled: 7/07/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Gravel, fine to medium, oxidized-----	10	10
Sand, very coarse, pebbly-----	13	23
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	1	24
Clay, silty, sandy, pebbly, olive-gray (till)-----	21	45
Sand, very coarse, pebbly-----	6	51
Clay, silty, sandy, pebbly, olive-gray (till)-----	8	59
Silt, sandy, olive-gray-----	6	65
Clay, silty, sandy, pebbly, olive-gray (till)-----	125	190

Niobrara Formation:

Shale, brown to brownish-gray, very calcareous-----	23	213
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132-060-28AAA
NDSWC 6148

Altitude: 1297 feet Date drilled: 9/21/82

Glacial drift:

Soil-----	1	1
Clay, yellowish-brown, oxidized-----	10	11
Silt, olive-gray; inter- bedded with fine sand from 15 to 54 feet-----	43	54
Sand, coarse to very coarse, pebbly-----	21	75
Gravel, fine to coarse, pebbly, sandy-----	7	82
Clay, silty, sandy, pebbly, olive-gray (till)-----	20	102

132-060-28ABA
NDSWC 6147

Altitude: 1310 feet Date drilled: 9/21/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Silt, clayey, yellowish-brown, oxidized-----	16	16
Silt, clayey, olive-gray-----	7	23
Clay, silty, pebbly, olive-gray (till?)-----	29	52
Clay, silty, sandy, pebbly, olive-gray (till)-----	75	127
Clay, silty, sandy, pebbly, dark-olive-gray (till)-----	10	137
Clay, silty, sandy, pebbly, brownish-gray (till)-----	9	146

Niobrara Formation:

Shale, greenish-gray to olive-gray, very calcareous-----	16	162
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132-060-28BDD

(Log modified from M & W Exploration and Water Well, Inc.)

Altitude: 1300 feet Date drilled: 10/15/77

Soil-----	1	1
Sand, fine, brown-----	16	17
Clay, silty, gray-----	51	68
Sand, medium-----	17	85
Sand; with gravel-----	15	100

132-060-30ABB
USBR L-8

Altitude: 1313 feet

Date drilled: 7/18/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Loam, sandy-----	3	3
	Loam, silty, dense-----	1	4
	Sand, loamy-----	2	6
	Loam, silty, clayey, dense-----	6	12
	Loam, clayey, mottled, iron-stained, dense-----	5	17
	Clay, silty-----	12	29
	Loam, sandy, dense; with silty loam-----	1	30

132-060-32CCC
NDSWC 6142

Altitude: 1375 feet

Date drilled: 9/15/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown (till)-----		16	17
Clay, silty, sandy, pebbly, olive-gray (till)-----		48	65
Silt, clayey, sandy, olive- gray-----		6	71
Clay, silty, sandy, pebbly, dark-orangish-brown, oxidized (till)-----		2	73
Clay, silty, sandy, pebbly, olive-gray (till)-----		24	97
Silt(?); abundant detrital lignite; poor samples-----		7	104
Clay, silty, sandy, pebbly, olive-gray (till)-----		46	150
Clay, silty, sandy, pebbly, dark-olive-gray (till); gravel beds from 152 to 155 feet; sand bed from 176 to 177 feet-----		74	224
Silt, olive-gray-----		8	232
Clay, silty, sandy, pebbly, dark-olive-gray (till)-----		7	239
Niobrara Formation:			
Shale, greenish-gray, very calcareous-----		23	262

132-060-33DDD
NDSWC 6143

Altitude: 1389 feet Date drilled: 9/16/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Soil-----	1	1
Clay, silty, sandy, pebbly, yellow to dark-yellowish- brown, oxidized (till)-----	17	18
Sand, fine to medium, oxidized-----	16	34
Sand, coarse to very coarse, pebbly, oxidized-----	6	40
Clay(?); no samples-----	3	43
Gravel, fine to coarse, sandy-----	9	52
Clay, silty, sandy, pebbly, olive-gray (till)-----	42	94
Clay, silty, sandy, pebbly, brownish-gray (till)-----	17	111
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with sand and gravel from 137 to 147 feet-----	36	147
Silt, olive-gray-----	4	151
Clay, silty, sandy, pebbly, olive-gray (till)-----	71	222

Niobrara Formation:

Shale, greenish-gray, calcareous-----	20	242
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132-060-34ADD
NDSWC 6150

Altitude:	1296 feet	Date drilled:	9/21/82
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Soil-----	1	1
	Clay, dark-brown-----	15	16
Glacial drift:			
	Silt, yellowish-brown, oxidized-----	3	19
	Clay, light-brown to olive-gray-----	24	43
	Sand, medium to coarse-----	3	46
	Gravel, sandy, cobbly-----	24	70
	Sand(?), fine; poor samples-----	45	115
	Gravel, sandy, cobbly-----	28	143
Niobrara Formation:			
	Shale, greenish-gray, calcareous-----	19	162

132-060-35BBB
NDSWC 6149

Altitude: 1295 feet Date drilled: 9/21/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Soil-----	1	1
	Clay, brown-----	14	15
Glacial drift:			
	Clay, dark-gray to olive-gray-----	8	23
	Silt, clayey, olive-gray-----	7	30
	Clay, dark-greenish-gray to black, carbonaceous-----	13	43
	Silt, clayey, olive-gray, varved; abundant gastropod shells-----	7	50
	Clay, olive-gray to brown-----	48	98
	Gravel, sandy-----	2	100
	Clay, silty, sandy, pebbly, brownish-gray to olive-gray (till)-----	27	127
	Clay, silty, sandy, pebbly, brownish-gray (till)-----	13	140
Niobrara Formation:			
	Shale, brownish-gray to greenish-gray, calcareous-----	22	162

132-061-01AAA
NDSWC 6133

Altitude: 1300 feet Date drilled: 9/10/82

Alluvium:			
	Soil-----	1	1
	Clay, silty, dark-brown; light-brown silt beds-----	4	5
Glacial drift:			
	Clay, silty, pale-yellow to olive-gray; oxidized in part; some light-gray silt stringers-----	4	9
	Gravel, fine to coarse, sandy-----	7	16
	Clay, silty, sandy, pebbly, olive-gray (till)-----	26	42

132-061-11CDB
(Log modified from Traut Wells Inc.)

Altitude: 1320 feet

Date drilled: 12/08/76

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Sand, fine, brown-----	40	40
	Sand, gray; with silt-----	53	93
	Sand, gray; with gravel-----	11	104
	Sand, fine-----	5	109
	Sand, gray; with gravel-----	9	118
	Clay, gray-----	22	140

132-061-12ABA1
NDSWC 6215

Altitude: 1302 feet

Date drilled: 7/06/83

Alluvium and glacial drift:

Soil-----	1	1
Silt, clayey, sandy, yellowish-brown to olive-brown, oxidized-----	6	7
Sand, very coarse, pebbly; abundant gray detrital shale-----	2	9
Silt, clayey, sandy, gray-----	6	15
Sand, very coarse, pebbly; bivalve fragments-----	4	19
Silt, clayey, greenish- gray and olive-gray; carbonaceous in part-----	21	40
Clay, greenish-gray-----	32	72
Gravel, fine to medium, pebbly, sandy-----	6	78
Clay, silty, sandy, very pebbly, olive-gray (till)-----	39	117
Gravel, coarse, pebbly-----	3	120
Clay, silty, pebbly, olive-gray (till); gravel from 128 to 129 feet-----	25	145

Niobrara Formation:

Shale, silty, brownish-gray, very calcareous; small white limey inclusions----- 38 183

132-061-12CBB
NDSWC 6134

Altitude: 1309 feet Date drilled: 9/10/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	-----	1	1
Sand, fine to coarse, clayey, silty, yellowish- brown, oxidized-----	-----	15	16
Sand, fine to very coarse-----	-----	44	60
Sand, fine to very coarse; interbedded with sandy and silty clay; some gravel beds from 78 to 87 feet-----	-----	27	87
Gravel, fine to very coarse, cobbly; inter- bedded with clay from 100 to 107 feet-----	-----	20	107
Clay, silty, sandy, pebbly, olive-gray (till)-----	-----	15	122

132-061-13BCC
NDSWC 6137

Altitude: 1297 feet Date drilled: 9/13/82

Glacial drift:			
Clay, olive-gray; some silt beds-----	-----	57	57
Gravel, very fine to medium, sandy-----	-----	5	62
Silt, clayey, olive-gray-----	-----	5	67
Gravel, fine to very coarse, cobbly-----	-----	4	71
Clay, silty, pebbly, olive-gray (till)-----	-----	11	82

132-061-13CAB
USBR DH71-21

Altitude: 1298 feet Date drilled: 3/17/71

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Soil-----	2	2
	Clay, sandy, brownish-gray-----	12	14
	Clay, silty, green; gastropod shells-----	7	21
	Clay, sandy, brownish-gray-----	4	25
	Clay, gray-----	36	61
	Sand, fine, silty, gray-----	4	65

132-061-13CCD
USBR DH72-101

Altitude: 1297 feet Date drilled: 10/13/72

Alluvium:			
	Silt, sandy, brown-----	4	4
	Clay, silty, brown, organic; abundant mollusk shells-----	28	32
Glacial drift:			
	Clay, silty, gray, organic, varved-----	20	52
	Sand, medium, brown-----	37	89
	Gravel, fine to coarse, sandy, clayey, brown-----	1	90

132-061-13DDD
(Log modified from M & W Exploration and Water Well, Inc.)

Altitude: 1300 feet Date drilled: 3/27/81

Soil-----	1	1
Sand, brown; with gravel-----	15	16
Sand, gray-----	12	28
Sand, silty, gray-----	5	33
Sand, medium-----	2	35
Sand, fine-----	5	40
Sand, fine to medium-----	25	65
Sand, coarse; with gravel-----	50	115

132-061-16ADD
NDSWC 6138

Altitude: 1436 feet

Date drilled: 9/14/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		23	24
Clay, silty, sandy, pebbly, olive-gray (till)-----		42	66
Gravel, fine to coarse, pebbly, sandy; inter- bedded with sandy clay from 74 to 82 feet-----		36	102
Clay, silty, sandy, pebbly, olive-gray (till)-----		21	123
Clay, silty, olive-gray-----		7	130
Clay, silty, sandy, pebbly, olive-gray (till); gravel bed from 152 to 154 feet-----		34	164
Clay, silty, sandy, pebbly, dark-olive-gray to dark- brownish-gray (till); cobbly from 180 to 214 feet; interbedded with sand from 203 to 210 feet-----		50	214
Clay, silty, sandy, pebbly, olive-gray (till)-----		93	307
Niobrara Formation(?) :			
Shale, black to dark-gray, noncalcareous, carbona- ceous; tiny white inclusions-----		15	322

132-061-24ADD
NDSWC 6141

Altitude: 1299 feet Date drilled: 9/15/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Clay, silty, dark-brown-----		2	3
Silt, clayey, yellowish-green-----		2	5
Clay, yellowish-green to olive-gray-----		12	17
Sand, very fine, silty, yellowish-brown, oxidized-----		3	20
Clay, olive-gray-----		24	44
Clay, silty, sandy, pebbly, olive-gray (till)-----		38	82

132-061-24BAA
NDSWC 6135

Altitude: 1297 feet Date drilled: 9/13/82

Alluvium and glacial drift:			
Soil-----		1	1
Clay, silty, yellowish-green, oxidized-----		4	5
Clay, silty, brownish-gray-----		5	10
Silt, yellowish-brown, oxidized-----		5	15
Clay, olive-gray-----		7	22
Sand, coarse to very coarse-----		72	94
Clay, silty, sandy, very pebbly, olive-gray (till)-----		28	122

132-061-25CCD
NDSWC 6140

Altitude: 1390 feet Date drilled: 9/15/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Sand, fine, silty, yellowish-brown, oxidized-----	4	5	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); some silt beds from 5 to 15 feet-----	23	28	
Sand, coarse to very coarse, pebbly-----	11	39	
Clay, silty, sandy, pebbly, olive-gray (till)-----	59	98	
Silt, sandy, brownish-gray-----	16	114	
Clay, silty, sandy, pebbly, dark-olive-gray (till)-----	16	130	
Clay, silty, sandy, pebbly, olive-gray to brownish- gray (till)-----	46	176	
Clay, silty, sandy, pebbly, dark-olive-gray (till)-----	32	208	
Clay, silty, sandy, olive- gray-----	17	225	
Clay, very silty, gray; gravel bed from 240 to 241 feet-----	19	244	
Niobrara Formation:			
Shale, greenish-gray, very calcareous-----	58	302	

132-061-27DAA
NDSWC 6139

Altitude: 1382 feet

Date drilled: 9/14/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	18	19
	Clay, silty, sandy, pebbly, olive-gray (till)-----	43	62
	Sand, fine to coarse, silty-----	5	67
	Sand, fine to very coarse, pebbly; interbedded with silty clay-----	6	73
	Clay, silty, sandy, pebbly, olive-gray (till)-----	151	224
	Silt, clayey, olive-gray-----	11	235
	Clay, silty, sandy, pebbly, olive-gray (till)-----	7	242
Niobrara Formation(?):			
	Shale, black to dark-gray, noncalcareous; small white inclusions-----	20	262

133-060-01CCC
NDSWC 6245

Altitude: 1403 feet

Date drilled: 7/27/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		2	2
Sand, oxidized-----		1	3
Silt, oxidized-----		4	7
Clay, silty, sandy, pebbly, yellowish-brown-----		3	10
Silt, oxidized-----		5	15
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		11	26
Silt, olive-gray-----		5	31
Sand, fine; abundant detrital lignite-----		8	39
Silt, olive-gray-----		3	42
Clay, silty, sandy, pebbly, olive-gray (till); sand from 90 to 92 feet-----		55	97
Gravel, fine, pebbly, sandy-----		18	115
Clay, silty, sandy, pebbly, olive-gray (till); sand from 150 to 152 feet-----		66	181
Gravel, fine to medium, pebbly, sandy-----		29	210
Gravel, medium to coarse, pebbly-----		12	222
Clay, silty, sandy, brown; interbedded with gravel-----		30	252
Niobrara Formation:			
Shale, brown-----		30	282

133-060-02CDD
NDSWC 6246

Altitude: 1400 feet

Date drilled: 7/27/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Gravel, oxidized-----	1	2
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	16	18
	Clay, silty, sandy, pebbly, olive-gray (till)-----	9	27
	Sand, fine-----	5	32
	Silt, olive-gray-----	5	37
	Clay, silty, sandy, pebbly, olive-gray (till)-----	64	101
	Sand, very coarse, pebbly; abundant detrital shale-----	4	105
	Clay, silty, sandy, pebbly, olive-gray (till)-----	88	193
	Sand, very coarse, pebbly-----	7	200
	Gravel, fine, pebbly, sandy; coarse in part-----	61	261
Niobrara Formation:			
	Shale, silty, brown; small white inclusions-----	21	282

133-060-04DCC
NDSWC 6250

Altitude: 1410 feet Date drilled: 8/01/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Silt, yellowish-brown, oxidized-----		8	9
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		26	35
Sand, very coarse-----		6	41
Clay, silty, sandy, pebbly, olive-gray (till)-----		19	60
Silt, olive-gray-----		32	92
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with gravel from 120 to 130 feet-----		101	193
Sand, very coarse, pebbly-----		26	219
Niobrara Formation:			
Shale, brown-----		23	242

133-060-05DAA1
NDSWC 6252

Altitude: 1410 feet Date drilled: 8/02/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Silt, yellowish-brown, oxidized; interbedded with clay-----		9	10
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		14	24
Sand, medium, oxidized-----		6	30
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		6	36
Sand, medium-----		7	43
Gravel, fine to medium; abundant detrital shale-----		35	78
Silt, olive-gray-----		7	85
Clay, silty, sandy, pebbly, olive-gray (till)-----		96	181
Silt; no description-----		6	187
Sand, coarse, pebbly; coarse in part-----		37	224
Pierre Shale:			
Shale, dark-gray to black-----		38	262

133-060-07BCD
(Log modified from Traut Wells Inc.)

Altitude: 1305 feet	Date drilled: 5/11/81
Soil-----	1
Clay, brown-----	4
Sand, coarse; with detrital lignite-----	36
Clay, gray-----	14

133-060-07CCA
(Log modified from Traut Wells Inc.)

Altitude: 1315 feet Date drilled: 5/20/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----	1	1	
Sand, brown-----	13	14	
Sand, coarse, black-----	31	45	
Clay, gray-----	10	55	

133-060-07CCC1
USBR L-15

Altitude: 1314 feet Date drilled: 7/21/67

Glacial drift:

Silt and clay, brown; with fine sand-----	3	3
Sand, brown; with gravel-----	9	12
Sand, fine, gray-----	2	14
Sand, brown; with gravel-----	14	28
Gravel, brown-----	2	30
Silt and sand, gray; detrital lignite-----	15	45

133-060-07CCC2
NDSWC 11903

Altitude: 1314 feet Date drilled: 6/29/82

Glacial drift:

Soil-----	2	2
Gravel, medium to coarse, pebbly, cobbly; detrital lignite-----	27	29
Sand, fine to coarse; poor samples-----	26	55
Clay, silty, sandy, olive- gray-----	6	61
Clay, silty, sandy, pebbly, olive-gray (till)-----	19	80

133-060-07DAA1
NDSWC 11904

Altitude: 1344 feet

Date drilled: 6/30/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, coarse to very coarse, pebbly-----	57	57
	Gravel, fine to medium, pebbly, sandy; abundant gray detrital shale-----	4	61
	Clay, silty, sandy, pebbly, olive-gray (till)-----	66	127
Pierre Shale(?):			
	Shale, gray, noncalcareous; small white needle-like inclusions-----	33	160

133-060-07DAA2
NDSWC 11904A

Altitude: 1344 feet

Date drilled: 7/01/82

Glacial drift:			
	Sand, coarse to very coarse, pebbly-----	44	44
	Gravel, fine to medium, pebbly-----	12	56
	Cobbles and pebbles-----	1	57
	Clay, silty, sandy, pebbly, olive-gray (till)-----	3	60

133-060-09BBB
NDSWC 6251

Altitude: 1400 feet

Date drilled: 8/02/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Silt, yellowish-brown, oxidized-----		5	6
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		26	32
Clay, silty, sandy, pebbly, olive-gray (till)-----		51	83
Silt(?); no samples-----		4	87
Clay, silty, sandy, pebbly, olive-gray (till)-----		12	99
Gravel, fine to coarse, pebbly-----		13	112
Clay, silty, sandy, pebbly, olive-gray (till)-----		21	133
Clay, silty, sandy, greenish-gray-----		14	147
Clay, silty, sandy, pebbly, olive-gray (till)-----		42	189
Pierre Shale:			
Shale, dark-gray, carbonaceous-----		23	212

133-060-10ABB
NDSWC 6248

Altitude: 1405 feet

Date drilled: 7/28/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		22	23
Clay, silty, sandy, pebbly, olive-gray (till)-----		11	34
Sand, fine; interbedded with olive-gray silt-----		13	47
Clay, silty, sandy, pebbly, olive-gray (till)-----		35	82
Clay, very silty, olive- gray-----		15	97
Clay, silty, sandy, pebbly, olive-gray (till)-----		88	185
Sand, very coarse-----		7	192
Clay, very silty, gray, carbonaceous-----		7	199
Gravel, fine to medium, pebbly, sandy-----		27	226
Niobrara Formation:			
Shale, brown-----		36	262

133-060-10BBB1
NDSWC 6249

Altitude: 1410 feet Date drilled: 7/29/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand and gravel, oxidized-----		1	2
Silt, yellowish-brown, oxidized-----		6	8
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		34	42
Sand, fine-----		5	47
Clay, silty, sandy, pebbly, olive-gray (till)-----		20	67
Sand, very coarse, pebbly-----		16	83
Clay, silty, olive-gray-----		14	97
Silt, olive-gray-----		5	102
Clay, silty, sandy, pebbly, olive-gray (till)-----		105	207
Sand, very coarse, pebbly-----		34	241
Silt, brown, carbonaceous-----		2	243
Niobrara Formation:			
Shale, brown; small white inclusions-----		29	272

133-060-11BBB
NDSWC 6249

Altitude: 1406 feet Date drilled: 7/28/83

Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		29	30
Clay, silty, sandy, pebbly, olive-gray (till)-----		7	37
Sand, medium-----		5	42
Silt, olive-gray-----		8	50
Clay, silty, sandy, pebbly, olive-gray (till)-----		151	201
Sand, very coarse, pebbly-----		36	237
Niobrara Formation:			
Shale, brown-----		15	252

133-060-12BAA
NDSWC 6244

Altitude: 1400 feet

Date drilled: 7/26/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Silt, yellowish-brown, oxidized-----		9	10
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		11	21
Sand, fine, oxidized-----		6	27
Silt, yellowish-brown, oxidized-----		6	33
Silt, olive-gray-----		23	56
Sand, pebbly-----		2	58
Clay, silty, sandy, pebbly, olive-gray (till)-----		29	87
Gravel, fine, pebbly, sandy-----		15	102
Clay, silty, sandy, pebbly, olive-gray (till)-----		37	139
Gravel, fine to medium, pebbly-----		5	144
Clay, silty, sandy, pebbly, olive-gray (till)-----		43	187
Clay, brownish-gray-----		5	192
Sand, very coarse, pebbly; interbedded with gravel from 200 to 213 feet; interbedded with brown silt and clay from 213 to 242 feet-----		50	242
Clay, sandy, brown-----		10	252
Sand; no samples-----		8	260
Clay, sandy, gray-----		22	282
Niobrara Formation:			
Shale, brown; small white inclusions-----		20	302

133-060-15DCC
NDSWC 11912

Altitude: 1325 feet Date drilled: 7/02/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, medium to coarse-----	18	18
	Sand, coarse to very coarse, pebbly-----	8	26
	Gravel, fine to medium, pebbly; coarse in part-----	42	68
	Clay, silty, sandy, pebbly, olive-gray (till)-----	12	80

133-060-16ABA1
NDSWC 11909

Altitude: 1332 feet Date drilled: 7/01/82

Alluvium:	Clay, silty, very sandy, dark-brown-----	4	4
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Glacial drift:			
	Sand, fine to coarse, brown-----	25	29
	Sand, coarse to very coarse, pebbly, brown, oxidized-----	16	45
	Cobbles and pebbles-----	3	48
	Clay, silty, sandy, pebbly, olive-gray (till)-----	54	102
	Silt, clayey, sandy, olive-gray-----	4	106
	Clay, silty, sandy, pebbly, olive-gray (till)-----	6	112
	Silt, clayey, sandy, olive-gray-----	4	116
	Clay, silty, sandy, pebbly, olive-gray (till)-----	21	137

Pierre Shale(?):	Shale, dark-gray to black, noncalcareous-----	5	142
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Niobrara Formation:	Shale, silty, gray, calcareous; small white limey inclusions-----	18	160
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133-060-16ABA2
NDSWC 11909A

Altitude: 1332 feet Date drilled: 7/01/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Clay, silty, sandy, dark-brown-----	7	7
Glacial drift:	Sand, fine to coarse, brown-----	22	29
	Sand, coarse to very coarse, pebbly, brown-----	15	44
	Cobbles and pebbles-----	1	45

133-060-16BAC2
(Log modified from Traut Wells Inc.)

Altitude: 1330 feet Date drilled: 2/08/83

Sand, very coarse, brown-----	32	32
Sand, fine-----	13	45
Sand, medium to coarse-----	45	90
Sand, fine-----	5	95
Clay, gray-----	5	100

133-060-16CAA
(Log modified from Traut Wells Inc.)

Altitude: 1311 feet Date drilled: 9/10/74

Sand, fine, brown-----	25	25
Sand, coarse, gray-----	10	35
Sand, gray-----	25	60
Clay, gray-----	10	70

133-060-16DCC
NDSWC 11910

Altitude: 1317 feet Date drilled: 7/01/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Sand, fine to coarse, brown, oxidized-----	12	12	
Gravel, fine to very coarse, pebbly; poor samples-----	9	21	
Sand, coarse to very coarse, pebbly-----	12	33	
Gravel, medium to very coarse, pebbly, cobbly-----	2	35	
Cobbles and pebbles-----	1	36	
Clay, silty, sandy, pebbly, olive-gray (till)-----	13	49	

133-060-17BCB
NDSWC 11905

Altitude: 1306 feet Date drilled: 6/30/82

Alluvium:	Clay, silty, dark-brown; abundant organic material-----	6	6
Glacial drift:			
Gravel and sand-----	1	7	
Clay, silty, olive-gray, mottled, partially oxidized; abundant iron-oxide stain-----	2	9	
Gravel, fine to very coarse, pebbly, cobbly-----	4	13	
Gravel, fine to medium, pebbly, sandy-----	5	18	
Gravel, fine to very coarse, pebbly, cobbly-----	2	20	
Gravel, very fine to medium, pebbly, sandy; coarse in part-----	18	38	
Clay, silty, sandy, pebbly, olive-gray (till)-----	9	47	

133-060-17CCB1
NDSWC 11890

Altitude: 1301 feet

Date drilled: 6/22/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Clay, dark-brown; organic inclusions-----	7	7
Glacial drift:	Clay, yellowish-brown to olive-brown-----	7	14
	Clay, olive-gray-----	10	24
	Gravel, fine to coarse, pebbly, sandy; detrital lignite-----	32	56
	Gravel, fine to medium, pebbly, sandy; cobbly at base-----	18	74
	Clay, silty, sandy, pebbly, olive-gray (till)-----	37	111
Niobrara Formation:	Shale, brownish-gray, calcareous; dark gray near top of unit; small white limey inclusions-----	9	120

133-060-17CDD
NDSWC 11908

Altitude: 1303 feet Date drilled: 7/01/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Clay, silty, dark-brown-----	3	3
Glacial drift:			
	Sand, fine to very coarse, pebbly, brown, oxidized; silty in part-----	5	8
	Sand, fine to very coarse, pebbly, gray; silty in part-----	4	12
	Clay, silty, sandy, pebbly, dark-brown; cobbly in part-----	8	20
	Sand, medium to very coarse, pebbly-----	8	28
	Gravel, fine to medium, pebbly-----	10	38
	Clay, silty, sandy, pebbly, olive-gray (till)-----	11	49

133-060-17DAA
NDSWC 11907

Altitude: 1320 feet Date drilled: 6/30/82

Glacial drift:

Sand, coarse to very coarse, pebbly, brown, oxidized-----	18	18
Gravel, medium to coarse, pebbly; detrital lignite-----	28	46
Clay, silty, sandy, pebbly, olive-gray (till)-----	14	60

133-060-17DDA
NDSWC 11906

Altitude: 1323 feet

Date drilled: 6/30/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, coarse to very coarse, pebbly, brown, oxidized-----	18	18
	Gravel, medium to coarse, pebbly-----	13	31
	Clay, silty, sandy, pebbly, olive-gray (till)-----	9	40

133-060-18BAA1
USBR L-14

Altitude: 1305 feet

Date drilled: 7/21/67

Alluvium and glacial drift:

Loam, silty, clayey-----	1	1
Loam, clayey, dense-----	1	2
Loam, sandy, clayey, limey-----	1	3
Sand, coarse, loamy; detrital shale-----	7	10
Sand, detrital lignite, and shale-----	20	30

133-060-18BAA2
USBR DH73-113

Altitude: 1301 feet Date drilled: 2/14/73

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Soil, black-----	4	4
	Clay, silty, brown; bivalve shell fragments-----	1	5
Glacial drift:			
	Clay, gray; mottled with orange; oxidized in part-----	6	11
	Clay, gray-----	9	20
	Sand, medium to very coarse, gravelly, grayish-brown-----	27	47
	Sand, fine, gray-----	2	49
	Sand, fine, silty, gray-----	1	50

133-060-18BCA
USBR 917

Altitude: 1298 feet Date drilled: 9/13/72

Alluvium and glacial drift:

Loam, silty-----	3	3
Loam, silty, clayey-----	3	6
Sand, coarse, loamy; with gravel-----	8	14

133-060-18CBB
NDSWC 11897

Altitude: 1303 feet

Date drilled: 6/25/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Clay, silty, dark-brown; organic material-----	7	7
Glacial drift:			
	Clay, light-olive-brown to dark-olive-brown, oxidized-----	10	17
	Clay, olive-gray-----	6	23
	Gravel, very fine to fine, sandy-----	25	48
	Clay, silty, sandy, pebbly, olive-gray (till)-----	43	91
	Silt, olive-gray; inter- bedded with clayey sand and silty clay-----	12	103
	Clay, silty, sandy, pebbly, olive-gray (till?); very sandy in part-----	29	132
Niobrara Formation:			
	Shale, dark-brownish-gray, calcareous; tiny white limey inclusions-----	8	140

133-060-19ABA1
NDSWC 11891

Altitude: 1307 feet Date drilled: 6/23/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Clay, silty, dark-brown; organic inclusions-----	7	7
Glacial drift:	Clay, olive-brown, oxidized-----	14	21
	Clay, olive-gray-----	43	64
	Gravel, fine to medium; coarse in part-----	24	88
	Boulder-----	2	90
	Clay, silty, sandy, pebbly, olive-gray (till)-----	43	133
Niobrara Formation(?):	Shale, silty, dark- brownish-gray-----	7	140

133-060-19CCCC1
(Log modified from Green Circle Supply, Inc.)

Date drilled: 2/07/77

Soil-----	1	1
Sand, clayey, brown-----	10	11
Clay, brown-----	6	17
Sand, medium to coarse, brown-----	9	26
Sand and gravel, brown-----	9	35
Till, gray-----	197	232
Shale, light-gray-----	18	250

133-060-19CCC2
NDSWC 12259

Altitude: 1388 feet

Date drilled: 7/27/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	8	9
	Sand, medium to coarse, oxidized-----	11	20
	Gravel, fine to medium, pebbly, sandy, oxidized-----	3	23
	Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----	4	27
	Clay, silty, sandy, pebbly, olive-gray (till)-----	25	52
	Gravel, fine to medium, pebbly; abundant gray detrital shale-----	4	56
	Clay, silty, sandy, pebbly, olive-gray (till)-----	12	68
	Clay, silty, olive-gray-----	9	77
	Clay, silty, sandy, pebbly, olive-gray (till)-----	39	116
	Gravel, fine to medium; abundant gray detrital shale-----	5	121
	Clay, silty, sandy, pebbly, olive-gray (till)-----	15	136
	Gravel, very fine to medium, pebbly-----	7	143
	Clay, silty, sandy, pebbly, olive-gray (till)-----	76	219
	Boulders and cobbles in clay till-----	2	221
	Clay, silty, sandy, pebbly, olive-gray (till)-----	19	240
Niobrara Formation:			
	Shale, medium-gray, calcareous-----	10	250

133-060-20AAD
USBR DH71-19

Altitude:	1303 feet	Date drilled:	3/26/71
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Mulch, organic-----	2	2
	Clay, sandy, brown to black-----	2	4
	Clay, sandy, gray-----	10	14
	Sand, fine to medium, silty, gray-----	5	19
	Sand, gray-----	5	24
	Sand, fine to coarse, brown-----	26	50

133-060-20CBB
NDSWC 11902

Altitude:	1305 feet	Date drilled:	6/29/82
Colluvium:			
	Sand, clayey, silty, pebbly, yellowish-brown to olive- brown, oxidized-----	16	16
Alluvium and glacial drift:			
	Clay, very silty, greenish- gray; gastropod shells-----	7	23
	Clay, silty, olive-gray-----	17	40
	Cobbles and gravel-----	1	41
	Clay, silty, sandy, pebbly, olive-gray (till)-----	78	119
Niobrara Formation:			
	Shale, silty, gray-----	21	140

133-060-21BBC
USBR DH72-102

Altitude: 1337 feet

Date drilled: 10/17/72

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, silty, brown-----	4	4
	Sand, fine, brown-----	20	24
	Sand, fine to very coarse, brown; with fine to medium gravel-----	7	31
	Sand, silty, light-brown-----	4	35

133-060-21CAA1
NDSWC 11893

Altitude: 1303 feet

Date drilled: 6/23/82

Alluvium:

Clay, silty, dark-brown; organic inclusions-----	8	8
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Glacial drift:

Gravel, fine to medium, pebbly, sandy-----	8	16
Sand, medium to coarse; abundant gray detrital shale-----	37	53
Boulder-----	--	53

133-060-21CAA3
USBR DH71-20

Altitude: 1303 feet

Date drilled: 3/24/71

Alluvium and glacial drift:

Soil, black-----	4	4
Clay, sandy, brown-----	5	9
Sand, fine, silty, brown to grayish-brown-----	20	29
Sand, fine to medium, brown----	10	39
Sand, fine, silty, brown-----	3	42
Sand, fine, silty, gray-----	3	45
Gravel-----	5	50

133-060-21DDC
NDSWC 11911

Altitude: 1325 feet Date drilled: 7/01/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Sand, coarse to very coarse, pebbly-----	26	26	
Sand, very coarse, pebbly-----	16	42	
Sand, medium to coarse; poor samples-----	30	72	
Gravel, medium to very coarse, pebbly, cobbly-----	24	96	
Clay, silty, sandy, pebbly, olive-gray (till)-----	11	107	

133-060-23AAA
NDSWC 11647

Altitude: 1394 feet Date drilled: 8/18/81

Glacial drift:			
Sand, fine, silty, yellowish-brown, oxidized-----	5	5	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	12	17	
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 34 to 36 feet-----	24	41	
Silt, clayey, gray; with silty clay-----	7	48	
Clay, silty, sandy, pebbly, olive-gray (till)-----	56	104	
Sand, fine-----	9	113	
Clay, silty, sandy, pebbly, olive-gray (till)-----	7	120	
Sand, pebbly-----	10	130	
Clay, silty, sandy, pebbly, olive-gray (till)-----	59	189	
Sand, medium to coarse, pebbly-----	11	200	
Sand, coarse to very coarse, pebbly-----	35	235	

Niobrara Formation:

Shale, brown, calcareous; small white inclusions-----	6	241
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133-060-23ABB
NDSWC 11648

Altitude: 1400 feet

Date drilled: 8/14/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	26	26
	Sand, coarse, oxidized-----	2	28
	Clay, silty, yellowish- brown, oxidized-----	3	31
	Clay, silty, greenish-gray-----	6	37
	Clay, silty, sandy, pebbly, olive-gray (till)-----	24	61
	Sand, pebbly-----	5	66
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 142 to 144 feet-----	124	190
	Sand, medium to coarse, pebbly-----	20	210
	Gravel, sandy, cobbley-----	7	217
Pierre Shale:			
	Shale, black, noncalcareous-----	9	226
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	15	241

133-060-23DAA
NDSWC 10947

Altitude: 1390 feet Date drilled: 6/07/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	19	19
	Clay, silty, sandy, pebbly, olive-gray (till)-----	4	23
	Silt, greenish-gray-----	12	35
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 44 to 46 feet-----	15	50
	Silt(?); no samples-----	7	57
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 61 to 63 and 70 to 72 feet-----	52	109
	Silt(?); no samples-----	5	114
	Sand and gravel-----	2	116
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 150 to 152 feet-----	64	180

133-060-24AAA
NDSWC 11645

Altitude: 1393 feet

Date drilled: 8/13/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	18	18
	Clay, silty, sandy, pebbly, olive-gray (till)-----	3	21
	Clay, silty, greenish-gray; with clayey silt-----	32	53
	Sand, coarse, pebbly-----	3	56
	Clay, silty, sandy, pebbly, olive-gray (till)-----	8	64
	Sand, coarse, pebbly-----	9	73
	Clay, silty, sandy, pebbly, olive-gray (till)-----	77	150
	Silt, sandy, greenish-gray-----	25	175
	Silt, clayey, greenish-gray-----	5	180
	Silt, clayey; interbedded with silty greenish- gray clay-----	25	205
	Sand, coarse to very coarse, pebbly-----	12	217
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	24	241

133-060-24BAA
NDSWC 11646

Altitude: 1384 feet

Date drilled: 8/13/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	10	10	
Clay, silty, sandy, pebbly, olive-gray (till)-----	2	12	
Clay, silty, greenish-gray-----	6	18	
Clay, silty, sandy, pebbly, olive-gray (till)-----	27	45	
Sand, fine-----	18	63	
Clay, silty, grayish-brown; with clayey silt-----	10	73	
Clay, silty, sandy, pebbly, olive-gray (till)-----	105	178	
Sand, coarse, pebbly-----	64	242	
Gravel, cobbly, sandy-----	4	246	
Niobrara Formation:			
Shale, brown, calcareous; small white inclusions-----	15	261	

133-060-25BBB
NDSWC 10946

Altitude: 1396 feet

Date drilled: 6/06/79

Glacial drift:			
Sand, fine, silty, yellowish-brown, oxidized-----	3	3	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	19	22	
Clay, silty, sandy, pebbly, olive-gray (till)-----	83	105	
Sand, silty-----	23	128	
Clay, silty, sandy, pebbly, olive-gray (till)-----	71	199	
Cobbles, pebbles, and sand-----	31	230	

133-060-25BCC
NDSWC 10948

Altitude: 1400 feet

Date drilled: 6/07/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, fine, yellowish-brown, oxidized-----	9	9
	Sand, fine, greenish-gray-----	15	24
	Silt, clayey, greenish-gray-----	18	42
	Sand, fine, greenish-gray-----	10	52
	Clay, silty, sandy, pebbly, olive-gray (till)-----	5	57
	Silt, clayey, greenish-gray-----	5	62
	Clay, silty, sandy, pebbly, olive-gray (till); inter-bedded with sand and gravel from 71 to 86, 103 to 105, and 115 to 117 feet-----	58	120
	Silt(?); no samples-----	7	127
	Clay, silty, sandy, pebbly, olive-gray (till)-----	53	180

133-060-25CCC
NDSWC 11593A

Altitude: 1399 feet Date drilled: 8/23/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, fine, silty, oxidized-----	6	6
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	8	14
	Clay, silty, sandy, pebbly, olive-gray (till)-----	12	26
	Silt, clayey, greenish-gray-----	17	43
	Clay, silty, sandy, pebbly, olive-gray (till)-----	17	60
	Silt, clayey, greenish-gray-----	13	73
	Clay, silty, sandy, pebbly, olive-gray (till)-----	12	85
	Sand and gravel-----	5	90
	Clay, silty, sandy, pebbly, olive-gray (till)-----	43	133
	Sand and gravel-----	5	138
	Clay, silty, sandy, pebbly, olive-gray (till)-----	69	207
	Sand, medium to very coarse, pebbly-----	9	216
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	14	230

133-060-26BAA
NDSWC 10945

Altitude: 1405 feet

Date drilled: 6/06/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, fine, oxidized-----	7	7
	Sand, fine, greenish-gray-----	5	12
	Clay, silty, greenish-gray-----	6	18
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	23	41
	Silt, clayey, gray-----	7	48
	Clay, silty, sandy, pebbly, olive-gray (till)-----	28	76
	Silt, clayey, gray-----	32	108
	Clay, silty, sandy, pebbly, olive-gray (till)-----	97	205
	Gravel, sandy-----	8	213
	Boulders and cobbles-----	1	214

133-060-26DCC
NDSWC 11954

Altitude: 1392 feet

Date drilled: 8/24/82

Glacial drift:

Sand, fine, silty, oxidized-----	8	8
Clay, silty, greenish-gray-----	10	18
Clay, silty, sandy, olive- gray-----	10	28
Silt, clayey, greenish-gray-----	7	35
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with sand and gravel from 122 to 136 feet-----	166	201
Sand, medium to very coarse, pebbly-----	9	210

Niobrara Formation:

Shale, dark-brown, calcareous; small white inclusions-----	20	230
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133-060-27DDD
NDSWC 11955

Altitude: 1394 feet

Date drilled: 8/24/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Silt, clayey, yellowish-brown, oxidized; with silty clay-----	8	8	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	11	19	
Sand, medium, oxidized-----	14	33	
Silt, clayey, greenish-gray-----	13	46	
Clay, silty, sandy, pebbly, olive-gray (till); inter-bedded with sand and gravel from 61 to 82 feet-----	36	82	
Silt; sand and gravel from 131 to 134 feet; poor samples-----	61	143	
Sand, medium to coarse, pebbly-----	9	152	
Clay, silty, sandy, pebbly, olive-gray (till)-----	57	209	
Niobrara Formation:			
Shale, brown, calcareous; small white inclusions-----	31	240	

133-060-28BAA
NDSWC 11892

Altitude: 1303 feet

Date drilled: 6/24/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Clay, olive-brown; organic inclusions near top of unit-----	17	17
	Clay, silty, greenish-gray; gastropod shell fragments-----	1	18
	Sand, fine to medium; silty in part; bivalve shell fragments-----	9	27
	Clay, olive-gray; silty in upper part-----	59	86
	Sand, fine(?), silty(?); abundant detrital lignite and gray shale; poor returns-----	5	91
	Gravel, fine to very coarse, pebbly, cobbley; abundant gray detrital shale-----	2	93
	Clay, silty, sandy, pebbly, olive-gray (till)-----	10	103
	Gravel, very fine to medium, pebbly; abundant gray detrital shale-----	7	110
	Clay, silty, sandy, pebbly, olive-gray (till)-----	15	125
Niobrara Formation:			
	Shale, silty, brownish-gray; small white limey inclusions-----	15	140

133-060-28CAD
NDSWC 11916

Altitude: 1300 feet

Date drilled: 7/07/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Clay, silty, brown to dark-brown; abundant organic debris-----	4	4
	Clay, silty, light-brown to gray, mottled-----	3	7
	Clay, silty, brown-----	10	17
	Clay, very silty, greenish-gray; gastropod shell fragments-----	5	22
	Clay, silty, gray to dark-gray-----	54	76
	Clay, silty, sandy, pebbly, olive-gray (till); gravel lens of gray detrital shale from 106 to 108 feet-----	54	130
Niobrara Formation:			
	Shale, silty, brownish-gray, calcareous; small white limey inclusions-----	10	140

133-060-28DAB
NDSWC 11894

Altitude: 1303 feet

Date drilled: 6/24/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Clay, silty, olive-brown; organic debris in top of unit-----	11	11
	Clay, silty, olive-gray-----	3	14
	Sand, fine to coarse, gray; bivalve shell fragments at top of unit-----	7	21
	Gravel, fine to medium, pebbly, sandy-----	16	37
	Clay, silty, sandy, pebbly, olive-gray (till)-----	23	60

133-060-29AAD
NDSWC 11896

Altitude: 1304 feet

Date drilled: 6/25/82

Alluvium:

Clay, silty, dark-brown; organic inclusions-----	11	11
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Glacial drift:

Clay, silty, olive-brown, oxidized-----	3	14
Clay, silty, olive-gray-----	3	17
Gravel, very fine to fine, pebbly, sandy; abundant detrital lignite at top of unit-----	21	38
Clay, silty, sandy, pebbly, olive-gray (till)-----	22	60

133-060-29CAA
(Log modified from Traut Wells Inc.)

Altitude: 1340 feet Date drilled: 8/18/75

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Sand, brown-----	39	39
	Sand and gravel, gray-----	9	48
	Clay, gray-----	72	120

133-060-29DDD1
NDSWC 11895

Altitude: 1303 feet Date drilled: 6/24/82

Alluvium: Clay, silty, dark-brown;
organic inclusions----- 17 17

Glacial drift:		
Clay, silty, olive-gray, varved-----	7	24
Gravel, fine to medium, pebbly, sandy; detrital lignite-----	45	69
Clay, silty, sandy, pebbly, olive-gray (till)-----	61	130

Niobrara Formation:
Shale, brownish-gray,
calcareous; small white
limey inclusions----- 10 140

133-060-36BAA
NDSWC 11952

Altitude: 1397 feet

Date drilled: 8/20/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Sand, fine, silty, oxidized-----	7	7
	Sand, fine, silty, greenish-gray; interbedded with sandy clayey silt-----	6	13
	Clay, silty, sandy, pebbly, olive-gray (till)-----	30	43
	Sand-----	4	47
	Clay, silty, sandy, pebbly, olive-gray (till)-----	29	76
	Silt(?); no samples-----	4	80
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 88 to 90 feet-----	127	207
	Sand, medium to coarse, pebbly-----	14	221
	Gravel, cobbley, sandy-----	7	228
Niobrara Formation:			
	Shale, brown, calcareous; small white specks-----	12	240

133-061-01BCD1
NDSWC 11887

Altitude: 1305 feet Date drilled: 6/21/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Clay, light-brown to dark-brown; organic debris-----		13	13
Clay, gray-----		9	22
Gravel, fine to medium, pebbly; coarse in part-----		6	28
Sand, very fine to fine, silty; abundant detrital lignite from 43 to 51 feet-----		23	51
Gravel, fine to coarse, pebbly; abundant gray detrital shale-----		2	53
Clay, silty, sandy, pebbly, olive-gray (till)-----		83	136
Niobrara Formation:			
Shale, silty, dark-brownish-gray, calcareous; small white limey nodules-----		4	140

133-061-01BCD2
NDSWC 11898

Altitude: 1305 feet Date drilled: 6/25/82

Alluvium:	Clay, silty, brownish-gray to dark-brown; organic debris-----	15	15
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133-061-01DAD
(Log modified from Traut Wells Inc.)

Altitude: 1311 feet Date drilled: 7/26/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Clay, sandy, brown-----	14	14
	Clay, gray; with fine sand-----	16	30
	Clay, silty, gray-----	4	34
	Sand, coarse; with gravel-----	16	50
	Sand, gray; with detrital lignite pebbles-----	5	55

133-061-02BAA2
NDSWC 11913

Altitude: 1307 feet Date drilled: 7/06/82

Alluvium and glacial drift:

Clay, very silty, brown; abundant organic debris-----	15	15
Clay, silty, greenish-gray-----	2	17
Sand, very fine to very coarse; abundant bivalve shell fragments-----	1	18
Clay, olive-gray-----	3	21
Sand; no samples-----	2	23
Gravel, very fine to fine, pebbly, sandy-----	23	46
Cobbles and gravel-----	4	50
Clay, silty, sandy, pebbly, olive-gray (till)-----	19	69

133-061-03CAC
(Log modified from Traut Wells Inc.)

Altitude: 1305 feet Date drilled: 8/31/79

Sand; with gravel-----	27	27
Sand, medium-----	18	45

133-061-04ADD
USBR L-17A

Altitude: 1316 feet Date drilled: 7/21/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Loam, sandy, black-----	4	4
	Loam, fine, sandy, olive-brown-----	2	6
	Loam, sandy, brown; with loamy sand-----	4	10
	Sand, loamy, cobbly, brown-----	10	20

133-061-04BBBB
NDSWC 6128

Altitude: 1417 feet Date drilled: 9/07/82

Glacial drift:			
	Soil-----	1	1
	Clay, silty, sandy, pebbly, yellowish-brown to olive-brown, oxidized (till); detrital lignite-----	17	18
	Sand, fine to medium, pebbly, brown, oxidized; coarse near base of unit-----	13	31
	Clay, silty, sandy, pebbly, olive-gray (till); olive brown and oxidized in part; silt bed from 54 to 57 feet-----	31	62
	Sand, very fine, clayey-----	26	88
	Clay, silty, sandy, pebbly, olive-gray (till); some silt and silty clay beds-----	19	107
	Clay, silty, sandy, pebbly, olive-gray (till); very pebbly from 134 to 137 feet-----	31	138
	Clay, silty, sandy, pebbly, dark-olive-gray (till); olive gray from 145 to 159 feet-----	148	286

Niobrara Formation:

Shale, brownish-gray, calcareous-----	16	302
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133-061-10CCCC1
NDSWC 6129

Altitude: 1413 feet

Date drilled: 9/08/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand, fine, brown, oxidized-----		3	4
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		13	17
Clay, silty, sandy, pebbly, olive-gray (till)-----		28	45
Clay, silty, sandy, pebbly, brownish-gray (till); oxidized near top of unit; sand lens from 52 to 54 feet-----		9	54
Clay, silty, sandy, pebbly, dark-olive-gray to brownish-gray-----		10	64
Silt, clayey, brownish-gray-----		13	77
Gravel, fine, pebbly, sandy-----		5	82
Clay, silty, sandy, pebbly, olive-gray (till)-----		58	140
Clay, silty, sandy, olive- gray-----		8	148
Gravel, fine to medium, pebbly, sandy, clayey-----		6	154
Clay, silty, brown-----		38	192
Sand, very coarse, pebbly-----		2	194
Clay, silty, sandy, pebbly, olive-gray (till)-----		48	242
Gravel, fine, pebbly, sandy-----		20	262
Clay, silty, sandy, pebbly, brownish-gray (till)-----		20	282
Niobrara Formation:			
Shale, brown-----		20	302

133-061-11ACC
NDSWC 11900

Altitude: 1304 feet

Date drilled: 6/29/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Clay, silty, sandy, dark-brown; organic inclusions-----	11	11
	Clay, silty, olive-brown-----	5	16
	Clay, olive-gray-----	13	29
	Gravel, very fine to very coarse, pebbly, sandy-----	3	32
	Clay, silty, sandy, pebbly, olive-gray (till)-----	38	70
	Gravel, very fine to fine, pebbly; abundant detrital shale; sandy clay bed from 76 to 78 feet-----	17	87
	Clay, silty, sandy, pebbly, olive-gray (till)-----	70	157
Niobrara Formation:			
	Shale, silty, gray-----	23	180

133-061-11CDC
NDSWC 6130

Altitude: 1332 feet

Date drilled: 9/09/82

Glacial drift:			
	Soil-----	1	1
	Sand, coarse to very coarse, pebbly, oxidized-----	19	20
	Gravel, fine to medium, sandy-----	54	74
	Clay, silty, sandy, pebbly, olive-gray (till)-----	28	102

133-061-12AAD
NDSWC 11888

Altitude: 1307 feet

Date drilled: 6/21/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		2	2
Gravel, very fine to medium, pebbly, sandy; upper part is oxidized-----		16	18
Gravel, very fine to medium, pebbly, very sandy; coarse in part; detrital lignite-----		48	66
Clay, silty, sandy, pebbly, olive-gray (till)-----		14	80

133-061-12BBB
NDSWC 11889

Altitude: 1307 feet

Date drilled: 6/22/82

Alluvium and glacial drift:

Clay, silty, dark-brown; organic inclusions-----	6	6
Clay, silty, brown-----	6	12
Gravel, fine to medium, pebbly, sandy; coarse in part-----	22	34
Clay, silty, sandy, pebbly, olive-gray (till)-----	115	149

Niobrara Formation:

Shale, dark-brownish-gray; calcareous; small white inclusions-----	11	160
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133-061-12DAA
NDSWC 11899

Altitude:	1312 feet	Date drilled:	6/28/82
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Clay, silty, brownish-gray; abundant organic inclusions-----	3	3
Glacial drift:			
	Gravel, coarse to very coarse, pebbly, cobbly-----	26	29
	Clay, silty, sandy, olive-gray; poor samples-----	29	58
	Boulder-----	1	59
	Clay, silty, sandy, pebbly, olive-gray (till)-----	17	76

133-061-13AAD
USBR DH71-18

Altitude:	1305 feet	Date drilled:	3/18/71
Alluvium:			
	Soil, black-----	2	2
	Clay, silty, sandy, gray; abundant gastropod shells-----	13	15
Glacial drift:			
	Clay, silty, gray-----	9	24
	Sand, fine to coarse, gray-----	15	39
	Clay, silty, sandy, pebbly, gray (till)-----	1	40

133-061-13BAC
NDSWC 11901A

Altitude: 1305 feet

Date drilled: 6/29/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, olive-brown, oxidized-----	11	11
	Clay, silty, olive-gray-----	12	23
	Sand, fine to medium, gray-----	10	33
	Gravel, very fine to very coarse, pebbly; some detrital lignite-----	3	36
	Clay, silty, sandy, pebbly, olive-gray (till)-----	24	60

133-061-13DDA
NDSWC 11915

Altitude: 1300 feet

Date drilled: 7/08/82

Alluvium:

Clay, silty, brown;
organic inclusions----- 4 4

Glacial drift:

Clay, silty, yellowish-
brown to olive-brown----- 3 7

Clay, silty, olive-gray;
mottled with iron-oxide
stains----- 14 21

Clay, silty, olive-gray----- 36 57

Clay, silty, pebbly,
olive-gray (till)----- 23 80

133-061-14BBC
USBR L-16

Altitude: 1331 feet Date drilled: 7/21/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Loam, sandy-----	2	2
	Loam, clayey, silty-----	13	15
	Loam, fine, sandy-----	15	30

133-061-23CDD
NDSWC 6131

Altitude: 1378 feet Date drilled: 9/09/82

Glacial drift:			
	Soil-----	1	1
	Gravel, fine to medium, pebbly, sandy-----	32	33
	Sand, coarse to very coarse, very pebbly-----	7	40
	Clay, silty, sandy, pebbly, olive-gray (till)-----	7	47
	Silt, olive-gray-----	19	66
	Clay, silty, sandy, pebbly, olive-gray (till?)-----	16	82

133-061-35CCC
NDSWC 6132

Altitude: 1420 feet Date drilled: 9/09/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		16	17
Clay, silty, sandy, pebbly, olive-gray (till)-----		23	40
Sand, coarse to very coarse-----		3	43
Silt, clayey, olive-gray-----		10	53
Clay, silty, sandy, pebbly, olive-gray (till)-----		3	56
Sand, very coarse, pebbly-----		3	59
Clay, silty, sandy, pebbly, olive-gray (till)-----		8	67
Sand(?), very fine(?); no samples-----		4	71
Clay, silty, sandy, pebbly, olive-gray (till)-----		14	85
Clay, silty, olive-gray; very silty in part-----		14	99
Silt, olive-gray-----		12	111
Clay, silty, sandy, pebbly, olive-gray to brownish- gray (till)-----		18	129
Clay, silty, sandy, pebbly, olive-gray (till); sand from 152 to 154 feet-----		45	174
Sand, very coarse, pebbly-----		4	178
Clay, silty, sandy, pebbly, olive-gray (till)-----		8	186
Silt, clayey, olive-gray to brownish-gray-----		9	195
Clay, silty, very pebbly, olive-gray (till)-----		67	262
Niobrara Formation(?):			
Shale, brown to brownish- gray-----		30	292

134-060-07CCC
NDSWC 10941

Altitude: 1402 feet Date drilled: 6/04/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	14	14
	Sand, medium to coarse; oxidized from 14 to 24 feet-----	16	30
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel lenses from 103 to 118 feet-----	127	157
	Shale, light-gray, non- calcareous; ice-thrust block-----	22	179
	Sand, silty, gray; with sandy silt, wood frag- ments, and abundant detrital lignite-----	221	400

134-060-08DCC
NDSWC 10943

Altitude: 1413 feet Date drilled: 6/05/79

Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	15	15
	Clay, silty, sandy, pebbly, olive-gray (till)-----	30	45
	Sand, medium to coarse-----	7	52
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 102 to 105 feet-----	102	154

Pierre Shale:			
	Shale, black, noncalcareous; light gray in part-----	26	180

134-060-17ADD
NDSWC 6257

Altitude:	1423 feet	Date drilled:	8/15/83
<u>GEOLOGIC</u>		<u>THICKNESS</u>	<u>DEPTH</u>
<u>SOURCE</u>	<u>MATERIAL</u>	(FEET)	(FEET)
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		20	21
Clay, silty, sandy, pebbly, olive-gray (till)-----		87	108
Silt, clayey, olive-gray-----		4	112
Clay, silty, sandy, pebbly, olive-gray (till)-----		14	126
Clay, gray to black-----		10	136
Pierre Shale:			
Shale, gray to black-----		46	182

134-060-18AAA
NDSWC 10942A

Altitude:	1415 feet	Date drilled:	6/05/79
<u>GEOLOGIC</u>		<u>THICKNESS</u>	<u>DEPTH</u>
<u>SOURCE</u>	<u>MATERIAL</u>	(FEET)	(FEET)
Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		14	14
Clay, silty, sandy, pebbly, olive-gray (till); sand from 30 to 33 feet-----		28	42
Gravel, sandy-----		8	50
Clay, silty, sandy, pebbly, olive-gray (till)-----		147	197
Pierre Shale:			
Shale, black, noncalcareous, fissile; light gray in part-----		23	220

134-060-20ADD
NDSWC 6256

Altitude: 1400 feet Date drilled: 8/11/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, yellowish-brown, oxidized-----		9	10
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		10	20
Clay, silty, sandy, pebbly, olive-gray (till)-----		8	28
Sand, medium to coarse; sandy clay from 46 to 48 feet-----		21	49
Shale, black; ice-thrust block-----		14	63
Clay, dark-gray (till?); abundant macerated shale and shale pebbles-----		11	74
Clay, silty, sandy, olive-green to olive-gray-----		21	95
Silt, clayey, greenish-gray-----		36	131
Clay, silty, sandy, pebbly, brownish-gray (till); interbedded with gravel from 148 to 151 feet-----		71	202
Shale, dark-gray, bentonitic; ice-thrust block-----		20	222
Clay, silty, sandy, pebbly, cobbly, brown (till?); gravel from 240 to 242 feet-----		53	275
Clay, silty, sandy, brown-----		36	311
Sand, very coarse, pebbly-----		14	325
Niobrara Formation:			
Shale, yellowish-orange, very calcareous-----		27	352

134-060-28AAA
NDSWC 11282

Altitude: 1417 feet

Date drilled: 7/10/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand(?); no samples-----		6	7
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		10	17
Clay, silty, sandy, pebbly, olive-gray (till); sand from 21 to 23 and 47 to 49 feet-----		228	245
Niobrara Formation:			
Shale, olive-gray, calcareous-----		15	260

134-060-28ADD
NDSWC 11283

Altitude: 1412 feet

Date drilled: 7/11/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		17	18
Clay, silty, sandy, pebbly, olive-gray (till)-----		5	23
Sand, medium-----		6	29
Clay, silty, sandy, pebbly, olive-gray (till)-----		147	176
Sand, medium-----		24	200
Gravel, sandy; cobble in part-----		5	205
Clay, silty, sandy, pebbly, olive-gray (till)-----		5	210
Sand and gravel-----		4	214
Clay, silty, sandy, pebbly, olive-gray (till)-----		33	247
Pierre Shale(?):			
Shale, black-----		2	249
Niobrara Formation(?) :			
Shale, olive-gray; no samples-----		11	260

134-060-29AAA
NDSWC 11281

Altitude: 1402 feet

Date drilled: 7/10/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		11	12
Clay, silty, sandy, pebbly, olive-gray (till); fine sand from 22 to 25 feet-----		46	58
Clay, silty, sandy, pebbly, olive-gray (till)-----		127	185
Clay, olive-gray-----		16	201
Sand, coarse; some gravel beds-----		55	256
Niobrara Formation:			
Shale, olive-gray, calcareous-----		4	260

134-060-29BBB1
NDSWC 11280

Altitude: 1378 feet

Date drilled: 7/09/80

Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		12	13
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with sand and gravel from 25 to 35, 43 to 45, 60 to 70, 124 to 126, and 142 to 146 feet-----		140	153
Sand, medium-----		170	323
Clay, olive-gray-----		11	334
Sand, medium-----		13	347
Clay, olive-gray-----		4	351
Sand, medium-----		76	427

134-060-29DAA
NDSWC 6255

Altitude: 1411 feet Date drilled: 8/08/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		23	24
Sand, fine to coarse-----		6	30
Clay, silty, sandy, pebbly, olive-gray (till); sand from 47 to 49 feet; gravel from 62 to 65 feet-----		156	186
Gravel, fine, pebbly, sandy-----		14	200
Gravel, fine to medium, pebbly-----		30	230
Gravel, coarse, pebbly-----		34	264
Niobrara Formation:			
Shale, brownish-gray-----		28	292

134-060-29DDD
NDSWC 6254

Altitude: 1406 feet

Date drilled: 8/05/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, dark-yellowish-green, oxidized-----		6	7
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		12	19
Clay, silty, sandy, pebbly, olive-gray (till)-----		4	23
Silt; no description-----		4	27
Sand, medium-----		10	37
Clay, silty, sandy, pebbly, olive-gray (till)-----		35	72
Sand, very coarse, pebbly-----		6	78
Clay, silty, sandy, pebbly, olive-gray (till)-----		90	168
Silt, olive-gray; interbedded with clay and sandy clay-----		12	180
Sand, very coarse, pebbly; interbedded with gravel-----		20	200
Gravel, fine to coarse, pebbly-----		27	227
Clay, sandy; poor samples-----		5	232
Clay, silty, sandy, pebbly, brownish-gray (till)-----		5	237
Niobrara Formation:			
Shale, brown-----		25	262

134-060-30BBBB
NDSWC 6260

Altitude: 1413 feet

Date drilled: 8/16/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, yellowish-brown, oxidized-----		14	15
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		9	24
Sand, medium to very coarse, pebbly, oxidized-----		15	39
Clay, silty, sandy, pebbly, olive-gray (till); sand from 41 to 44 feet-----		16	55
Sand, pebbly-----		8	63
Clay, silty, sandy, pebbly, olive-gray (till); interbedded with gravel from 209 to 213 feet-----		155	218
Sand, medium to very coarse, pebbly-----		20	238
Pierre Shale:			
Shale, olive-gray to brown-----		34	272

134-060-30CBB
NDSWC 6261

Altitude:	1404 feet	Date drilled:	8/17/83
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		9	10
Clay, silty, sandy, pebbly, olive-gray (till); fine sand from 16 to 18 feet-----		11	21
Sand, medium to coarse-----		7	28
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 47 to 49 and 57 to 59 feet-----		115	143
Clay, silty, sandy, olive- gray to brown-----		9	152
Clay, silty, sandy, pebbly, olive-gray (till)-----		7	159
Shale, gray to black; ice- thrust block-----		38	197
Gravel, fine, pebbly, sandy-----		15	212
Pierre Shale:			
Shale, black, noncalcareous-----		30	242

134-060-33BCC
NDSWC 6253

Altitude: 1405 feet Date drilled: 8/03/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Silt, yellowish-brown, oxidized-----		7	8
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		11	19
Sand, fine, oxidized-----		7	26
Clay, silty, sandy, pebbly, olive-gray (till); sand from 30 to 32 feet-----		153	179
Sand, very coarse, pebbly-----		26	205
Gravel, medium to coarse, pebbly-----		34	239
Niobrara Formation:			
Shale, brown-----		13	252

134-061-03AAA
NDSWC 6207

Altitude: 1435 feet Date drilled: 6/29/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	15	15	
Sand, medium, oxidized; pebbly at base-----	5	20	
Clay, silty, sandy, pebbly, olive-gray (till)-----	103	123	
Clay, silty, olive-gray-----	7	130	
Silt, olive-gray; inter- bedded with fine sand-----	35	165	
Clay, silty, sandy, pebbly, olive-gray (till)-----	12	177	
Silt, olive-gray; inter- bedded with fine sand-----	6	183	
Gravel, fine to coarse, pebbly-----	3	186	
Clay, silty, sandy, pebbly, olive-gray (till)-----	11	197	
Pierre Shale:			
Shale, dark-brown to black, very carbonaceous, waxy-----	16	213	

134-061-03CCD
(Log modified from Traut Wells Inc.)

Altitude: 1440 feet Date drilled: 8/03/81

Soil-----	2	2
Clay, brown-----	39	41
Gravel, coarse, cobbly-----	3	44
Clay, gray-----	2	46
Clay, brown-----	2	48
Clay, gray, hard-----	138	186
Clay, gray, hard; pebbles-----	94	280

134-061-04AAA
NDSWC 6113

Altitude: 1431 feet

Date drilled: 8/27/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand, fine, oxidized-----		11	12
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		13	25
Clay, silty, sandy, pebbly, olive-gray (till)-----		3	28
Sand, coarse, pebbly-----		6	34
Clay, silty, sandy, pebbly, olive-gray (till)-----		10	44
Clay, very silty-----		10	54
Clay, silty, sandy, pebbly, dark-orangish-brown, oxidized (till)-----		1	55
Clay, silty, sandy, pebbly, olive-gray (till)-----		18	73
Clay, medium-gray to olive-gray-----		8	81
Clay(?), very silty(?); no samples-----		20	101
Silt(?); interbedded with sand; no samples-----		12	113
Clay, silty, sandy, pebbly, brownish-gray (till); sandy from 170 to 193 feet-----		83	196
Gravel, fine, pebbly, sandy; interbedded with sandy clay-----		24	220
Clay, silty, sandy, medium- gray-----		27	247
Sand, very coarse, pebbly; coarse in part-----		28	275
Pierre Shale:			
Shale, dark-gray, non- calcareous-----		7	282

134-061-04BAB
NDSWC 6115

Altitude: 1313 feet

Date drilled: 8/30/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Silt, dark-brown; abundant organic material-----		9	10
Silt, yellowish-brown, oxidized-----		8	18
Sand, coarse to very coarse; bivalve shell fragments-----		2	20
Sand(?), fine(?), silty(?); no samples-----		2	22
Sand, coarse to very coarse; bivalve shell fragments-----		4	26
Silt, olive-gray-----		11	37
Clay, olive-gray-----		8	45
Clay, silty, olive-gray; interbedded with clayey silt-----		10	55
Clay, silty, sandy, pebbly, medium-gray to olive-gray (till)-----		21	76
Clay, silty, sandy, pebbly, medium-gray to dark-gray (till)-----		12	88
Gravel, fine, pebbly, sandy-----		9	97
Sand, very coarse-----		21	118
Gravel, coarse, pebbly, sandy-----		2	120
Sand, coarse to very coarse, sandy-----		14	134
Clay, medium-gray-----		4	138

134-061-04CBA
USBR 150

Altitude: 1312 feet Date drilled: 9/08/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Loam, silty-----	6	6
	Clay, silty, dense, oxidized-----	7	13
	Loam, very dense-----	2	15
	Gravel, coarse, sandy-----	5	20

134-061-04DDD
NDSWC 10944

Altitude: 1436 feet Date drilled: 6/05/79

Glacial drift:

Clay, silty, sandy, pebbly, pale-yellowish-brown, oxidized (till); iron- oxide stains-----	24	24
Sand, medium to coarse, pebbly, oxidized-----	14	38
Clay, silty, sandy, pebbly, olive-gray (till)-----	195	233
Sand, coarse to very coarse, very pebbly-----	35	268

Pierre Shale:

Shale, light-gray to dark- gray, noncalcareous-----	12	280
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134-061-05AAB
NDSWC 6110

Altitude: 1318 feet Date drilled: 8/25/82

Glacial drift:

Soil-----	1	1
Gravel, fine to medium, sandy; coarse in part-----	39	40
Sand, very coarse-----	8	48
Gravel, coarse, pebbly, cobbly-----	5	53
Clay, silty, sandy, pebbly, olive-gray (till)-----	9	62

134-061-05CCB
 (Log modified from M & W Exploration & Water Well, Inc.)

Altitude: 1320 feet Date drilled: 10/09/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		2	2
Sand, brown-----		18	20
Sand, gray; with coarse gravel-----		8	28
Gravel, cobbly-----		27	55

134-061-05DCD2
 NDSWC 6206

Altitude: 1320 feet Date drilled: 6/28/83

Glacial drift:

Gravel, fine to very coarse, pebbly, sandy; oxidized from 0 to 20 feet-----	25	25
Clay, silty, sandy, pebbly, olive-gray (till)-----	105	130

Pierre Shale:

Shale, dark-brown, pyritic, very carbonaceous-----	13	143
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134-061-06CBB
NDSWC 11278

Altitude: 1442 feet

Date drilled: 7/08/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	2	2
	Clay, silty, sandy, pebbly, dark-yellowish-brown, oxidized (till)-----	24	26
	Clay, silty, sandy, pebbly, olive-gray (till)-----	38	64
	Sand, fine, clayey, brown-----	14	78
	Gravel, sandy-----	2	80
	Clay, silty, sandy, pebbly, olive-gray (till?)-----	32	112
	Sand and gravel; inter- bedded with sandy clay-----	8	120
	Clay, silty, sandy, pebbly, olive-gray (till)-----	122	242
	Sand, coarse-----	23	265
	Gravel-----	9	274
Pierre Shale:			
	Shale, olive-black, non- calcareous; some bentonite-----	6	280

134-061-07DCD
NDSWC 6117

Altitude:	1432 feet	Date drilled:	8/31/82
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, dark-brown-----	5	5
	Clay, silty, pebbly, yellowish-brown to dark-yellowish-orange, oxidized (till)-----	18	23
	Clay, silty, pebbly, olive-gray (till)-----	22	45
	Gravel, fine, pebbly, sandy; interbedded with clay-----	5	50
	Clay, silty, sandy, pebbly, olive-gray (till)-----	10	60
	Silt, olive-gray; inter- bedded with sandy gravel-----	20	80
	Clay, silty, sandy, pebbly, olive-gray to medium- gray (till); interbedded with gravel and sand-----	42	122
	Clay, silty, sandy, pebbly, olive-gray (till)-----	160	282
Pierre Shale:			
	Shale, gray to brownish- gray-----	10	292

134-061-08CDA
(Log modified from Traut Wells Inc.)

Altitude:	1318 feet	Date drilled:	3/11/81
	Soil-----	2	2
	Clay, brown-----	7	9
	Sand; with gravel-----	3	12
	Clay, brown-----	10	22
	Sand; with gravel-----	7	29
	Clay, gray-----	2	31
	Sand, coarse-----	17	48
	Clay, gray-----	12	60

134-061-08DBA
NDSWC 6119

Altitude: 1309 feet Date drilled: 8/31/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Soil-----	1	1
	Clay, silty, brown-----	4	5
Glacial drift:			
	Sand, medium to very coarse, oxidized-----	14	19
	Silt(?); no samples-----	3	22
	Gravel, fine to coarse, sandy-----	15	37
	Clay, silty, pebbly, olive-gray (till)-----	15	52

134-061-10CBB
NDSWC 6208

Altitude: 1414 feet Date drilled: 6/29/83

Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	25	25
	Gravel, fine to coarse, pebbly, oxidized-----	8	33
	Clay, silty, sandy, pebbly, olive-gray (till)-----	54	87
	Gravel; no description-----	2	89
	Clay, very silty, sandy, pebbly, greenish-gray (till); some silt beds-----	89	178
	Clay, silty, sandy, pebbly, medium-gray (till)-----	50	228
	Gravel, fine to coarse-----	16	244
Pierre Shale:			
	Shale, dark-gray, waxy-----	19	263

134-061-11AAA
NDSWC 10937

Altitude: 1411 feet

Date drilled: 5/24/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	14	14
	Clay, silty, sandy, pebbly, olive-gray (till)-----	9	23
	Sand, medium to coarse; till beds from 43 to 47 and 52 to 56 feet-----	41	64
	Clay, silty, sandy, pebbly, olive-gray (till)-----	43	107
	Sand and gravel; inter- bedded with till-----	21	128
	Sand, pebbly-----	31	159
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 166 to 168 feet-----	60	219
	Clay, grayish-brown and light-green-----	40	259
Pierre Shale:			
	Shale, black, noncalcareous-----	21	280

134-061-13DAD
NDSWC 6259

Altitude: 1416 feet

Date drilled: 8/16/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, yellowish-brown, oxidized; inter- bedded with sand-----		21	22
Sand, medium to very coarse, pebbly; abundant detrital shale-----		17	39
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 50 to 52 feet-----		25	64
Sand, pebbly; abundant detrital shale-----		8	72
Clay, silty, sandy, pebbly, olive-gray (till); sand and silt from 104 to 106 feet-----		40	112
Sand, fine, silty, clayey; abundant detrital shale-----		25	137
Gravel, fine to medium, pebbly, sandy-----		123	260
Gravel, coarse, pebbly, cobble-----		19	279
Pierre Shale:			
Shale, brownish-black; bentonite beds-----		33	312

134-061-14AAA
NDSWC 10938

Altitude: 1425 feet

Date drilled: 5/23/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	18	18
	Sand, fine to medium-----	18	36
	Clay, silty, sandy, pebbly, olive-gray (till)-----	14	50
	Sand, medium; interbedded with till-----	16	66
	Clay, silty, sandy, pebbly, olive-gray (till)-----	7	73
	Sand, medium-----	5	78
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 83 to 86 feet-----	59	137
	Sand and gravel-----	4	141
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 151 to 153, 224 to 229, and 246 to 248 feet-----	119	260
	Sand and gravel-----	4	264
	Clay, silty, sandy, pebbly, olive-gray (till); cobbly from 325 to 336 feet-----	76	340

134-061-14DDD
NDSWC 10939

Altitude: 1420 feet

Date drilled: 5/25/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Clay, silty, pebbly, pale-yellowish-brown, oxidized (till)-----	21	21
Sand, medium to coarse, oxidized; coarse and pebbly from 21 to 33 feet-----	12	33
Clay, silty, sandy, pebbly, olive-gray (till)-----	16	49
Sand, fine to very coarse-----	11	60
Clay, silty, sandy, pebbly, olive-gray (till); sand lenses from 73 to 75 and 91 to 94 feet-----	165	225
Gravel, sandy; wood frag- ments; some clay lenses-----	50	275

Pierre Shale:

Shale, dark-gray, noncalcareous-----	5	280
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134-061-15CCD
NDSWC 6123

Altitude: 1319 feet

Date drilled: 9/02/82

Glacial drift:

Soil-----	1	1
Gravel, fine to coarse, pebbly, sandy, cobbley-----	22	23
Sand, coarse to very coarse-----	10	33
Sand, fine to medium-----	9	42
Clay, sandy, olive-gray-----	11	53
Clay, silty, sandy, pebbly, olive-gray (till)-----	29	82

134-061-16AAB
NDSWC 6205

Altitude:	1308 feet	Date drilled:	6/28/83
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Soil-----	1	1
	Silt; sandy in part; clayey in part; bivalve fragments-----	17	18
Glacial drift:			
	Gravel, fine, pebbly, sandy-----	2	20
	Clay, greenish-gray-----	4	24
	Gravel, fine to very coarse, pebbly; cobble in part-----	25	49
	Clay, silty, sandy, pebbly, olive-gray (till)-----	14	63

134-061-16ABB
NDSWC 6118

Altitude:	1310 feet	Date drilled:	8/31/82
Alluvium and glacial drift:			
	Clay, silty, dark-brown-----	5	5
	Clay, silty, yellowish- brown, oxidized-----	3	8
	Clay, yellowish-brown, oxidized-----	22	30
	Clay, silty, sandy, pebbly, olive-gray (till)-----	12	42
	Gravel, fine, pebbly, sandy; abundant gray detrital shale-----	2	44
	Clay, silty, sandy, pebbly, olive-gray (till)-----	5	49
	Clay, silty, sandy, pebbly, medium-gray (till); first 2 feet of unit oxidized-----	13	62

134-061-16BCB
NDSWC 6204

Altitude: 1314 feet Date drilled: 6/29/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Clay, yellowish-brown, oxidized-----	9	10	
Gravel, fine to coarse, pebbly; oxidized from 10 to 18 feet-----	34	44	
Clay, silty, sandy, pebbly, olive-gray (till)-----	19	63	

134-061-16CDD
(Log modified from Traut Wells Inc.)

Altitude: 1310 feet Date drilled: 5/12/75

Soil-----	3	3
Sand, brown; with gravel-----	18	21
Sand, gray; with coarse gravel-----	19	40
Boulders-----	3	43
Clay, gray-----	17	60

134-061-17AAB
(Log modified from Traut Wells Inc.)

Altitude: 1315 feet Date drilled: 5/16/81

Clay, brown-----	19	19
Sand, coarse; with gravel-----	34	53
Clay, gray-----	7	60

134-061-17DDB
(Log modified from Traut Wells Inc.)

Altitude: 1345 feet Date drilled: 8/10/76

Sand, brown-----	25	25
Clay, gray-----	12	37
Sand, brown-----	40	77
Clay, gray-----	13	90

134-061-20AAD1
(Log modified from Traut Wells Inc.)

Altitude: 1332 feet Date drilled: 9/18/74

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Clay, brown-----	28	28
	Gravel, coarse, brown-----	12	40
	Gravel, coarse, gray-----	8	48
	Silt, gray-----	2	50
	Clay, gray-----	10	60

134-061-20BBB
NDSWC 6121

Altitude: 1429 feet Date drilled: 9/01/82

Glacial drift:

Soil-----	1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	29	30
Clay, silty, sandy, pebbly, olive-gray (till)-----	27	57
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	2	59
Clay, silty, sandy, pebbly, olive-gray (till)-----	3	62
Clay, very sandy, olive- gray-----	8	70
Clay, sandy, olive-gray; interbedded with silt-----	21	91
Silt, clayey, olive-gray; interbedded with some sand and gravel-----	4	95
Clay, sandy, olive-gray-----	30	125
Clay, silty, sandy, pebbly, olive-gray (till?); contains silt, sand, and gravel beds-----	55	180
Clay, silty, sandy, pebbly, olive-gray (till)-----	62	242
Clay, silty, sandy, pebbly, gray to dark-brownish- gray (till)-----	46	288

Niobrara Formation:

Shale, brownish-gray-----	14	302
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134-061-20DDA
NDSWC 6120

Altitude: 1342 feet Date drilled: 8/30/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Clay, very silty, brown-----	3	4	
Silt, yellowish-brown, oxidized; clayey to very clayey in part-----	14	18	
Sand, fine to coarse, oxidized; interbedded with clay and silt from 24 to 30 feet-----	12	30	
Gravel, fine to coarse, pebbly, sandy; inter- bedded with clay from 79 to 87 feet; very coarse and cobbly from 87 to 88 feet-----	58	88	
Clay, silty, sandy, pebbly, olive-gray (till)-----	14	102	

134-061-21DBD2
(Log modified from Traut Wells Inc.)

Altitude: 1310 feet Date drilled: 7/11/74

Sand, brown-----	30	30
Sand, brown, and gravel-----	25	55

134-061-22BBD
(Log modified from Traut Wells Inc.)

Altitude: 1319 feet Date drilled: 9/23/76

Sand, brown-----	18	18
Clay, gray-----	6	24
Sand, coarse, gray-----	28	52

134-061-22CAC
(Log modified from L.T.P. Enterprises Inc.)

Altitude: 1317 feet Date drilled: 7/12/75

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil, black-----	1	1	
Clay, brown-----	2	3	
Sand, brown-----	19	22	
Gravel-----	23	45	
Clay, sandy-----	17	62	

134-061-22DAC
(Log modified from Traut Wells Inc.)

Altitude: 1317 feet Date drilled: 5/04/81

Soil-----	2	2
Clay, sandy, brown-----	7	9
Gravel, coarse; rocks-----	3	12
Sand, coarse; with gravel-----	40	52
Sand, medium; with detrital lignite-----	7	59
Sand, coarse; with gravel-----	21	80
Gravel; with clay-----	5	85
Clay-----	12	97

134-061-23CCC
NDSWC 6124

Altitude: 1314 feet Date drilled: 9/02/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Gravel, fine to coarse, pebbly, sandy, cobbly-----	21	22	
Gravel, fine, pebbly, sandy-----	14	36	
Gravel, fine to coarse, pebbly, sandy, cobbly-----	6	42	
Gravel, fine, pebbly, sandy-----	16	58	
Silt(?); no samples-----	4	62	
Sand, coarse to very coarse, pebbly; possibly interbedded with clay-----	8	70	
Gravel, fine to medium, pebbly, sandy-----	4	74	
Cobbles and pebbles-----	2	76	
Clay, silty, sandy, pebbly, olive-gray (till)-----	26	102	

134-061-23DCB
NDSWC 6125

Altitude: 1308 feet Date drilled: 9/02/82

Alluvium and glacial drift:			
Soil-----	1	1	
Sand, very fine, silty, clayey, brown; gastropod shells-----	13	14	
Silt, very clayey, brown-----	8	22	
Sand, very fine, silty, clayey, brown; cobbly zone at 28 feet; gastropod shells-----	7	29	
Silt, brown; interbedded with clay-----	8	37	
Clay, silty, sandy, pebbly, medium-gray (till)-----	25	62	

134-061-24DAA
NDSWC 6258

Altitude: 1414 feet Date drilled: 8/15/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Soil-----	1	1
Silt, sandy, oxidized-----	7	8
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	8	16
Sand, medium to coarse; oxidized from 16 to 27 feet; silty clay from 27 to 29 feet; abundant detrital shale-----	20	36
Clay, silty, sandy, pebbly, olive-gray (till)-----	10	46
Clay, silty, olive-gray-----	11	57
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with sand and gravel from 78 to 86 feet-----	37	94
Clay, silty, olive-gray; interbedded with sand-----	13	107
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with thin beds of sand and gravel-----	52	159
Clay, gray to black; brown in part-----	44	203
Gravel, fine to medium, pebbly; coarse in part-----	24	227
Sand, medium to very coarse, pebbly-----	17	244

Pierre Shale:

Shale, gray to black; bentonite beds-----	38	282
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134-061-24DCC
NDSWC 10940

Altitude: 1412 feet

Date drilled: 5/28/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, pale-yellowish-brown, oxidized (till); iron- oxide stains-----	20	20
	Sand, medium to coarse, pebbly, oxidized-----	7	27
	Clay, silty, sandy, pebbly, pale-yellowish-brown, oxidized (till); iron- oxide stains-----	4	31
	Clay, silty, sandy, pebbly, olive-gray (till); sand lenses from 51 to 53 and 63 to 66 feet-----	155	186
	Sand, coarse to very coarse, pebbly-----	7	193
	Clay, silty, sandy, pebbly, olive-gray (till)-----	25	218
	Boulders and cobbles-----	2	220
	Sand, coarse to very coarse, pebbly; detrital lignite-----	22	242
Pierre Shale:			
	Shale, light-gray to dark- gray-----	23	265
Niobrara Formation:			
	Shale, brownish-gray, calcareous; small white calcareous inclusions-----	15	280

134-061-25BBB
NDSWC 6126

Altitude: 1311 feet Date drilled: 9/02/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Clay, silty, dark-brown; organic inclusions-----	4	4
Glacial drift:	Gravel, fine to medium, pebbly, sandy, oxidized; interbedded with clay or silt from 17 to 22 feet-----	18	22
	Sand, coarse to very coarse-----	30	52
	Gravel, fine to coarse, pebbly, cobbly-----	25	77
	Clay, silty, sandy, pebbly, olive-gray (till)-----	25	102

134-061-25DDD
NDSWC 6262

Altitude: 1410 feet Date drilled: 8/18/83

Glacial drift:	Clay, silty, sandy, yellowish-brown, oxidized-----	8	8
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	8	16
	Sand, fine, oxidized-----	17	33
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 53 to 56 and 100 to 102 feet-----	132	165
	Sand, pebbly; clay beds from 192 to 197 feet-----	33	198
	Clay(?); no samples-----	5	203
	Gravel, sandy, cobbly-----	17	220

Pierre Shale:	Shale, black, noncalcareous-----	17	237
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Niobrara Formation:	Shale, brown, calcareous; small white inclusions-----	15	252
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134-061-26DBC
NDSWC 6214

Altitude: 1309 feet

Date drilled: 7/06/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, yellowish- brown to olive-brown, oxidized-----		12	13
Gravel, fine to coarse, pebbly-----		32	45
Clay, olive-gray-----		3	48
Gravel, very coarse, cobbly-----		15	63
Clay, silty, medium-gray; abundant detrital lignite-----		10	73

134-061-28CDD
NDSWC 6122

Altitude: 1424 feet

Date drilled: 9/01/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		41	42
Clay, silty, sandy, pebbly, olive-gray (till)-----		13	55
Clay, very silty, sandy, olive-gray-----		18	73
Gravel, fine to coarse, pebbly, clayey-----		3	76
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till?)-----		2	78
Clay, silty, sandy, pebbly, olive-gray (till?)-----		4	82
Sand, coarse to very coarse, pebbly, clayey(?); abundant gray detrital shale-----		9	91
Clay, silty, sandy, pebbly, olive-gray (till); some gravel lenses-----		35	126
Clay, very silty, sandy, olive-gray-----		14	140
Silt, clayey, brownish- gray; interbedded with sand from 176 to 188 feet-----		59	199
Clay, silty, sandy, pebbly, olive-gray (till)-----		57	256
Gravel, fine to coarse, pebbly, sandy; abundant detrital shale-----		12	268
Clay, silty, sandy, pebbly, dark-gray (till)-----		19	287
Niobrara Formation:			
Shale, brownish-gray, very calcareous-----		15	302

134-061-30DDC
NDSWC 6127

Altitude: 1424 feet Date drilled: 9/03/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	3	3	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	15	18	
Clay, silty, sandy, pebbly, olive-gray (till)-----	9	27	
Gravel, fine, pebbly, sandy-----	4	31	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	2	33	
Clay, silty, sandy, pebbly, olive-gray (till)-----	34	67	
Clay, sandy, gray; with silty clay; interbedded with sand-----	18	85	
Gravel, fine to medium, pebbly, sandy-----	24	109	
Clay, silty, medium-gray-----	11	120	
Clay, very silty, sandy, pebbly, medium-gray (till?)-----	32	152	
Clay, silty, sandy, pebbly, olive-gray (till); sand lens from 261 to 263 feet-----	135	287	
Niobrara Formation:			
Shale, brownish-gray, very calcareous-----	15	302	

134-061-34ACA
(Log modified from Traut Wells Inc.)

Altitude: 1328 feet Date drilled: 8/22/74

Sand, fine, brown-----	25	25
Sand, coarse, brown-----	5	30
Clay, gray-----	10	40
Sand, fine, gray-----	10	50
Sand, gray-----	28	78

134-061-35DDC
NDSWC 11914

Altitude: 1300 feet Date drilled: 7/07/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Clay, silty, dark-brown; organic debris-----	15	15
	Clay, silty, sandy, black; abundant bivalve shells-----	1	16
Glacial drift:			
	Clay, silty, olive-gray-----	4	20
	Cobbles, pebbles, and sand-----	3	23
	Clay, silty, pebbly, olive-gray (till)-----	17	40

134-061-36ADD
NDSWC 6263

Altitude: 1411 feet Date drilled: 8/18/83

Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); fine sand from 3 to 6 feet-----	22	22
	Sand, medium to coarse-----	15	37
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 53 to 57 feet-----	175	212
	Sand, medium to coarse; gravel beds; clay beds from 217 to 220 feet-----	8	220
Pierre Shale:			
	Shale, black, noncalcareous-----	3	223
Niobrara Formation:			
	Shale, brown, calcareous; small white inclusions-----	19	242

134-062-01DDD
NDSWC 11279

Altitude: 1435 feet

Date drilled: 7/08/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, dark-yellowish-brown, oxidized (till)-----	25	25
	Clay, silty, sandy, pebbly, olive-gray (till)-----	41	66
	Sand, fine, silty-----	12	78
	Clay, silty, sandy, pebbly, olive-gray (till?); interbedded with sand and gravel from 111 to 114 feet-----	36	114
	Clay, silty, sandy, pebbly, olive-gray (till)-----	39	153
	Sand and gravel-----	4	157
	Clay, silty, sandy, pebbly, olive-gray (till)-----	99	256
	Sand and gravel-----	3	259
Pierre Shale:			
	Shale, dark-gray, noncalcareous-----	21	280

134-062-03AAA
NDSWC 6194

Altitude: 1457 feet

Date drilled: 6/23/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		57	58
Clay, silty, sandy, pebbly, olive-gray (till)-----		21	79
Clay, very sandy, dark- brownish-gray-----		8	87
Clay, silty, sandy, pebbly, olive-gray (till)-----		18	105
Silt, slightly clayey, olive-gray; some gravel lenses-----		7	112
Clay, silty, sandy, pebbly, olive-gray (till); cobbly from 112 to 133 feet; interbedded with silty clay from 163 to 173 feet-----		66	178
Gravel, fine to coarse, pebbly, sandy; inter- bedded in parts with silt, sandy clay, and clay; abundant detrital lignite-----		65	243
Sand, medium to coarse-----		14	257
Gravel, coarse, pebbly, cobbly-----		7	264
Pierre Shale:			
Shale, dark-gray, thinly laminated; bentonite beds-----		19	283

134-062-04CCC
NDSWC 6202

Altitude: 1476 feet

Date drilled: 6/28/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	17	17
	Sand, fine to coarse; abundant detrital shale-----	11	28
	Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----	4	32
	Clay, silty, sandy, pebbly, olive-gray (till)-----	38	70
	Sand, coarse-----	5	75
	Silt, olive-gray-----	3	78
	Clay, silty, sandy, pebbly, olive-gray (till)-----	19	97
	Silt, brownish-gray; abundant detrital lignite-----	18	115
	Clay, silty, sandy, pebbly, olive-gray (till)-----	9	124
	Silt, clayey, olive-gray-----	4	128
	Gravel, fine to coarse, pebbly, sandy; inter- bedded with silt and detrital lignite gravel-----	72	200
Pierre Shale:			
	Shale, dark-gray; bentonite beds-----	13	213

134-062-06AAA
NDSWC 12256

Altitude: 1479 feet

Date drilled: 7/26/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----		17	18
Gravel, sandy, oxidized; abundant gray detrital shale-----		5	23
Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----		1	24
Clay, silty, sandy, pebbly, olive-gray (till)-----		77	101
Gravel, sandy (till); interbedded with clay; detrital lignite-----		8	109
Clay, silty, sandy, pebbly, olive-gray (till)-----		4	113
Clay, silty, sandy, pebbly, dark-olive-gray (till); abundant gray detrital shale-----		6	119
Clay, silty, sandy, pebbly, olive-gray; interbedded with some silty clay-----		7	126
Clay, silty, olive-gray-----		5	131
Clay, silty, sandy, pebbly, brownish-gray (till)-----		12	143
Gravel, fine to medium, pebbly, sandy; abundant detrital lignite near top of unit-----		40	183
Cobbles, pebbles, and coarse sand; boulder from 191 to 192 feet-----		14	197
Pierre Shale:			
Shale, medium-gray; dark gray in part; light-gray bentonite layer near top of unit-----		13	210

134-062-06BBB
NDSWC 6226

Altitude: 1480 feet

Date drilled: 7/13/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----	17	18
	Clay, silty, sandy, pebbly, olive-gray (till)-----	89	197
	Clay, very silty, sandy, pebbly, olive-gray (till); numerous silt lenses-----	42	149
Pierre Shale:			
	Shale, black, thinly laminated, fractured-----	14	163

134-062-09AAA
NDSWC 6195

Altitude:	1469 feet	Date drilled:	6/23/83
GEOLOGIC SOURCE	MATERIAL	THICKNESS (FEET)	DEPTH (FEET)
Glacial drift:			
	Soil-----	2	2
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	15	17
	Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----	16	33
	Clay, silty, sandy, pebbly, olive-gray (till)-----	58	91
	Silt(?), sandy; interbedded with gravel near base; no samples-----	10	101
	Clay, silty, sandy, pebbly, brownish-gray (till); many thin gravel lenses-----	31	132
	Clay, very silty, sandy, olive-gray-----	21	153
	Gravel, fine to coarse, pebbly, sandy; inter- bedded with silty clay from 183 to 193 feet; detrital lignite-----	110	263
	Sand, coarse; interbedded with some gravel and silt lenses-----	23	286
Pierre Shale:			
	Shale, dark-gray, carbona- ceous, waxy-----	17	303

134-062-09DDD
NDSWC 6196

Altitude: 1471 feet Date drilled: 6/23/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		20	21
Clay, silty, sandy, pebbly, olive-gray (till)-----		52	73
Sand, medium to coarse-----		8	81
Clay, silty, sandy, pebbly, olive-gray (till)-----		16	97
Silt, brownish-gray; inter- bedded with sandy clay and sand-----		5	102
Gravel, coarse, pebbly, sandy-----		1	103
Clay, silty, sandy, pebbly, olive-gray (till)-----		34	137
Silt, very clayey, sandy, pebbly, brownish-gray (till?)-----		20	157
Gravel; no description-----		6	163
Sand, coarse; detrital lignite gravel lenses-----		7	170
Gravel, fine to coarse, pebbly, sandy-----		13	183
Sand, very coarse; detrital lignite gravel lenses-----		10	193
Gravel, fine to coarse, pebbly, sandy; inter- bedded with silty clay from 217 feet-----		91	284
Pierre Shale:			
Shale, dark-gray, waxy-----		11	295

134-062-11CDC
NDSWC 6197

Altitude: 1455 feet

Date drilled: 6/24/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, very silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		9	10
Clay, silty, sandy, pebbly, yellowish-green, oxidized (till)-----		10	20
Silt, yellowish-green, oxidized-----		3	23
Clay, silty, sandy, very pebbly, yellowish-green, oxidized (till)-----		25	48
Clay, silty, sandy, very pebbly, olive-gray (till)-----		37	85
Sand, fine; clayey from 91 to 96 feet-----		11	96
Gravel, fine to coarse, pebbly, sandy-----		4	100
Clay, silty, sandy, pebbly, olive-gray (till); abundant gravel lenses-----		38	138
Gravel, fine to coarse-----		6	144
Clay, silty, sandy, pebbly, olive-gray (till)-----		74	218
Gravel, fine to coarse, pebbly, sandy; some detrital lignite-----		16	234
Pierre Shale:			
Shale, dark-gray; thinly laminated in part; abundant bentonite beds-----		9	243

Altitude: 1435 feet

Date drilled: 6/28/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Sand, coarse, oxidized-----	1	2	
Silt, yellowish-brown, oxidized-----	1	3	
Gravel, oxidized-----	1	4	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	11	15	
Clay, silty, sandy, pebbly, olive-gray (till)-----	34	49	
Sand, medium-----	2	51	
Clay, olive-gray-----	2	53	
Sand; abundant detrital lignite-----	2	55	
Clay, silty, sandy, pebbly, olive-gray (till)-----	13	68	
Sand, very fine, silty-----	10	78	
Gravel, coarse, pebbly-----	1	79	
Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----	6	85	
Clay, silty, sandy, pebbly, gray (till); gravel from 93 to 95 feet-----	19	104	
Clay, silty, sandy, pebbly, olive-gray to greenish- gray (till); gravel lenses from 121 feet-----	36	140	
Clay, silty, sandy, pebbly, olive-gray (till)-----	20	160	
Gravel, fine to coarse, pebbly-----	3	163	
Clay, silty, sandy, pebbly, olive-gray (till); silt lenses from 223 feet-----	82	245	
Pierre Shale:			
Shale, dark-brown, very carbonaceous; thinly laminated beds-----	18	263	

134-062-21DDA
NDSWC 12259

Altitude: 1459 feet

Date drilled: 7/27/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----		36	37
Clay, silty, sandy, pebbly, olive-gray (till)-----		54	91
Sand(?), fine(?), silty(?); abundant detrital lignite; some olive- gray gravel beds; poor samples-----		10	101
Clay, silty, slightly sandy to very sandy, pebbly; numerous thin lenses of sand and gravel composed of gray detrital shale; ice-contact deposit-----		27	128
Clay, silty, sandy, pebbly, olive-gray (till)-----		20	148
Silt, clayey, sandy, pebbly, olive-gray; ice-contact deposit-----		8	156
Clay, silty, sandy, pebbly, olive-gray (till)-----		29	185
Clay, silty, medium-gray, noncalcareous; numerous thin white calcareous streaks; black organic inclusions; ice-thrust block of Pierre Shale(?)-----		17	202
Sand, probably fine to medium; interbedded with sandy clay and silty clay; abundant detrital lignite; poor samples-----		67	269
Pierre Shale:			
Shale, medium-gray to dark- gray; some bentonite beds-----		21	290

134-062-33BDA
(Log modified from Traut Wells Inc.)

Altitude: 1450 feet Date drilled: 7/18/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Clay, brown-----	25	25
	Gravel, brown, oxidized-----	8	33
	Gravel-----	10	43
	Clay, gray-----	67	110
	Gravel; abundant detrital shale-----	8	118
	Sand, dirty-----	7	125
	Clay, cobbly, gray-----	35	160
	Silt; with lignite gravel-----	14	174
	Sand, coarse; with gravel-----	14	188
	Gravel; composed of lignite-----	5	193

134-062-34BCC
NDSWC 12258

Altitude: 1462 feet Date drilled: 7/27/83

Glacial drift:

Soil-----	1	1
Clay, silty, sandy, pebbly, yellowish-brown to olive-brown, oxidized (till)-----	31	32
Clay, silty, sandy, pebbly, olive-gray (till)-----	64	96
Sand(?), fine(?), silty(?); abundant detrital lignite; poor samples-----	11	107
Cobbles, pebbles, and sand-----	6	113
Clay, silty, sandy, pebbly, olive-gray; very sandy in part; numerous thin lenses of gravel and sand; ice-contact deposit-----	43	156
Clay, silty, sandy, pebbly, olive-gray (till)-----	21	177
Sand, coarse to very coarse, pebbly; abundant detrital lignite-----	65	242

Pierre Shale:

Shale, dark-gray to black, carbonaceous, noncalcareous-----	18	260
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134-062-35BAD
(Log modified from Traut Wells Inc.)

Altitude: 1435 feet Date drilled: 6/01/77

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		1	1
Clay, brown-----		46	47
Clay, sandy, gray-----		118	165
Sand, coarse, silty-----		14	179
Shale-----		6	185

134-063-11AAA
NDSWC 12257

Altitude: 1480 feet Date drilled: 7/26/83

Glacial drift:

Soil-----	1	1
Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----	10	11
Clay, silty, sandy, pebbly, olive-gray (till)-----	8	19
Sand, fine to coarse; abundant gray detrital shale-----	10	29
Clay, silty, sandy, pebbly, olive-gray (till)-----	65	94
Gravel, fine to medium, pebbly, sandy; inter- bedded with silty clay from 107 to 114 feet; some detrital lignite; abundant gray detrital shale-----	20	114
Clay, silty, sandy, pebbly, olive-gray (till); abundant gray detrital shale pebbles from 114 to 136 feet-----	30	144
Sand, fine to medium, pebbly; abundant detrital lignite; poor samples-----	7	151
Cobbles and pebbles-----	3	154

Pierre Shale:

Shale, medium-gray-----	11	165
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135-061-18CCC1
NDSWC 6212

Altitude: 1455 feet Date drilled: 7/01/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, very silty, sandy, pebbly, yellowish-brown to olive-brown, oxidized (till); silty clay from 24 to 27 feet-----		28	29
Clay, very silty, sandy, pebbly, olive-gray (till)-----		68	97
Gravel, sandy, silty; interbedded-----		4	101
Clay, very silty, sandy, pebbly, olive-gray (till)-----		5	106
Clay, silty, sandy, pebbly, brownish-gray (till)-----		70	176
Shale, medium-gray to dark-gray, weathered; ice-thrust block(?)-----		13	189
Boulder-----		1	190
Clay(?); no samples-----		2	192
Gravel, very fine to very coarse, pebbly, sandy, cobbly-----		10	202
Clay, silty, olive-gray; interbedded with sandy gravel-----		10	212
Gravel, very fine to very coarse, pebbly, sandy, cobbly-----		6	218
Clay, silty, sandy, gray; interbedded with sandy gravel-----		14	232
Gravel, fine to very coarse, pebbly-----		10	242
Gravel and sand(?); poor samples-----		23	265
Clay, silty, sandy, pebbly, medium-gray (till?)-----		15	280
Sand, fine, silty to clayey; interbedded with silt and clay; detrital lignite-----		30	310
Gravel(?); composed of detrital lignite; probably in silt and clay matrix-----		12	322

135-061-18CCCC1, Continued
NDSWC 6212

Altitude:	1455 feet	Date drilled:	7/01/83
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift, Continued:			
	Sand, coarse to very coarse, pebbly-----	20	342
	Clay, silty, sandy, pebbly, medium-gray (till?)-----	11	353
Niobrara Formation:			
	Shale, brown, waxy-----	10	363

135-061-25CCC
NDSWC 10935

Altitude: 1420 feet Date drilled: 5/22/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	7	7
	Sand, very fine to fine; oxidized from 7 to 17 feet-----	19	26
	Clay, silty, sandy, pebbly, olive-gray (till)-----	42	68
	Sand; no description-----	6	74
	Clay, silty, sandy, pebbly, olive-gray (till)-----	90	164
Pierre Shale:			
	Shale, light-gray, noncalcareous-----	46	210
	Shale, dark-brownish- gray, noncalcareous-----	30	240

135-061-28BCC
(Log modified from Traut Wells Inc.)

Altitude: 1395 feet Date drilled: 9/10/82

Soil-----	1	1
Clay, sandy, brown-----	7	8
Gravel, coarse; with sand-----	6	14
Clay, gray-----	107	121
Gravel, sandy; composed of detrital shale-----	9	130
Sand, coarse, gravelly-----	1	131
Clay, gray, hard-----	15	146
Shale, black-----	6	152

135-061-29ABB
NDSWC 6112

Altitude: 1430 feet

Date drilled: 8/26/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Sand, fine, oxidized-----	1	2
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	24	26
	Clay, silty, pebbly, olive- gray (till)-----	14	40
	Sand, coarse to very coarse, pebbly-----	9	49
	Clay, silty, sandy, olive- gray-----	8	57
	Gravel, sandy-----	2	59
	Clay, silty, sandy, pebbly, olive-gray (till); upper- most several feet of unit oxidized-----	55	114
	Clay, silty, sandy, pebbly, olive-gray (till)-----	36	150
	Silt, olive-gray; inter- bedded with clay-----	21	171
Pierre Shale:			
	Shale, dark-gray, noncalcareous; bentonite beds-----	31	202

135-061-29CCD
NDSWC 6116

Altitude: 1319 feet

Date drilled: 8/31/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Clay, silty, dark-brown to yellowish-brown; grades into sandy olive-gray silt; bivalve shell fragments-----	10	10
Glacial drift:			
	Gravel, fine to coarse, pebbly, sandy; coarser in part-----	17	27
	Clay(?); poor samples-----	3	30
	Gravel, fine to medium, pebbly, sandy; abundant gray detrital shale-----	11	41
	Clay, silty, sandy, pebbly, olive-gray (till)-----	21	62

135-061-29CDC
NDSWC 6213

Altitude: 1334 feet

Date drilled: 7/05/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Gravel, fine to very coarse, pebbly, sandy-----	58	58
	Clay, silty, sandy, pebbly, olive-gray (till)-----	46	104
	Sand, coarse to very coarse, pebbly-----	43	147
	Clay, very silty, sandy to very sandy, pebbly, medium-gray-----	31	178
	Sand, medium to coarse-----	6	184
	Clay, silty, gray-----	4	188
	Sand, very coarse, pebbly-----	3	191
	Clay, silty, sandy, gray; interbedded with sand; detrital lignite-----	9	200
	Clay, silty, sandy, pebbly, dark-gray (till); composed of gray shale and silt-----	7	207
Niobrara Formation:			
	Shale, brown, very calcareous, waxy-----	16	223

135-061-29DAD2
USBR 233

Altitude: 1345 feet

Date drilled: 9/16/68

Glacial drift:

Loam, black-----	2	2
Sand, coarse; with gravel-----	38	40

135-061-29DCD2
(Log modified from Green Circle Supply, Inc.)

Altitude: 1350 feet Date drilled: 9/02/75

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----	1	1	
Gravel-----	24	25	
Clay, sandy, and gravel-----	16	41	
Sand, fine, silty-----	6	47	
Clay, sandy, and gravel-----	2	49	
Gravel, fine; "salt and pepper"-----	21	70	
Clay and sand-----	3	73	
Gravel, sandy, silty; "salt and pepper"-----	16	89	
Clay, gray-----	6	95	

135-061-30ADD
USBR 59

Altitude: 1335 feet Date drilled: 8/07/67

Glacial drift:

Loam, sandy-----	2	2
Sand, loamy-----	1	3
Sand, fine-----	25	28
Loam, sandy-----	12	40
Sand, coarse; lignite gravel-----	5	45
Sand, fine-----	7	52

135-061-30BCB
USBR 139

Altitude: 1360 feet Date drilled: 9/07/67

Glacial drift:

Loam, black-----	2	2
Sand, very fine, brown-----	3	5
Sand, brown-----	5	10
Loam, clayey, brown (till)-----	5	15
Till, gray-----	5	20

135-061-30BDC

(Log modified from M & W Exploration & Water Well, Inc.)

Altitude: 1345 feet

Date drilled: 11/24/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil-----	1	1
	Sand, brown-----	16	17
	Sand and gravel, oxidized-----	19	36
	Sand, coarse, gray-----	17	53
	Clay, gray, soft-----	39	92
	Shale, broken, weathered-----	15	107
	Sand, gravel, and clay; interbedded-----	98	205
	Shale-----	5	210

135-061-30BDD

(Log modified from M & W Exploration & Water Well, Inc.)

Altitude: 1340 feet

Date drilled: 11/30/80

Soil-----	1	1
Sand, brown-----	14	15
Sand, brown; with gravel-----	26	41
Sand, coarse; with gravel-----	20	61
Till, gray, soft-----	31	92
Shale, brown, weathered-----	8	100
Sand-----	3	103
Gravel, coarse-----	11	114
Clay, gray-----	5	119
Sand, medium-----	7	126
Clay, gray-----	7	133
Sand, medium; with gravel-----	7	140
Sand, coarse; with gravel-----	30	170
Shale-----	--	170

135-061-30CDB
(Log modified from Traut Wells Inc.)

Altitude: 1350 feet Date drilled: 12/30/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Clay, sandy, brown-----	4	4
	Sand, fine-----	6	10
	Sand, fine to medium-----	24	34
	Clay, gray; with sand-----	4	38
	Sand, coarse, brown-----	3	41
	Clay; with sand-----	1	42
	Sand, fine to medium-----	16	58
	Clay, gray-----	2	60

135-061-30DAC
(Log modified from Traut Wells Inc.)

Altitude: 1330 feet Date drilled: 5/27/81

Soil-----	4	4
Sand, fine, brown-----	26	30
Sand, coarse-----	9	39
Sand, coarse; with gravel-----	11	50
Clay, gray-----	10	60

135-061-30DCA
(Log modified from Traut Wells Inc.)

Altitude: 1325 feet Date drilled: 3/13/81

Soil-----	1	1
Sand, medium-----	6	7
Sand, coarse-----	28	35
Clay, gray; with pebbly sand-----	5	40
Clay, gray-----	37	77
Gravel; composed of detrital shale-----	16	93
Sand, coarse; with gravel-----	16	109
Clay, gray-----	13	122
Sand, medium-----	8	130
Sand, coarse; with gravel-----	36	166
Clay, gray, hard-----	9	175

135-061-31AAD
USBR DH71-12

Altitude: 1312 feet Date drilled: 4/07/71

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Alluvium and glacial drift:

Soil, black-----	1	1
Sand, fine, silty, brown-----	8	9
Sand, fine to medium, silty-----	2	11
Sand, fine to medium-----	11	22
Clay, silty, brown-----	28	50

135-061-31ABC
NDSWC 6111

Altitude: 1316 feet Date drilled: 8/25/82

Alluvium and glacial drift:

Silt, clayey, brown-----	15	15
Sand, very fine, silty, gray-----	6	21
Sand, fine to coarse; abundant bivalve shell fragments-----	10	31
Clay, silty, medium-gray; interbedded with clayey silt-----	51	82

135-061-32ABC
USBR 236

Altitude: 1320 feet Date drilled: 9/17/68

Glacial drift:

Loam, fine, sandy, black-----	1	1
Sand, coarse; with gravel-----	19	20

135-061-32BDD
USBR 144

Altitude: 1316 feet Date drilled: 9/08/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Loam, silty, black-----	3	3
	Loam, silty, clayey, dark-brown, dense-----	7	10
	Loam, clayey, dark- brown, dense-----	5	15

135-061-32CAD1
USBR DH71-13

Altitude: 1316 feet Date drilled: 6/02/71

Alluvium and glacial drift:			
	Soil-----	4	4
	Sand, fine, silty, light-brown-----	8	12
	Clay, sandy, gray-----	6	18
	Sand, fine, silty, gray-----	12	30
	Clay, gray (till); several boulders-----	13	43
	Shale, gray, weathered-----	7	50

135-061-32CAD2
USBR DH72-107

Altitude: 1317 feet Date drilled: 10/26/72

Alluvium and glacial drift:			
	Soil, black to brown-----	1	1
	Silt, sandy, brown-----	17	18
	Silt, sandy, gray-----	14	32
	Sand, medium to coarse; with fine to coarse gravel-----	14	46
	Clay, sandy, gray (till)-----	9	55

135-061-32CDC
NDSWC 6109

Altitude: 1329 feet

Date drilled: 8/25/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Gravel, coarse, pebbly, cobbly, sandy, oxidized-----		14	15
Gravel, fine to medium, pebbly, sandy, oxidized-----		9	24
Silt, yellowish-brown, oxidized-----		4	28
Clay, silty, very sandy, olive-gray-----		19	47
Clay, silty, sandy, pebbly, olive-gray (till)-----		34	81
Gravel, sandy; interbedded with clay; abundant gray detrital shale; ice- contact deposit(?)-----		24	105
Clay, silty, sandy, pebbly, dark-gray (till)-----		19	124
Clay, silty, olive-gray; interbedded with clayey silt-----		114	238
Niobrara Formation:			
Shale, olive-green, very calcareous-----		44	282

135-061-33ABB
USBR 55

Altitude: 1344 feet

Date drilled: 8/04/67

Glacial drift:

Loam, silty-----	1	1
Sand, fine, loamy-----	9	10
Sand-----	25	35

135-061-33CCA
(Log modified from Beitz Pump Service)

Altitude: 1315 feet Date drilled: 8/10/76

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Silt-----	16	16	
Clay, gray; with fine sand-----	16	32	
Clay, gray-----	25	57	
Clay, gray; with sand-----	19	76	
Sand, coarse-----	1	77	

135-061-33CCD3
(Log modified from Traut Wells Inc.)

Altitude: 1315 feet Date drilled: 6/29/83

Soil-----	1	1
Sand, brown-----	11	12
Clay, sandy, brown-----	7	19
Sand, fine; with clay and silt; mollusk shells-----	4	23
Clay, gray, soft-----	13	36
Gravel, coarse-----	5	41
Clay, gray-----	44	85
Sand, coarse; with gravel-----	14	99
Sand, fine-----	7	106

135-061-33DCD1
NDSWC 6114

Altitude: 1323 feet Date drilled: 8/30/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Silt, sandy, dark-brown to brown-----	7	7
Glacial drift:	Sand, coarse to very coarse, pebbly, oxidized-----	12	19
	Gravel, fine to medium, pebbly-----	3	22
	Sand, coarse to very coarse, pebbly-----	10	32
	Clay, silty, sandy, pebbly, olive-gray (till)-----	59	91
	Gravel, fine, pebbly, sandy; coarse in part-----	10	101
	Clay, silty, sandy, pebbly, brownish-gray (till?)-----	9	110

135-061-36CCC
NDSWC 10936

Altitude: 1415 feet Date drilled: 5/23/79

Glacial drift:	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	12	12
	Sand, very fine to fine, oxidized-----	7	19
	Sand, coarse to very coarse-----	11	30
	Clay, silty, sandy, pebbly, olive-gray (till)-----	13	43
	Sand, coarse to very coarse-----	8	51
	Clay, silty, sandy, pebbly, olive-gray (till); inter-bedded with sand and gravel from 91 to 102 feet; sand and gravel from 107 to 109 feet-----	143	194

Pierre Shale:

Shale, light-grayish-brown, noncalcareous-----	26	220
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135-062-02AAA
NDSWC 6183

Altitude: 1455 feet

Date drilled: 6/16/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	23	23
	Clay, silty, sandy, pebbly, olive-gray (till)-----	45	68
	Gravel, fine to medium, pebbly, sandy-----	12	80
	Silt, slightly clayey to very clayey, olive-gray-----	44	124
Pierre Shale:			
	Shale, dark-gray to black, thinly laminated; some bentonite-----	19	143

135-062-02BBA
NDSWC 6102

Altitude: 1460 feet

Date drilled: 8/18/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand, fine, clayey, oxidized-----		6	7
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		8	15
Silt, clayey, yellowish- brown, oxidized-----		9	24
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		44	68
Silt, clayey, yellowish- brown, oxidized-----		13	81
Gravel, fine to medium, pebbly-----		4	85
Clay, silty, pebbly, olive- gray (till)-----		13	98
Clay, silty, olive-gray-----		7	105
Clay, silty, pebbly, olive- gray (till)-----		21	126
Clay, silty, pebbly, dark- gray (till)-----		32	158
Clay, dark-gray-----		19	177
Silt, brownish-gray-----		41	218
Gravel, fine, pebbly, sandy-----		14	232
Pierre Shale:			
Shale, medium-gray to dark-gray-----		30	262

135-062-03ABC
 (Log modified from Traut Wells Inc.)

Altitude: 1325 feet Date drilled: 6/29/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		2	2
Clay, brown, soft-----		12	14
Clay, sandy, brown; with silt-----		4	18
Sand, black-----		2	20
Clay, gray-----		13	33
Sand, very coarse-----		5	38
Sand, fine; with silt-----		14	52
Clay, gray, soft-----		11	63
Sand, fine, gray; with detrital lignite-----		7	70
Sand, coarse-----		5	75
Sand, very coarse; with gravel and silt-----		29	104

135-062-03ACA
NDSWC 6103

Altitude: 1330 feet

Date drilled: 8/18/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----	1	1	
Silt, clayey, brown-----	4	5	
Clay, very silty, yellowish-brown to brown, oxidized-----	7	12	
Silt, very clayey, yellowish-brown to brown, oxidized-----	3	15	
Silt, very clayey, olive-gray-----	6	21	
Gravel, fine to coarse, pebbly, cobbly, sandy-----	6	27	
Silt, sandy, olive-gray-----	7	34	
Silt, clayey, olive-gray-----	7	41	
Gravel, coarse, pebbly, cobbly-----	1	42	
Silt, clayey, olive-gray-----	18	60	
Silt, clayey, olive-gray; interbedded with sandy clay-----	15	75	
Gravel, fine to medium, pebbly; interbedded with clay-----	28	103	
Sand, coarse to very coarse, pebbly-----	20	123	
Sand, coarse-----	11	134	
Sand, coarse to very coarse, pebbly-----	8	142	
Sand, fine to medium-----	35	177	
Sand; interbedded with clay-----	10	187	
Pierre Shale:			
Shale, dark-gray to black-----	7	194	

135-062-03ACD
USBR DH71-9

Altitude: 1329 feet Date drilled: 5/25/71

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		2	2
Clay, silty, sandy, gray-----		12	14
Clay, silty, very sandy, gray-----		6	20
Sand, fine, silty, gray-----		30	50

135-062-03ADB
USBR L-34

Altitude: 1331 feet Date drilled: 8/08/67

Alluvium and glacial drift:			
Loam, silty-----		2	2
Loam, sandy-----		6	8
Loam, clayey, mottled, dense; with sandy clayey loam-----		12	20

135-062-03BCB
NDSWC 6106

Altitude: 1360 feet Date drilled: 8/24/82

Glacial drift:			
Gravel, fine to medium, pebbly, oxidized-----		12	12
Sand, medium to coarse, oxidized-----		7	19
Gravel, fine to coarse, pebbly; cobbly in part; abundant gray detrital shale-----		15	34
Gravel, medium to very coarse, pebbly, cobbly-----		21	55
Silt, olive-gray; detrital lignite-----		7	62

135-062-03CBA
(Log modified from Traut Wells Inc.)

Altitude: 1370 feet Date drilled: 8/26/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----	1	1	
Gravel, coarse, cobbly-----	12	13	
Gravel, coarse; with sand-----	51	64	
Sand; with clay-----	6	70	
Gravel, coarse; with sand-----	8	78	

135-062-03DDC
USBR DH71-10

Altitude: 1329 feet Date drilled: 5/20/71

Alluvium and glacial drift:

Soil-----	1	1
Silt, sandy, brownish-gray-----	4	5
Clay, silty, sandy, gray-----	9	14
Sand, fine, clayey-----	14	28
Clay, silty, green-----	1	29
Sand, fine, silty-----	5	34
Clay, silty, gray, varved-----	16	50

135-062-04AAA1
USBR DH71-8

Altitude: 1325 feet Date drilled: 5/20/71

Alluvium:

Soil-----	1	1
Clay, silty, sandy, brown-----	5	6
Sand, fine to coarse, brown; with some fine gravel-----	13	19
Sand, fine to coarse, gray; with some fine gravel-----	2	21

Glacial drift:

Clay, silty, sandy, pebbly, gray (till)-----	13	34
Sand, fine to medium, brown-----	9	43
Clay, gray-----	6	49
Sand, fine, gray-----	1	50

135-062-04AAA2
NDSWC 6189

Altitude: 1344 feet

Date drilled: 6/21/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Gravel, fine to very coarse, pebbly, sandy, cobbly-----	45	45
	Clay, silty, sandy, pebbly, olive-gray (till)-----	13	58
	Sand, coarse, pebbly-----	2	60
	Clay, silty, sandy; detrital lignite-----	5	65
	Sand, very fine, silty; interbedded with some gray clay and clayey silt-----	19	84
	Sand, coarse, pebbly; interbedded with some gray clay and detrital lignite gravels; detrital lignite-----	39	123
	Gravel, fine to coarse, pebbly, sandy-----	34	157

Pierre Shale:

Shale, dark-gray, non-calcareous; thinly laminated in part-----	12	169
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135-062-04DAB
USBR 10

Altitude: 1374 feet

Date drilled: 8/20/59

Glacial drift:

Sand, medium to coarse, brown; with gravel-----	42	42
Silt, brown; with fine sand-----	1	43
Sand, medium to coarse, brown; with gravel-----	7	50

135-062-05BCC
NDSWC 6105

Altitude: 1490 feet

Date drilled: 8/23/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		29	30
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 58 to 60 feet-----		147	177
Gravel, fine to medium, pebbly, sandy; inter- bedded with clay from 177 to 182 feet; some detrital lignite-----		80	257
Sand, very fine, clayey; interbedded with silt-----		29	286
Pierre Shale:			
Shale, medium-gray, non- calcareous; bentonite beds-----		16	302

135-062-10ABB
USBR 619

Altitude: 1335 feet

Date drilled: 4/13/72

Glacial drift:			
Loam, silty-----		1	1
Loam-----		1	2
Loam, coarse, sandy, gravelly-----		2	4
Loam, cobbly (till)-----		6	10
Loam (till)-----		4	14

135-062-11BDC
USBR 119

Altitude: 1327 feet Date drilled: 9/01/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Loam, silty-----	2	2
	Loam, silty, clayey, brown-----	2	4
	Loam, silty, clayey, dark-brown-----	4	8
	Loam, silty, gray-----	12	20

135-062-14AAA
NDSWC 6229

Altitude: 1485 feet Date drilled: 7/13/83

Glacial drift:			
	Soil-----	2	2
	Clay, very silty, sandy, pebbly, dark-yellowish-orange to yellowish-gray, oxidized (till)-----	26	28
	Clay, silty, sandy, pebbly, olive-gray (till)-----	60	88
	Gravel, fine, pebbly; abundant gray detrital shale-----	2	90
	Clay, silty, sandy, pebbly, brownish-gray (till)-----	30	120
	Clay, silty, sandy, pebbly, olive-gray (till)-----	30	150

Pierre Shale:			
	Shale, black, thinly laminated, fractured-----	18	168
	Shale, medium-gray, soft-----	3	171
	Shale, black, thinly laminated, fractured-----	12	183

135-062-14AAB
USBR 125

Altitude: 1327 feet Date drilled: 9/05/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Loam, silty-----	3	3
	Loam, clayey, very dense-----	4	7
	Silt, limey; mollusk shells-----	3	10
	Sand; mollusk shells-----	1	11
Glacial drift:			
	Loam, sandy, clayey, hard, very dense (till)-----	4	15

135-062-14ABA
NDSWC 6108

Altitude: 1322 feet Date drilled: 8/24/82

Alluvium and glacial drift:			
	Soil-----	1	1
	Silt, brown; organic debris-----	12	13
	Sand, fine, silty, clayey; abundant bivalve shell fragments-----	3	16
	Silt, medium-gray-----	6	22
	Sand, fine to coarse; abundant bivalve shell fragments-----	10	32
	Silt, yellowish-brown, oxidized-----	5	37

135-062-14ACD
USBR 123

Altitude: 1326 feet Date drilled: 9/01/67

Alluvium and glacial drift:			
	Loam, silty, limey-----	1	1
	Loam, silty, caliche, dark-gray-----	9	10
	Loam, silty, clayey, brown-----	15	25

135-062-14BAA
NDSWC 6107

Altitude: 1324 feet

Date drilled: 8/24/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Clay, silty, dark-brown to yellowish-brown; oxidized in part; interbedded with clayey silt-----	18	18
	Silt, clayey, sandy, olive-gray; greenish gray in part; abundant bivalve shell fragments-----	17	35
	Silt, clayey, brown; oxidized at top of unit-----	17	52
	Clay, olive-gray-----	10	62
	Sand, fine to medium; some detrital lignite-----	12	74
	Sand, coarse to very coarse, pebbly-----	20	94
	Clay, silty, olive-gray; contains some detrital lignite-----	14	108
	Sand, coarse to very coarse, pebbly-----	11	119
	Gravel, fine to medium, pebbly, cobbly; coarse in part-----	48	167
	Sand, fine to medium, silty; poor samples-----	15	182
	Sand, medium to coarse; abundant detrital lignite-----	15	197
Pierre Shale:			
	Shale, silty, dark-brownish-gray, carbonaceous; small black inclusions; abundant light-grayish-brown bentonite from 210 to 215 feet-----	25	222

135-062-14CAB
USBR 127

Altitude: 1334 feet

Date drilled: 9/05/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Loam, silty-----		1	1
Sand, very fine, loamy-----		3	4
Silt-----		1	5
Sand, very fine, loamy-----		2	7
Sand, fine-----		1	8
Sand, very coarse-----		1	9
Loam, silty, clayey, very dense (till)-----		11	20

135-062-16CCC
NDSWC 6200

Altitude: 1462 feet Date drilled: 6/27/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown to olive-brown, oxidized (till)-----	79	79
	Sand, fine-----	4	83
	Clay, silty, very sandy, brown, oxidized-----	12	95
	Sand, medium to very coarse, pebbly, oxidized; sandy clay and gravel lenses-----	38	133
	Silt, olive-gray-----	15	148
	Clay, very sandy, gray-----	5	153
	Silt, olive-gray; interbedded with clay-----	10	163
	Sand, fine, clayey-----	5	168
	Gravel, fine to medium, pebbly; interbedded with clay from 174 feet-----	12	180
	Clay, silty, very sandy, gray-----	13	193
	Gravel, fine to very coarse, pebbly; cobble in part-----	12	205
	Sand, coarse to very coarse, pebbly; interbedded with silt and gravel lenses-----	18	223
	Gravel, coarse, pebbly; interbedded with clay-----	22	245
	Sand, coarse; some detrital lignite gravel and silt lenses-----	19	264
	Gravel, fine to medium; coarse in part-----	36	300
Pierre Shale:			
	Shale, dark-gray, poorly indurated-----	13	313

135-062-20CCC
NDSWC 6224

Altitude: 1472 feet Date drilled: 7/12/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----		26	27
Clay, silty, sandy, pebbly, olive-gray (till)-----		61	88
Gravel, fine to coarse, pebbly-----		3	91
Clay, silty, sandy, pebbly, olive-gray (till); gravel lenses from 91 to 96 feet----		25	116
Clay, very silty, sandy, pebbly, medium-gray (till?); contains silt beds-----		9	125
Gravel, fine to coarse, pebbly, sandy; inter- bedded with clay lenses-----		45	170
Pierre Shale:			
Shale, dark-gray; thinly laminated in part; bentonite beds-----		13	183

135-062-23ABD1
(Log modified from Traut Wells Inc.)

Altitude: 1370 feet Date drilled: 8/17/76

Soil-----	1	1
Clay, sandy, brown-----	19	20
Clay, gray-----	30	50
Clay, sandy, cobbley-----	47	97
Sand, brown-----	3	100
Clay, gray; with sand beds-----	100	200

135-062-23ABD2
 (Log modified from Traut Wells Inc.)

Altitude: 1325 feet Date drilled: 9/05/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil-----	2	2
	Clay, sandy, brown-----	16	18
	Clay, gray-----	37	55

135-062-23ACB
 (Log modified from Traut Wells Inc.)

Altitude: 1325 feet Date drilled: 9/05/80

Soil-----	2	2
Clay, sandy, brown-----	16	18
Clay, black; with gravel-----	13	31
Clay, gray, hard-----	52	83
Sand, coarse; with gravel-----	3	86
Clay, gray, very hard-----	32	118
Sand, coarse, brown; with gravel-----	6	124
Sand, fine; with lignite gravel-----	5	129
Sand, coarse, brown-----	6	135
Clay, cobbley, gray-----	7	142
Sand, very coarse-----	3	145

135-062-23ADA
NDSWC 6211

Altitude: 1445 feet

Date drilled: 6/30/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		44	45
Clay, silty, sandy, pebbly, olive-gray (till); gravel lenses from 93 to 103 feet-----		80	125
Clay, very silty, sandy, very pebbly, medium- gray to brownish-gray (till); gravel lenses from 132 to 145 feet-----		38	163
Clay, silty, sandy, pebbly, medium-gray (till)-----		100	263
Silt, clayey, greenish- gray; interbedded with clay-----		36	299
Shale, dark-gray, poorly indurated, waxy; ice- thrust block(?)-----		6	305
Gravel, coarse, pebbly, cobbly; interbedded with silt-----		8	313
Pierre Shale:			
Shale, dark-gray, waxy-----		10	323

135-062-23BDC
USBR 128

Altitude: 1323 feet

Date drilled: 9/05/67

Alluvium and glacial drift:			
Loam, silty-----		6	6
Loam, silty, clayey-----		3	9
Loam, silty; gastropod shells-----		6	15
Sand, very coarse; with gravel; small pelecypod shells-----		5	20

135-062-23CCC
NDSWC 6190

Altitude: 1336 feet Date drilled: 6/21/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		1	1
Sand, fine to coarse, oxidized; interbedded with silt and gravel-----		22	23
Silt, yellowish-brown, oxidized; interbedded with clay-----		15	38
Silt, gray; interbedded with clay-----		2	40
Clay, olive-gray; some detrital lignite-----		18	58
Gravel, fine to medium, pebbly; coarse and cobbly from 63 to 70 feet-----		12	70
Sand, fine(?); no samples-----		8	78
Gravel, very coarse, pebbly, cobbly-----		7	85
Sand, very coarse, pebbly; some silt lenses; detrital lignite and shale-----		44	129
Clay, greenish-gray, very calcareous, waxy-----		9	138

Pierre Shale:

Shale, dark-gray, noncalcar- eous, waxy; bentonite beds-----	2	140
Shale; greenish-gray, light- brownish-gray, and dark- gray; very calcareous; waxy; silty in part; bentonite beds-----	5	145
Shale, dark-gray, non- calcareous, waxy-----	10	155

135-062-23CDC
USBR 132

Altitude: 1322 feet Date drilled: 9/06/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Loam, silty, black-----	6	6
	Loam, silty, brown-----	14	20

135-062-25BAC
(Log modified from Traut Wells Inc.)

Altitude: 1365 feet Date drilled: 8/09/77

Soil-----	2	2
Clay, brown-----	2	4
Sand, coarse; with gravel-----	24	28
Clay, brown-----	11	39
Gravel; with cobbles-----	10	49
Clay, gray-----	51	100

135-062-25CBC
USBR 141

Altitude: 1323 feet Date drilled: 9/07/67

Alluvium and glacial drift:

Loam, silty-----	3	3
Loam, silty, clayey, limey, dense-----	2	5
Sand, coarse, loamy, pebbly, cobbly-----	1	6
Sand, coarse, loamy, pebbly-----	4	10
Sand, very coarse; with fine gravel-----	6	16
Sand, very coarse; abundant detrital shale-----	4	20

135-062-25DBB
(Log modified from Traut Wells Inc.)

Altitude: 1368 feet

Date drilled: 8/04/76

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil-----	1	1
	Sand, fine, brown-----	37	38
	Clay, yellow-----	3	41
	Sand, silty, brown-----	12	53
	Clay, gray-----	120	173
	Sand, fine-----	64	237
	Clay, gray; with shale-----	3	240

135-062-25DBD
(Log modified from Traut Wells Inc.)

Altitude: 1350 feet

Date drilled: 3/26/77

Sand, coarse-----	35	35
Sand, very coarse; with gravel-----	50	85
Clay, sandy-----	3	88
Shale(?)-----	12	100

135-062-25DCA
USBR 270

Altitude: 1320 feet

Date drilled: 9/29/70

Alluvium and glacial drift:

Loam, clayey-----	12	12
Sand and gravel-----	6	18

135-062-25DCB1
NDSWC 10934

Altitude: 1341 feet

Date drilled: 5/21/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Sand, medium to coarse, oxidized-----	28	28	
Sand, medium to coarse-----	38	66	
Cobbles and pebbles-----	2	68	
Clay, silty, sandy, pebbly, olive-gray (till)-----	38	106	
Sand, very fine to very coarse-----	11	117	
Gravel, fine, pebbly, sandy; clay from 154 to 156 feet-----	53	170	

135-062-25DDA
(Log modified from Traut Wells Inc.)

Altitude: 1350 feet

Date drilled: 8/04/76

Soil-----	2	2
Sand and gravel, brown-----	43	45
Sand, very coarse, brown-----	37	82

135-062-25DDB
USBR DH72-108

Altitude: 1355 feet

Date drilled: 10/27/72

Glacial drift:

Soil, dark-brown-----	1	1
Sand, fine to coarse, brown-----	34	35

135-062-25DDD
USBR DH71-11

Altitude: 1317 feet

Date drilled: 5/27/71

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Clay, sandy, light-brown-----		12	13
Clay; silty; green, gray, and greenish-brown; varved-----		11	24
Clay, silty, sandy, pebbly, (till)-----		26	50

135-062-26ACA
NDSWC 6210

Altitude: 1328 feet

Date drilled: 6/30/83

Glacial drift:

Soil-----	1	1
Sand, very fine, silty, yellowish-brown, oxidized-----	9	10
Gravel, fine to very coarse; oxidation stain-----	32	42
Clay, silty, sandy, pebbly, olive-gray (till)-----	11	53

135-062-26BCD2
USBR 133

Altitude: 1329 feet

Date drilled: 9/06/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Loam, silty, black-----	2	2
	Loam, sandy, brown-----	3	5
	Loam, silty loam, and sandy loam; reworked till-----	5	10
	Loam, clayey, olive-brown, dense-----	10	20

135-062-26DAA
USBR 60

Altitude: 1345 feet

Date drilled: 8/07/67

Glacial drift:			
	Sand, very coarse, loamy; with gravel-----	30	30

Altitude: 1467 feet

Date drilled: 6/22/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		34	35
Clay, silty, sandy, pebbly, olive-gray (till)-----		49	84
Sand, very fine; interbedded with silty clay from 89 feet; coarse and pebbly from 91 to 93 feet-----		12	96
Clay, silty, sandy, pebbly, olive-gray to greenish- gray (till?); gravel lens from 120 to 121 feet-----		29	125
Clay, silty, very sandy, pebbly, light-olive-gray to brownish-gray (till?)-----		10	135
Clay, very silty, sandy, gray-----		5	140
Clay, silty, very sandy, pebbly, light-olive-gray to brownish-gray (till?)-----		19	159
Gravel, fine to coarse, pebbly, sandy; interbedded with silt from 167 to 182 feet; detrital lignite-----		54	213
Clay, very silty, pebbly, gray; interbedded with detrital lignite gravel-----		7	220
Gravel, fine to coarse, pebbly, sandy-----		10	230
Clay; no description-----		8	238
Gravel, fine to coarse, pebbly, sandy-----		5	243
Clay; no description-----		2	245
Gravel, fine to coarse, pebbly, sandy-----		5	250
Sand, medium to coarse-----		34	284
Niobrara Formation(?):			
Shale, light-greenish-gray, very calcareous, poorly indurated; dark gray in part-----		19	303

135-062-28BBB
NDSWC 6199

Altitude: 1471 feet

Date drilled: 6/27/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); sand from 17 to 20 feet-----		52	53
Clay, silty, sandy, pebbly, olive-gray (till)-----		35	88
Sand, fine; some sandy and silty clay lenses-----		17	105
Clay, silty, sandy, pebbly, olive-gray (till)-----		25	130
Silt, very clayey, olive- gray-----		10	140
Gravel, fine to coarse, pebbly; interbedded with clay-----		30	170
Pierre Shale:			
Shale, medium-gray to dark-gray; thinly laminated in part-----		13	183

135-062-30DDD
NDSWC 6191

Altitude: 1479 feet

Date drilled: 6/22/83

Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		39	40
Clay, silty, sandy, pebbly, olive-gray (till); sand lens from 58 to 59 feet-----		58	98
Gravel, sandy-----		3	101
Clay, silty, sandy, pebbly, olive-gray (till)-----		28	129
Pierre Shale:			
Shale, dark-gray, hard, fractured-----		14	143

135-062-33BBB
NDSWC 6192

Altitude: 1470 feet

Date drilled: 6/22/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	24	25	
Clay, silty, sandy, pebbly, olive-gray (till)-----	68	93	
Sand, fine; interbedded with sandy clay-----	10	103	
Gravel; interbedded with sandy gray clay-----	20	123	
Clay, silty, sandy, pebbly, brownish-gray (till); silt lens from 128 to 131 feet-----	18	141	
Gravel, fine, pebbly, sandy-----	5	146	
Clay, silty, very sandy, olive-gray; interbedded with gravel-----	13	159	
Gravel, fine, pebbly, sandy; interbedded with some clay-----	14	173	
Gravel, fine, pebbly, sandy; coarse in part-----	18	191	
Pierre Shale:			
Shale, dark-gray to light- greenish-gray; abundant bentonite beds-----	12	203	

135-062-33CDC
NDSWC 6198

Altitude: 1475 feet

Date drilled: 6/24/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		25	26
Sand, very coarse, pebbly, oxidized-----		4	30
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		12	42
Sand, very coarse, pebbly, oxidized-----		4	46
Clay, silty, sandy, very pebbly, yellowish-brown, oxidized (till)-----		34	80
Clay, silty, sandy, pebbly, olive-gray (till)-----		20	100
Gravel; interbedded with sandy clay and fine sand; abundant detrital shale-----		8	108
Clay, silty, sandy, pebbly, olive-gray (till)-----		39	147
Clay, silty, light-olive- gray-----		9	156
Pierre Shale:			
Shale, waxy; bentonite beds-----		17	173

135-062-33DCD
(Log modified from Traut Wells Inc.)

Altitude: 1480 feet

Date drilled: 10/27/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		2	2
Clay, yellow-----		16	18
Clay, dark-brown-----		38	56
Clay, gray-----		38	94
Clay, cobbly, brown-----		10	104
Gravel; with clay-----		2	106
Clay, gray-----		8	114
Clay, cobbly-----		1	115
Clay, gray-----		43	158
Gravel, cobbly-----		3	161
Gravel; composed of detrital shale-----		11	172
Clay, cobbly, gray-----		19	191
Clay, cobbly, gray, hard; abundant detrital shale-----		49	240

135-062-35AAD
NDSWC 11277

Altitude: 1439 feet

Date drilled: 7/08/80

Glacial drift:

Clay, silty, sandy, pebbly, dark-yellowish-brown, oxidized (till); iron- oxide stain-----	21	21
Sand and gravel-----	6	27
Clay, silty, sandy, pebbly, dark-yellowish-brown, oxidized (till); iron- oxide stain-----	53	80
Clay, silty, sandy, pebbly, olive-gray (till)-----	111	191
Silt(?); abundant detrital lignite and gray shale-----	8	199
Sand, medium-----	19	218
Sand, medium to very coarse, pebbly-----	9	227

Pierre Shale:

Shale, dark-gray, non- fissile; light-gray bentonite-----	13	240
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135-062-36DDD
NDSWC 11276

Altitude: 1438 feet

Date drilled: 7/07/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Silt, sandy, yellowish-brown, oxidized-----	4	4
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); interbedded with sand and gravel from 30 to 38 feet-----	45	49
	Clay, silty, sandy, pebbly, olive-gray (till)-----	12	61
	Sand and gravel-----	4	65
	Silt(?); no samples-----	7	72
	Clay, silty, sandy, pebbly, olive-gray (till); interbedded with sand and gravel from 77 to 80 and 111 to 115 feet-----	160	232
	Sand, medium; some gravel beds-----	21	253
Pierre Shale:			
	Shale, black, noncalcareous-----	7	260

135-063-02DCB
(Log modified from M & W Exploration & Water Well, Inc.)

Altitude: 1450 feet

Date drilled: 12/16/77

Soil-----	1	1
Clay, brown-----	35	36
Clay, gray-----	85	121
Till, gray; abundant detrital shale-----	5	126
Shale-----	4	130

135-063-05AAA
NDSWC 12255

Altitude: 1492 feet

Date drilled: 7/22/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----		45	46
Clay, silty, sandy, pebbly, olive-gray (till); gray detrital shale gravel from 77 to 78 feet-----		61	107
Silt, olive-gray; mica grains-----		8	115
Gravel, sandy; sandy clay (till?) beds common; cobbles at base; abundant gray detrital shale-----		5	120
Sand, medium to very coarse, pebbly; cobbles at base; abundant detrital lignite-----		12	132
Pierre Shale:			
Shale, medium-gray; dark gray in part-----		8	140

135-063-09AAA
NDSWC 6231

Altitude: 1485 feet

Date drilled: 7/14/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	2	2	
Silt, dark-yellowish-orange-----	8	10	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	8	18	
Clay, silty, sandy, pebbly, dark-brown, oxidized (till)-----	7	25	
Clay, silty, sandy, pebbly, olive-gray (till)-----	53	78	
Silt, olive-gray; gravel lens from 83 to 85 feet-----	7	85	
Clay, silty, sandy, pebbly, olive-gray (till)-----	12	97	
Pierre Shale:			
Shale, dark-gray to black; thinly laminated in part; bentonite beds-----	26	123	

135-063-12BAA
(Log modified from Traut Wells Inc.)

Altitude: 1455 feet

Date drilled: 1/06/79

Soil-----	2	2
Clay, brown-----	15	17
Clay, gray; with gravel-----	16	33
Clay, gray; with gravel and fine sand-----	7	40
Clay, gray-----	120	160
Sand, fine, brown-----	20	180
Sand, coarse; with gravel-----	40	220
Shale-----	5	225

135-063-12BBB
NDSWC 6230

Altitude: 1465 feet

Date drilled: 7/14/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----	27	27
	Clay, silty, sandy, pebbly, olive-gray (till)-----	77	104
	Clay, silty, sandy, pebbly, dark-olive-gray (till)-----	7	111
	Clay, silty, sandy, pebbly, medium-gray to greenish- gray (till); silt lenses-----	22	133
	Sand, coarse to very coarse, pebbly-----	9	142
	Sand, fine; abundant detrital lignite-----	19	161
	Sand, very coarse-----	2	163
	Sand, fine to coarse; detrital lignite gravel lenses-----	17	180
	Gravel, fine to coarse, pebbly, sandy-----	13	193
	Sand, fine to coarse; detrital lignite gravel lenses-----	27	220
	Gravel, fine, pebbly, sandy; some clay lenses-----	30	250
Pierre Shale:			
	Shale, medium-gray; thinly laminated in part; bentonite beds-----	13	263

135-063-13DDD
NDSWC 12255A

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		10	11
Clay, silty, sandy, pebbly, olive-gray (till); cobbly zones common; silty clay from 128 to 129 feet; gray detrital shale gravel from 136 to 137 and 157 to 159 feet-----		148	159
Clay, silty, sandy, pebbly, brown, oxidized (till)-----		1	160
Clay, silty, sandy, pebbly, olive-gray (till)-----		6	166
Silt, clayey, gray; inter- bedded with gray detrital shale gravel-----		4	170
Clay, silty, sandy, pebbly, cobbly, olive-gray (till)-----		4	174
Silt, olive-gray-----		2	176
Clay, silty, sandy, pebbly, cobbly, brown, oxidized (till)-----		14	190
Cobbles, gravelly, oxidized-----		4	194
Clay, silty, sandy, pebbly, cobbly, brown, oxidized (till)-----		5	199
Clay, silty, sandy, pebbly, olive-gray (till); gray detrital shale gravel beds from 213 to 219 feet-----		29	228
Pierre Shale:			
Shale, dark-gray-----		12	240

135-063-15CCC
NDSWC 6228

Altitude: 1488 feet

Date drilled: 7/13/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----		14	15
Clay, silty, sandy, pebbly, olive-gray (till)-----		111	126
Sand, very fine to coarse, gray-----		3	129
Gravel, very fine to very coarse, pebbly, cobbly, sandy; some silty sandy clay beds-----		39	168

135-063-23AAA
NDSWC 6201

Altitude: 1475 feet Date drilled: 6/28/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		14	15
Clay, silty, sandy, pebbly, olive-gray (till)-----		51	66
Gravel, fine to coarse, pebbly, sandy-----		3	69
Clay, silty, sandy, pebbly, olive-gray (till)-----		14	83
Silt, olive-gray-----		7	90
Sand, medium; some clay lenses-----		5	95
Gravel, fine to coarse, pebbly, sandy-----		42	137
Silt, olive-gray-----		28	165
Gravel, very coarse, pebbly, sandy-----		5	170
Clay, silty, sandy, pebbly, dark-gray (till?); pebbles composed of gray shale are abundant-----		18	188
Pierre Shale:			
Shale, dark-gray; thinly laminated in part-----		15	203

135-063-24DDD
NDSWC 6225

Altitude: 1470 feet

Date drilled: 7/12/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		2	2
Silt, dark-yellowish-orange, oxidized-----		5	7
Clay, silty, sandy, pebbly, dark-yellowish-orange to olive-brown, oxidized (till); some thin gravel beds-----		21	28
Clay, silty, sandy, pebbly, olive-gray (till); gravel beds from 54 to 56, 83 to 85, and 102 to 103 feet-----		75	103
Clay, very silty, sandy, pebbly, medium-gray (till?)-----		39	142
Clay, silty, sandy, pebbly, medium-gray to dark-gray (till)-----		40	182
Gravel, fine to very coarse, pebbly-----		5	187
Sand, fine to coarse, pebbly; thin gravel beds; interbedded with clay and detrital lignite from 198 to 203 feet-----		16	203
Gravel, fine to very coarse, pebbly-----		3	206
Sand, very coarse, pebbly-----		7	213
Clay, sandy, gray-----		3	216
Gravel, fine to very coarse, pebbly-----		15	231
Clay, gray-----		6	237
Silt, dark-brown, carbonaceous-----		6	243
Gravel, fine to coarse, pebbly; clay beds-----		20	263
Clay, silty, pebbly, sandy; interbedded with gravel lenses-----		21	284
Pierre Shale:			
Shale, dark-gray to black, waxy; bentonite beds-----		9	293

135-063-34DDD
NDSWC 6227

Altitude: 1489 feet

Date drilled: 7/13/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----	23	23
	Clay, silty, sandy, pebbly, olive-gray (till)-----	43	66
	Sand, fine, gray; detrital lignite-----	3	69
	Clay, silty, sandy, pebbly, olive-gray (till)-----	18	87
	Clay, silty, sandy, gray; detrital lignite-----	4	91
	Clay, silty, sandy, pebbly, cobble, olive-gray (till?)-----	2	93
	Sand, very fine to coarse, gray-----	10	103
	Clay, silty, sandy, pebbly, olive-gray (till)-----	36	139
	Shale, medium-gray; fissile and thinly laminated in part; upper part is weathered; ice-thrust block(?)-----	16	155
	Clay, silty, olive-gray; interbedded with sand and some gravel-----	17	172
Pierre Shale:			
	Shale; thinly laminated in part; weathered in part-----	15	187
	Shale, light-gray, non- calcareous; dark-gray bentonite beds-----	16	203

136-062-07DCC
NDSWC 6177

Altitude: 1464 feet

Date drilled: 6/13/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		20	21
Gravel, fine to coarse, pebbly, sandy, oxidized-----		46	67
Clay, silty, sandy, pebbly, olive-gray (till)-----		11	78
Gravel, fine, pebbly, sandy; abundant detrital shale-----		9	87
Clay, silty, sandy, very pebbly, olive-gray (till); interbedded with thin gravel lenses-----		42	129
Clay, silty, sandy, pebbly, olive-gray (till)-----		9	138
Sand, fine to medium-----		5	143
Gravel, fine to coarse, pebbly, sandy; abundant detrital lignite-----		3	146
Clay, olive-gray-----		5	151
Gravel, fine, pebbly, sandy; interbedded with some clay lenses-----		105	256
Pierre Shale:			
Shale, dark-gray, waxy; bentonite beds-----		14	270

136-062-09CCC1
NDSWC 6178

Altitude: 1477 feet

Date drilled: 6/14/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, very silty, sandy, pebbly, yellowish- brown, oxidized (till)-----	19	19
	Silt, slightly clayey, yellowish-brown, oxidized-----	4	23
	Silt, slightly clayey, olive-gray-----	10	33
	Sand, coarse to very coarse, pebbly-----	10	43
	Sand, fine; abundant lenses of detrital lignite gravel-----	20	63
	Gravel, fine to very coarse, pebbly, sandy-----	30	93
	Clay, silty, sandy, pebbly, olive-gray (till?)-----	53	146
	Gravel, fine, pebbly, sandy-----	4	150
	Clay(?); poor samples-----	11	161
	Gravel, fine, pebbly, sandy; interbedded with clay lenses in part-----	189	350
Pierre Shale:			
	Shale, dark-gray, non- calcareous, thinly laminated; bentonite beds-----	13	363

136-062-15CCC
NDSWC 6180

Altitude: 1460 feet

Date drilled: 6/14/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		3	3
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); some gravel lenses-----		17	20
Gravel, fine to medium, pebbly, sandy, oxidized-----		6	26
Silt, very clayey, yellowish-brown, oxidized-----		3	29
Clay, silty, pebbly, yellowish-brown, oxidized (till)-----		33	62
Gravel, coarse, pebbly, oxidized-----		2	64
Clay, silty, sandy, medium-gray-----		18	82
Clay, silty, very sandy, pebbly, medium-gray to greenish-gray (till?)-----		15	97
Gravel, fine, pebbly, sandy; interbedded with till beds-----		12	109
Clay, silty, sandy, very pebbly, medium-gray (till)-----		45	154
Gravel, fine, pebbly, sandy; interbedded with clay lenses-----		22	176
Clay, silty, very pebbly, medium-gray (till)-----		24	200
Pierre Shale:			
Shale, medium-gray; bentonite beds-----		23	223

136-062-19DAA
NDSWC 6099

Altitude: 1463 feet

Date drilled: 8/13/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Silt, clayey, sandy, pebbly, yellowish- brown, oxidized-----	4	4
	Gravel and sand, oxidized-----	1	5
	Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----	13	18
	Clay, silty, sandy, pebbly, olive-gray (till)-----	80	98
	Clay, silty, olive-gray; interbedded with gravel-----	6	104
	Clay, silty, sandy, pebbly, olive-gray (till)-----	55	159
	Gravel, fine, pebbly, sandy; coarse in part-----	58	217
	Sand, medium to coarse, pebbly; contains some silty clay lenses; detrital lignite-----	20	237
	Cobbles, pebbles, and sand; interbedded with silty clay-----	25	262
	Sand, medium to very coarse; contains some clay lenses-----	25	287
Pierre Shale:			
	Shale, gray, noncalcareous-----	15	302

136-062-21BBB1
NDSWC 6182

Altitude: 1460 feet Date drilled: 6/15/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	2	2	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	10	12	
Sand, coarse to very coarse; interbedded lignite gravel lenses-----	12	24	
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with gravel lenses from 95 to 123 feet-----	99	123	
Clay, silty, sandy, pebbly, olive-gray to brownish- gray (till)-----	5	128	
Sand, fine; some detrital coal pebbles-----	15	143	
Clay, silty, medium-gray-----	5	148	
Gravel, fine to coarse, pebbly, cobbly-----	16	164	
Clay, silty, sandy, very pebbly, dark-olive-gray (till); abundant gray shale pebbles; inter- bedded with gravel lenses-----	35	199	
Gravel, fine, pebbly, sandy; coarse below 263 feet; lignite pebbles-----	87	286	
Pierre Shale:			
Shale, dark-gray; thinly laminated in part; bentonite beds-----	17	303	

136-062-21DAA2
(Log modified from Traut Wells Inc.)

Altitude: 1455 feet

Date drilled: 12/15/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		2	2
Clay, brown-----		52	54
Clay, gray-----		65	119
Clay, gray, hard, brittle-----		10	129
Shale, black-----		12	141
Clay, gray, soft-----		62	203
Shale, black-----		82	285

136-062-22AAA
NDSWC 6179

Altitude: 1465 feet

Date drilled: 6/14/83

Glacial drift:

Soil-----	1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	39	40
Clay, silty, sandy, pebbly, olive-gray (till)-----	20	60
Sand, fine; abundant detrital lignite-----	3	63
Sand, medium to coarse, pebbly-----	5	68
Clay, silty, sandy, pebbly, olive-gray (till)-----	11	79
Clay, silty, sandy, pebbly, greenish-gray to olive- gray (till)-----	29	108

Pierre Shale:

Shale, dark-gray, thinly laminated-----	15	123
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136-062-22DDD
NDSWC 6221

Altitude: 1455 feet

Date drilled: 7/14/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand, coarse, pebbly, oxidized-----		1	2
Silt, clayey, yellowish- brown, oxidized-----		4	6
Clay, very silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		34	40
Clay, silty, sandy, pebbly, olive-gray (till)-----		21	61
Sand, fine to coarse-----		2	63
Silt(?) ; no samples-----		9	72
Clay, sandy, olive-gray-----		8	80
Gravel, fine to coarse, pebbly-----		3	83
Silt, clayey, greenish-gray-----		5	88
Clay, silty, sandy, pebbly, olive-gray (till)-----		16	104
Clay, silty, sandy, pebbly, medium-gray (till)-----		15	119
Clay, silty, very sandy, very pebbly, greenish- gray (till?)-----		21	140
Silt, clayey, greenish- gray-----		32	172
Pierre Shale:			
Shale, dark-gray, waxy; bentonite beds-----		11	183

136-062-25BBB
NDSWC 6222

Altitude: 1460 feet

Date drilled: 7/11/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		8	9
Gravel, fine to coarse, sandy, oxidized-----		4	13
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		4	17
Clay, silty, sandy, pebbly, olive-gray (till)-----		36	53
Sand, fine, clayey, silty-----		4	57
Gravel, fine to coarse, sandy-----		6	63
Clay, silty, olive-gray; interbedded with silt-----		17	80
Clay, silty, pebbly, olive- gray (till)-----		10	90
Clay, dark-gray-----		4	94
Silt, greenish-gray; inter- bedded with clay-----		16	110
Gravel, fine to coarse, pebbly; mostly gray detrital shale-----		10	120
Silt, light-gray to greenish-gray; gravel lenses from 135 to 141 feet-----		21	141
Pierre Shale:			
Shale, yellowish-gray, oxidized-----		2	143
Shale, medium-gray, waxy-----		5	148
Shale, dark-gray; bentonite beds; thin dark-brown ironstone beds-----		5	153

136-062-25CCC
NDSWC 6223

Altitude: 1455 feet

Date drilled: 7/12/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown to dark- yellowish-brown, oxidized (till)-----		44	45
Clay, silty, sandy, pebbly, olive-gray (till)-----		35	80
Gravel, fine to medium, pebbly-----		7	87
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		2	89
Clay, silty, sandy, very pebbly, olive-gray (till)-----		17	106
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		4	110
Clay, silty, sandy, pebbly, olive-gray (till)-----		1	111
Gravel, fine, pebbly; oxidation stain-----		3	114
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		2	116
Clay, silty, sandy, pebbly, olive-gray (till)-----		14	130
Pierre Shale:			
Shale, dark-gray to black, thinly laminated-----		13	143

136-062-25DCD3
(Log modified from L.T.P. Enterprises Inc.)

Altitude: 1455 feet Date drilled: 9/24/75

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil, black-----	1	1
	Clay, sandy, brown, hard-----	26	27
	Clay, sandy, gray, hard-----	35	62
	Clay, sandy, gray, soft-----	18	80
	Sand, fine, gray, dirty-----	4	84
	Clay, sandy, gray, soft; with fine sand-----	13	97
	Clay, sandy, gray, soft-----	62	159
	Shale, gray, hard-----	8	167

136-062-27DDD
NDSWC 6220

Altitude: 1450 feet

Date drilled: 7/08/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, very silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		42	43
Clay, silty, sandy, pebbly, olive-gray (till)-----		5	48
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		8	56
Sand, clayey, silty, oxidized-----		7	63
Sand, medium to very coarse, pebbly-----		10	73
Clay, very silty, pebbly, olive-gray-----		13	86
Clay, silty, sandy, very pebbly, olive-gray (till)----		9	95
Clay, silty, sandy, pebbly, dark-olive-gray (till)-----		13	108
Clay, silty, sandy, pebbly, dark-gray to black (till)----		9	117
Clay, silty, sandy, pebbly, olive-gray (till)-----		26	143
Gravel, fine to medium, pebbly; abundant gray detrital shale-----		4	147
Clay, silty, sandy, pebbly, olive-gray (till); several gravel lenses from 147 to 157 feet-----		26	173
Gravel, fine to medium, pebbly, sandy; detrital lignite-----		8	181
Gravel, fine to medium, pebbly, sandy; inter- bedded with sandy clay-----		9	190

136-062-27DDD, Continued
NDSWC 6220

Altitude: 1450 feet Date drilled: 7/08/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift, Continued:	Silt, clayey, light-gray; gravel lenses from 190 to 200 feet; greenish gray from 205 feet-----	40	230
Pierre Shale:	Shale, medium-gray, waxy; bentonite beds-----	13	243

136-062-29AAA1
NDSWC 6181

Altitude: 1466 feet Date drilled: 6/15/83

Glacial drift:			
Soil-----	2	2	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	18	20	
Clay, silty, sandy, pebbly, yellowish-greenish-gray (till)-----	18	38	
Clay, silty, slightly sandy, pebbly, olive- gray (till)-----	29	67	
Sand, coarse to very coarse, pebbly; inter- bedded with till from 83 to 86 feet-----	19	86	
Clay, silty, very sandy, pebbly, olive-gray (till)----	74	160	
Gravel, fine, sandy; abundant gray detrital shale-----	3	163	
Clay, silty, sandy, pebbly, dark-gray (till)-----	11	174	
Pierre Shale:			
Shale, dark-gray, thinly laminated; bentonite beds-----	29	203	

136-062-30DDD2
NDSWC 6100

Altitude: 1336 feet

Date drilled: 8/16/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Soil-----	1	1
Sand, medium to very coarse, pebbly, oxidized-----	9	10
Sand, coarse to very coarse, pebbly; interbedded with clay from 93 to 100 feet-----	132	142

Pierre Shale:

Shale, medium-gray, noncalcareous-----	20	162
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136-062-32ADD2
(Log modified from Traut Wells Inc.)

Altitude: 1330 feet Date drilled: 7/07/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil, dark-brown-----	8	8
	Clay, sandy, brown-----	9	17
	Clay, gray, soft; with silt-----	19	36
	Sand, coarse-----	2	38
	Clay, gray-----	31	69
	Sand; with clay-----	6	75
	Clay, gray-----	27	102
	Sand, coarse, dirty-----	5	107
	Clay, gray-----	13	120

136-062-32ADD3
(Log modified from Traut Wells Inc.)

Altitude: 1330 feet Date drilled: 7/07/81

Soil, dark-brown-----	8	8
Clay, sandy, brown-----	8	16
Clay, gray-----	12	28
Sand, coarse-----	9	37
Clay, gray-----	13	50

136-062-32BAD
USBR L-56

Altitude: 1333 feet Date drilled: 8/31/67

Alluvium and glacial drift:

Loam, silty-----	4	4
Loam, silty, clayey, dense-----	6	10
Loam, silty; fine sand beds-----	5	15
Loam, dense; fine sand beds-----	4	19

136-062-34BBB
NDSWC 6101

Altitude: 1458 feet Date drilled: 8/17/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	54	55	
Clay, silty, sandy, pebbly, olive-brown (till)-----	39	94	
Silt, clayey, olive-gray-----	9	103	
Clay, silty, very sandy, brownish-gray-----	17	120	
Clay, silty, sandy, pebbly, dark-gray (till)-----	10	130	
Clay, silty, very sandy, dark-greenish-gray-----	5	135	
Clay, silty, sandy, pebbly, dark-gray (till)-----	24	159	
Sand, very fine, clayey, very carbonaceous-----	3	162	
Silt, clayey, olive-gray-----	22	184	
Sand, fine to medium; interbedded with silty clay-----	34	218	
Sand, coarse to very coarse-----	32	250	
Clay, sandy, gray-----	6	256	
Sand, coarse to very coarse, pebbly-----	29	285	
Pierre Shale: Shale, dark-gray-----	17	302	

136-062-34DCC
USBR 649

Altitude: 1340 feet Date drilled: 4/24/72

Glacial drift:			
Loam, silty-----	9	9	
Loam (till)-----	5	14	

136-063-02AAA
NDSWC 6090

Altitude: 1455 feet

Date drilled: 8/09/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, very silty, very sandy, pebbly, yellowish-brown, oxidized (till)-----		24	25
Clay, silty, sandy, pebbly, olive-gray (till)-----		36	61
Sand and gravel; interbedded with till; abundant gray detrital shale-----		12	73
Clay, silty, sandy, pebbly, olive-gray (till)-----		48	121
Clay, silty, very sandy-----		17	138
Clay, silty, sandy, very pebbly, olive-gray to brownish-gray (till?)-----		5	143
Clay, silty, brownish-gray-----		5	148
Sand, very coarse, pebbly; interbedded with clay from 173 to 178 feet; detrital lignite-----		30	178
Gravel, fine, pebbly; coarse in part-----		7	185
Sand, coarse to very coarse, pebbly-----		21	206
Pierre Shale:			
Shale, silty, gray-----		16	222

136-063-02ABB
USBR L-44

Altitude: 1351 feet

Date drilled: 8/11/67

Glacial drift:

Loam, silty, very dark gray-----	8	8
Loam, very fine, sandy, dark-brown-----	12	20
Loam, fine, sandy, cobbly (till?)-----	10	30

136-063-02ABC
USBR 6

Altitude: 1341 feet

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Loam, clayey-----	5	5
	Loam, gravelly-----	1	6
	Loam, silty, clayey-----	3	9
	Loam, sandy-----	2	11
	Clay-----	3	14
	Loam, sandy, clayey-----	3	17
	Loam, sandy-----	7	24

136-063-02BAB
(Log modified from Traut Wells Inc.)

Altitude: 1340 feet

Date drilled: 10/11/80

Soil-----	2	2
Clay, sandy, brown-----	3	5
Gravel, coarse, brown-----	22	27
Clay, gray-----	15	42
Sand, fine, gray; with clay-----	7	49
Clay, gray-----	7	56
Sand, medium to coarse, pebbly-----	8	64
Clay, gray-----	5	69
Shale, black-----	3	72

136-063-02BAC1
USBR DH72-110

Altitude: 1344 feet

Date drilled: 11/01/72

Alluvium and glacial drift:

Silt, sandy, black-----	2	2
Sand, fine to coarse, silty, brown; with fine gravel-----	13	15
Sand, medium to coarse, brown-----	12	27
Shale, gray (Pierre Shale)-----	12	39
Sand, fine, silty, gray-----	6	45
Sand, fine to medium, silty, brown-----	5	50

136-063-02BAD1
NDSWC 6093

Altitude: 1340 feet Date drilled: 8/10/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Silt, dark-brown, carbonaceous-----		9	10
Sand, medium-----		25	35
Silt, clayey, olive-gray-----		5	40

136-063-02BAD2
NDSWC 6097

Altitude: 1341 feet Date drilled: 8/12/82

Alluvium and glacial drift:			
Soil-----		1	1
Silt, brown-----		11	12
Silt, very sandy, brown-----		6	18
Sand, fine; abundant bivalve and gastropod shell fragments; gravel and cobbles at base of unit-----		24	42
Sand, coarse-----		12	54
Clay; no description-----		2	56
Sand, coarse to very coarse, pebbly-----		4	60
Sand, coarse; detrital lignite-----		10	70
Sand, very coarse, pebbly-----		10	80
Gravel, coarse, pebbly-----		6	86
Clay, olive-gray-----		7	93
Cobbles-----		1	94
Clay, silty, sandy, pebbly, greenish-gray (till?); abundant gray detrital shale-----		9	103

Pierre Shale:

Shale, greenish-gray to medium-gray, non- calcareous-----	19	122
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136-063-02BBB
NDSWC 6092

Altitude: 1360 feet Date drilled: 8/10/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Gravel, fine to coarse, pebbly; clay from 20 to 23 feet-----	35	35
Silt, greenish-gray-----	7	42

136-063-02BDB
USBR DH71-6

Altitude: 1340 feet Date drilled: 5/13/71

Alluvium and glacial drift:

Soil-----	1	1
Sand, silty, clayey, brown-----	9	10
Sand, silty, clayey, gray-----	30	40
Sand, clayey, gray, dense-----	5	45
Sand, fine, gray-----	5	50

136-063-02CAD
USBR 99

Altitude: 1341 feet Date drilled: 8/24/67

Alluvium and glacial drift:

Loam, silty-----	2	2
Loam, silty, clayey-----	6	8
Loam, silty, clayey, very dense-----	6	14
Loam, silty, dense-----	6	20

136-063-03ABA
NDSWC 6091

Altitude: 1388 feet

Date drilled: 8/10/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand, fine, clayey, oxidized-----		14	15
Sand, very coarse, pebbly; oxidized in upper part-----		5	20
Clay, olive-gray-----		3	23
Pierre Shale:			
Shale, dark-gray, non- calcareous, fractured-----		17	40
Shale, medium-gray, noncalcareous-----		7	47

136-063-04DDA
(Log modified from Adair Drilling Co.)

Altitude: 1470 feet

Date drilled: 5/12/78

Soil-----	1	1
Clay, yellow-----	39	40
Till, clayey, gray-----	63	103
Sand-----	5	108
Till, clayey, gray-----	22	130
Shale-----	20	150

136-063-09AAC

(Log modified from M & W Exploration & Water Well, Inc.)

Altitude: 1470 feet

Date drilled: 6/20/77

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		1	1
Till, cobbly, brown, oxidized-----		36	37
Till, gray-----		70	107
Gravel, medium-----		11	118
Till, gray-----		2	120
Gravel, medium-----		9	129
Sand, silty; with dirty gravel-----		7	136
Gravel, medium-----		4	140
Till, gray-----		29	169
Gravel, medium to coarse-----		20	189
Shale-----		--	189

136-063-11DD2

(Log modified from Traut Wells Inc.)

Altitude: 1345 feet

Date drilled: 9/23/82

Soil-----	1	1
Clay, sandy-----	3	4
Sand, coarse; with gravel-----	29	33
Sand, fine; with lignite gravel-----	2	35
Sand, coarse-----	3	38
Sand, fine; with lignite gravel-----	2	40
Sand, coarse; with gravel-----	9	49
Clay, light-gray-----	6	55

136-063-12AAA
NDSWC 6098

Altitude: 1478 feet

Date drilled: 8/12/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	25	25
	Clay, silty, sandy, pebbly, olive-gray (till)-----	7	32
	Silt, clayey, olive-gray; becomes less clayey with increasing depth-----	18	50
	Silt, sandy, olive-gray to dark-gray; becomes sandier with increasing depth; detrital lignite-----	11	61
	Sand, coarse to very coarse, pebbly-----	4	65
	Gravel, medium to coarse, pebbly; coarser in part-----	9	74
	Clay, silty, sandy, pebbly, olive-gray (till)-----	51	125
	Sand(?), silty, clayey-----	13	138
	Gravel, fine to medium, pebbly, sandy-----	8	146
	Cobbles and gravel, clayey; poor samples-----	15	161
Pierre Shale:			
	Shale, gray, noncalcareous; contains small brown "needle-like" inclusions-----	21	182

136-063-13CBD1
NDSWC 6096

Altitude: 1339 feet Date drilled: 8/11/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Silt, clayey, brown; lenses of fine sand-----		9	10
Silt, yellowish-brown, oxidized-----		5	15
Silt, olive-gray-----		11	26
Sand, coarse to very coarse, pebbly; bivalve shell fragments-----		12	38
Silt, sandy, olive-gray; clayey in part-----		14	52
Clay(?), brownish-gray-----		10	62
Sand, coarse; abundant detrital lignite-----		35	97
Gravel, coarse, pebbly, cobbly-----		11	108
Sand(?), coarse, clayey(?)-----		14	122

136-063-14ADB
USBR 226

Altitude: 1335 feet Date drilled: 9/12/68

Alluvium and glacial drift:			
Loam, clayey, brown-----		8	8
Loam, pale-brown-----		9	17
Till, gray, dense-----		3	20

136-063-14BCB
NDSWC 6095

Altitude: 1474 feet

Date drilled: 8/11/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		2	2
Clay, very silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		15	17
Clay, silty, sandy, pebbly, olive-gray (till)-----		24	41
Silt, olive-gray-----		4	45
Clay; no description-----		6	51
Sand, silty, clayey-----		11	62
Silt, olive-gray; inter- bedded with fine sand-----		19	81
Sand, coarse; interbedded with clay in part-----		44	125
Clay; no desription-----		4	129
Sand, coarse to very coarse, pebbly-----		7	136
Gravel, fine to medium, pebbly, sandy; coarse in part; contains some silty clay lenses-----		26	162
Sand, coarse to very coarse, pebbly-----		18	180
Gravel, fine, pebbly, sandy-----		17	197
Clay, medium-gray-----		17	214
Silt, sandy, or silty sand-----		4	218
Gravel, fine to medium, pebbly; coarse in part; interbedded with clay from 232 to 236 feet-----		18	236
Pierre Shale:			
Shale, medium-gray-----		24	260

136-063-14CCB
(Log modified from Green Circle Supply, Inc.)

Altitude: 1480 feet Date drilled: 2/01/77

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil-----	2	2
	Clay, silty, brown-----	22	24
	Till, gray-----	134	158
	Gravel, medium-----	12	170
	Sand, fine to medium-----	34	204
	Gravel, medium-----	16	220

136-063-14DDA
(Log modified from M & W Exploration & Water Well, Inc.)

Altitude: 1480 feet Date drilled: 6/01/77

Soil-----	1	1
Till-----	23	24
Sand, silty-----	10	34
Sand, medium-----	9	43
Sand and gravel-----	53	96
Silt, gray-----	18	114
Sand, coarse-----	32	146
Cobbles; with clay-----	--	146

136-063-16DDC2
(Log modified from Traut Wells Inc.)

Altitude: 1480 feet Date drilled: 5/01/82

Soil-----	1	1
Clay, yellow-----	12	13
Sand, coarse; with gravel-----	2	15
Clay, yellow-----	20	35
Clay, gray-----	74	109
Gravel, dirty; with clay and detrital shale-----	5	114
Clay, gray, hard-----	26	140

136-063-17DDD
NDSWC 6186

Altitude: 1484 feet

Date drilled: 6/17/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil-----	1	1
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	7	8
	Clay, silty, sandy, pebbly, yellowish-green, partly oxidized (till)-----	11	19
	Clay, silty, sandy, pebbly, olive-gray (till)-----	69	88
	Clay, silty, sandy, pebbly, medium-gray (till)-----	16	104
	Gravel, fine to medium, pebbly, sandy-----	15	119
	Silt, olive-gray; inter- bedded with fine sand and clay-----	21	140
	Gravel, fine, pebbly; abundant gray detrital shale-----	3	143
	Sand, coarse to very coarse, pebbly; detrital lignite pebbles-----	14	157
	Silt, greenish-gray-----	3	160
	Gravel, fine to coarse, pebbly, cobbley-----	7	167
	Sand, very coarse; inter- bedded with silt-----	9	176
	Clay, greenish-gray; inter- bedded with brown carbonaceous silt-----	10	186
	Silt, clayey, greenish-gray-----	2	188
	Clay, silty, sandy, pebbly; interbedded with silt-----	8	196
	Gravel, fine to medium, pebbly, sandy; inter- bedded with clay; coarse and cobbley from 213 feet-----	20	216
Pierre Shale:			
	Shale, dark-gray-----	17	233

136-063-18CCD
NDSWC 12254

Altitude: 1509 feet

Date drilled: 7/22/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Clay, silty, sandy, pebbly, yellowish-brown to olive- brown, oxidized (till)-----	17	18	
Clay, silty, sandy, pebbly, olive-gray (till); cobbly gravel from 35 to 36 feet; gray detrital shale gravel from 90 to 91 feet-----	73	91	
Clay, silty, sandy, pebbly, cobbly, olive-gray (till); gray detrital shale beds from 143 to 146 feet; cobbles and gravel from 157 to 158 feet-----	67	158	
Clay, silty, white (paleosol?)-----	1	159	
Clay, silty, sandy, pebbly, olive-gray (till?)-----	3	162	
Silt, olive-gray (till?); interbedded with sandy clay; detrital lignite-----	8	170	
Silt, olive-gray; detrital lignite-----	11	181	
Gravel, medium to very coarse, pebbly, cobbly; contains some silt or clay beds-----	11	192	
Cobbles and pebbles-----	5	197	

136-063-22ABA
NDSWC 6185

Altitude: 1470 feet

Date drilled: 6/16/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		38	39
Clay, silty, sandy, pebbly, olive-gray (till)-----		8	47
Silt, slightly clayey, olive-gray-----		28	75
Sand, fine-----		5	80
Clay, silty, sandy, olive- gray; some gravel lenses-----		8	88
Sand, fine to very coarse, pebbly-----		15	103
Clay, silty, sandy; inter- bedded with silt-----		6	109
Clay, silty, sandy, pebbly, medium-gray (till?); interbedded with gravel lenses-----		10	119
Clay, dark-gray; black and organic in part-----		87	206
Gravel, fine, pebbly, sandy; interbedded with clay-----		9	215
Pierre Shale:			
Shale, dark-gray to black, calcareous, thinly laminated; bentonite beds-----		8	223

136-063-22BDB
(Log modified from Green Circle Supply, Inc.)

Altitude: 1475 feet

Date drilled: 1/02/77

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		1	1
Clay, silty, brown-----		13	14
Clay, gray-----		94	108
Gravel, medium to coarse-----		30	138
Clay, hard-----		2	140
Gravel, medium to coarse-----		12	152
Shale, black, hard-----		--	152

136-063-24BBB
(Log modified from Green Circle Supply, Inc.)

Altitude: 1360 feet

Date drilled: 2/01/77

Soil-----	1	1
Sand, silty, brown, oxidized-----	4	5
Clay, silty, tan-----	7	12
Gravel and sand, dirty, dry-----	22	34
Gravel-----	16	50
Sand, silty, clayey, gray-----	20	70
Sand, medium to coarse, gray-----	5	75
Sand, silty, gray-----	5	80
Sand, medium to coarse; lignite gravel-----	40	120
Sand and gravel, coarse-----	10	130
Shale, gray-----	--	130

136-063-24DCD
USBR DH72-109

Altitude: 1336 feet

Date drilled: 10/31/72

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Sand, very fine, clayey, silty, brown-----	7	7	
Sand, fine, silty, brown-----	7	14	
Silt, sandy, gray-----	2	16	
Sand, fine, silty, gray-----	3	19	
Sand, fine to medium, silty, gray-----	15	34	
Clay, silty, gray; sandy in part-----	10	44	
Sand, fine to medium, silty, clayey; with some fine to medium gravel-----	6	50	

136-063-25ADA
NDSWC 6184

Altitude: 1333 feet

Date drilled: 6/16/83

Alluvium and glacial drift:

Silt, slightly clayey, dark-brown-----	10	10
Silt, slightly clayey, olive-gray-----	13	23
Sand, very coarse, pebbly-----	10	33
Clay, olive-gray-----	11	44
Gravel, fine to coarse, pebbly, sandy; some detrital lignite-----	13	57
Sand, very coarse-----	6	63
Cobbles and pebbles-----	1	64
Gravel, fine, pebbly, sandy; some detrital lignite-----	16	80
Gravel, fine to coarse, pebbly, sandy-----	27	107

Pierre Shale:

Shale, dark-gray; bentonite beds-----	16	123
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136-063-25ADB
USBR DH71-7

Altitude: 1335 feet Date drilled: 5/18/71

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Clay, silty, sandy, brown-----		9	10
Clay, silty, sandy, gray-----		4	14
Sand, fine; abundant mollusk shell fragments-----		2	16
Clay, silty, sandy, greenish-gray-----		9	25
Sand, fine to medium, gray-----		9	34
Clay, silty, gray, varved-----		16	50

136-063-25BDA

(Log modified from M & W Exploration & Water Well, Inc.)

Altitude: 1370 feet Date drilled: 8/12/77

Soil-----	1	1
Gravel, brown, oxidized-----	19	20
Gravel-----	43	63
Sand, fine to medium, gray-----	29	92
Sand, medium to coarse; with gravel-----	21	113
Cobbles and clay-----	7	120

136-063-26CCC1

(Log modified from M & W Exploration & Water Well, Inc.)

Altitude: 1480 feet Date drilled: 6/21/77

Soil-----	1	1
Clay, brown-----	27	28
Clay, gray (till)-----	124	152
Shale-----	--	152

136-063-26CCC2
NDSWC 6188

Altitude: 1484 feet

Date drilled: 6/20/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		2	2
Clay, very silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		22	24
Clay, silty, sandy, pebbly, olive-gray (till)-----		37	61
Silt, olive-gray-----		7	68
Clay, silty, sandy, pebbly, olive-gray (till)-----		50	118
Silt, olive-gray-----		3	121
Clay, silty, sandy, pebbly, olive-gray (till)-----		4	125
Clay, silty, sandy, pebbly, medium-gray to brownish- gray (till)-----		15	140
Clay, silty, greenish-gray; dark-brown organic zones; detrital lignite-----		3	143
Silt, sandy, gray-----		16	159
Pierre Shale:			
Shale, dark-gray, thinly laminated, moderately indurated-----		14	173

136-063-29AAA
NDSWC 6187

Altitude: 1503 feet Date drilled: 6/20/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Glacial drift:

Soil-----	2	2
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	31	33
Clay, silty, sandy, pebbly, brownish-gray to olive- gray (till)-----	56	89
Clay, silty, sandy, pebbly, olive-gray (till)-----	24	113
Clay, silty, sandy, pebbly, medium-gray (till)-----	5	118
Sand, coarse to very coarse, pebbly; some silt and clay beds-----	26	144

Pierre Shale:

Shale, dark-gray to black, thinly laminated, fractured-----	19	163
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136-063-34DDD
NDSWC 6232

Altitude: 1488 feet Date drilled: 7/14/83

Glacial drift:

Soil-----	2	2
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	8	10
Sand, very coarse, pebbly, oxidized-----	8	18
Silt, olive-gray-----	5	23
Clay, very silty, sandy, pebbly, olive-gray (till)----	90	113
Silt, olive-gray-----	10	123
Clay, very silty, sandy, pebbly, olive-gray (till)----	17	140

Pierre Shale:

Shale, black, thinly laminated, fractured-----	23	163
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136-063-35AAA
NDSWC 6104

Altitude: 1479 feet

Date drilled: 8/20/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		29	30
Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel lens from 46 to 48 feet-----		30	60
Clay, silty, very sandy, pebbly, olive-gray (till?); detrital lignite-----		17	77
Clay, silty, sandy, pebbly, olive-gray (till)-----		35	112
Clay, silty, pebbly, dark- olive-gray (till); light- brown to greenish-gray silt beds from 128 to 132 feet-----		25	137
Silt, clayey, olive-gray-----		18	155
Sand, coarse to very coarse, pebbly-----		77	232
Gravel, fine to medium, pebbly, sandy-----		33	265
Pierre Shale:			
Shale, medium-gray, noncalcareous-----		37	302

137-062-01ABB
NDSWC 11808

Altitude: 1449 feet

Date drilled: 11/03/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	26	26
	Clay, silty, sandy, pebbly, olive-gray (till)-----	15	41
	Sand, medium-----	44	85
	Gravel, coarse, pebbly, sandy-----	31	116
	Sand, coarse, pebbly; interbedded with silty clay-----	5	121
	Clay, silty, sandy, pebbly, olive-gray (till)-----	55	176
Pierre Shale:			
	Shale, black-----	24	200

137-062-02AAA
NDSWC 11807

Altitude: 1450 feet

Date drilled: 11/03/81

Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	10	10
	Clay, silty, sandy, pebbly, olive-gray (till)-----	28	38
	Sand, silty-----	11	49
	Clay, gray-----	8	57
	Sand, medium to coarse, pebbly-----	21	78
	Gravel, fine to coarse, pebbly-----	9	87
	Clay, silty, sandy, pebbly, olive-gray (till)-----	85	172
Pierre Shale:			
	Shale, gray to black-----	28	200

137-062-02DDD
NDSWC 5735

Altitude: 1460 feet

Date drilled: 7/24/70

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	32	33
	Sand, fine to medium, clayey, silty, oxidized-----	4	37
	Clay, silty, pebbly, olive- gray (till)-----	14	51
	Sand, medium to very coarse----	27	78
	Clay, silty, sandy, pebbly, olive-gray to dark-gray (till)-----	157	235
	Clay, very sandy, olive- gray to dark-gray; occasional sand lens; abundant detrital lignite-----	65	300
	Clay, silty, sandy, pebbly, dark-gray (till)-----	49	349
	Gravel, fine to coarse, pebbly, sandy, clayey-----	14	363
	Clay, silty, sandy, pebbly, olive-gray (till)-----	5	368
	Cobbles, pebbles, and sand-----	6	374
Niobrara Formation:			
	Shale, dark-gray to brownish-gray; small white inclusions and calcareous concretions-----	6	380

137-062-03DAA
NDSWC 11810

Altitude: 1468 feet

Date drilled: 11/04/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Clay, silty, yellowish-brown, oxidized-----	8	9
	Clay, silty, sandy, pebbly, olive-gray (till)-----	33	42
	Sand, fine to medium; interbedded with clay from 55 to 58 feet-----	16	58
	Clay, silty, sandy, pebbly, olive-gray (till)-----	178	236
Pierre Shale:			
	Shale, gray; black in part-----	24	260

137-062-03DDD1
NDSWC 11809

Altitude: 1478 feet

Date drilled: 11/04/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		15	16
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with sand and gravel from 41 to 49 feet----		46	62
Sand, fine to medium, silty----		5	67
Sand, medium; abundant detrital lignite-----		32	99
Sand, coarse to very coarse, very pebbly-----		14	113
Clay, silty, sandy, pebbly, olive-gray (till); gravel from 125 to 127 feet-----		79	192
Clay, very silty, olive- gray-----		14	206
Clay, very silty, olive- gray; light green in part----		9	215
Gravel, fine, pebbly, sandy----		25	240
Gravel, fine, pebbly, sandy; interbedded with silty to sandy light- gray to green clay-----		21	261
Gravel, fine to medium, pebbly, sandy; abundant detrital lignite-----		7	268
Pierre Shale:			
Shale, dark-gray-----		12	280

137-062-05DDD
NDSWC 5734

Altitude: 1472 feet

Date drilled: 7/22/70

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		11	12
Clay, silty, sandy, pebbly, olive-gray (till)-----		39	51
Sand, coarse to very coarse, pebbly-----		19	70
Gravel, fine to coarse, pebbly, sandy-----		52	122
Clay, silty, sandy, pebbly, olive-gray (till)-----		27	149
Gravel, fine to coarse, pebbly, sandy-----		19	168
Clay, silty, sandy, pebbly, dark-gray (till?)-----		7	175
Gravel, medium to coarse, pebbly; fine and sandy in part; contains thin clay beds-----		101	276
Clay, silty, sandy, pebbly, olive-gray to dark-gray (till)-----		26	302
Gravel, fine to medium, pebbly, very sandy-----		34	336
Clay, silty, sandy, light- gray, laminated-----		6	342
Niobrara Formation:			
Shale, brownish-black; small white inclusions; occasional limestone concretions-----		18	360

137-062-06DCC
 (Log modified from L.T.P. Enterprises Inc.)

Altitude: 1460 feet

Date drilled: 11/03/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Clay, silty, sandy, brown-----	15	15
	Clay, sandy, cobbly, brown-----	31	46
	Sand, medium, brown-----	40	86
	Clay, sandy, gray-----	11	97
	Boulder-----	2	99
	Clay, sandy, gray-----	17	116
	Clay, sandy, cobbly, gray-----	1	117
	Clay, sandy, gray-----	34	151
	Sand, gray-----	2	153
	Clay, sandy, gray-----	14	167
	Clay, sandy, cobbly, gray-----	10	177
	Sand, gray-----	9	186
	Clay, sandy, gray-----	14	200
	Sand, medium-----	32	232
	Shale-----	10	242

137-062-07BBC
NDSWC 6235

Altitude: 1460 feet Date drilled: 7/15/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand, very coarse, pebbly, oxidized-----		1	2
Clay, very silty, sandy, yellowish-brown, oxidized-----		8	10
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		25	35
Gravel, fine, pebbly, sandy-----		10	45
Clay, silty, sandy, pebbly, olive-gray (till)-----		55	100
Clay, silty, sandy, pebbly, medium-gray to dark-gray (till)-----		7	107
Sand, coarse to very coarse; gravel beds-----		11	118
Sand, fine to coarse; abundant detrital lignite-----		22	140
Gravel, fine, pebbly, sandy-----		10	150
Clay, very silty, sandy, brownish-gray-----		6	156
Clay, silty, medium-gray-----		22	178
Silt, greenish-gray to brown; carbonaceous in part-----		13	191
Pierre Shale:			
Shale, dark-gray, waxy-----		12	203

137-062-07CCC
NDSWC 5736

Altitude: 1458 feet

Date drilled: 7/24/70

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, pebbly, yellowish-brown, oxidized (till); sandy in part-----		49	50
Clay, silty, sandy, pebbly, olive-gray (till)-----		57	107
Sand, very fine to coarse; some clay beds-----		24	131
Gravel, medium to coarse, pebbly, sandy, cobbly-----		4	135
Pierre Shale:			
Shale, dark-gray, non- calcareous; light- gray bentonite beds-----		25	160

137-062-12ABB
NDSWC 11315

Altitude: 1452 feet

Date drilled: 7/31/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Sand, very fine, dark-yellowish-brown-----	8	9
	Clay, silty, sandy, pebbly, dark-yellowish-brown, oxidized (till)-----	13	22
	Clay, silty, sandy, pebbly, olive-gray (till)-----	20	42
	Sand, medium to coarse-----	13	55
	Sand, very coarse, pebbly, cobbley-----	10	65
	Clay, silty, sandy, pebbly, olive-gray (till); sand and gravel from 130 to 132 feet-----	82	147
	Clay, silty, sandy, pebbly, olive-gray; interbedded with sand and gravel-----	6	153
	Sand, very coarse; pebbly and cobbley from 176 to 180 feet-----	36	189
Pierre Shale:			
	Shale, black, non-calcareous-----	11	200

137-062-19BBBB1
NDSWC 6175

Altitude: 1458 feet

Date drilled: 6/09/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); silt beds from 20 to 30 feet-----	30	30
	Clay, silty, pebbly, dark-olive-gray (till); sand and silt lenses-----	56	86
	Clay, silty, sandy, very pebbly, cobbly, olive-gray (till)-----	19	105
	Clay, silty, sandy, pebbly, greenish-gray-----	5	110
	Silt, slightly clayey, slightly sandy, greenish-gray; carbonaceous in part-----	12	122
	Sand, very coarse, pebbly; interbedded with fine clayey sand and coarse clayey sand; detrital lignite-----	15	137
	Sand, very coarse, pebbly; detrital lignite-----	16	153
	Silt, clayey; interbedded with fine clayey sand-----	10	163
	Gravel, fine to coarse, pebbly, sandy-----	11	174
	Clay, greenish-gray; carbonaceous in part; interbedded with silty clay; grades to clayey silt-----	34	208
	Gravel, sandy; interbedded with sandy clay-----	32	240
	Clay, silty, greenish-gray-----	5	245
	Gravel, coarse, pebbly, cobbly-----	1	246
Pierre Shale:			
	Shale, dark-gray to black; silty in part-----	17	263

137-062-20CCC

(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1475 feet

Date drilled: 7/02/76

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil, black-----	1	1
	Clay, yellow-----	29	30
	Clay, gray-----	47	77
	Sand, fine-----	47	124
	Clay, gray-----	18	142
	Sand, coarse-----	38	180

137-062-26DDD
NDSWC 5739

Altitude: 1442 feet

Date drilled: 7/28/70

Glacial drift:

Soil-----	1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	16	17
Clay, silty, sandy, pebbly, olive-gray (till)-----	14	31
Sand, fine to coarse; detrital lignite-----	14	45
Clay, silty, sandy, pebbly, olive-gray (till)-----	53	98
Sand, medium to very coarse; becomes more pebbly with depth-----	89	187

Pierre Shale:

Shale, dark-gray to black,
noncalcareous, fractured;
bentonitic in part----- 28 215

Niobrara Formation:

Shale, medium-gray, very
calcareous; sandy(?)
in part; small white
inclusions----- 25 240

137-062-27CCC
NDSWC 5738

Altitude: 1458 feet

Date drilled: 7/28/70

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		32	33
Clay, silty, sandy, pebbly, olive-gray (till)-----		24	57
Sand, very fine to medium, clayey-----		5	62
Clay, silty, sandy, pebbly, olive-gray (till)-----		89	151
Gravel, fine to coarse, pebbly, sandy; contains some thin clay beds-----		104	255
Clay, silty, olive-gray to black (till); numerous gray shale fragments-----		63	318
Niobrara Formation:			
Shale, brownish-black, noncalcareous, oily; small brownish-gray concretions; small white inclusions-----		22	340

137-062-29CDD
NDSWC 5737

Altitude:	1466 feet	Date drilled:	7/27/70
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		33	34
Clay, silty, sandy, pebbly, olive-gray (till)-----		3	37
Sand, very fine to medium, silty-----		5	42
Clay, silty, sandy, pebbly, olive-gray (till)-----		62	104
Gravel, fine to coarse, pebbly, sandy-----		26	130
Sand, medium to coarse, very pebbly-----		10	140
Gravel, fine to coarse, pebbly, sandy, cobbly; contains some thin clay beds-----		115	255
Pierre Shale:			
Shale, dark-gray to black, noncalcareous-----		5	260

137-062-30BBB1
NDSWC 6089

Altitude: 1459 feet

Date drilled: 8/06/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Sand, coarse to very coarse, oxidized-----	4	5
	Clay; no description-----	1	6
	Sand, medium to very coarse, pebbly, oxidized-----	6	12
	Clay, silty, sandy, pebbly, olive-gray (till); upper part is oxidized and yellowish brown-----	117	129
	Sand, fine; interbedded with sandy clay-----	12	141
	Sand, coarse-----	9	150
	Clay, silty, medium-gray; interbedded with silt-----	11	161
	Sand, coarse-----	13	174
	Clay, brownish-gray; inter- bedded with silt; sand from 194 to 196 feet-----	24	198
	Sand, coarse-----	22	220
	Sand, very coarse, pebbly-----	17	237
	Gravel, coarse, pebbly, cobbly-----	5	242
Pierre Shale:			
	Shale, medium-gray-----	5	247

137-062-31DCB
(Log modified from Traut Wells Inc.)

Altitude: 1460 feet

Date drilled: 10/27/77

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----	22	22	
Clay, brown-----	2	24	
Gravel-----	2	26	
Gravel; with brown clay-----	2	28	
Clay, brown-----	11	39	
Clay, gray-----	39	78	
Sand, fine, gray-----	2	80	
Clay, gray-----	80	160	
Sand, very coarse-----	18	178	
Sand, very coarse, silty-----	2	180	
Sand, very coarse-----	50	230	
Sand, fine, silty; detrital lignite-----	10	240	
Shale-----	5	245	

137-063-01CDD
(Log modified from Traut Wells Inc.)

Altitude: 1455 feet

Date drilled: 2/23/81

Soil-----	2	2
Clay, brown; with gravel-----	7	9
Clay, brown-----	14	23
Sand, fine; with lignite gravel and clay-----	69	92
Sand, very coarse; with clay-----	6	98
Clay, gray-----	66	164
Clay, gray; with shale cobbles-----	5	169
Shale, black-----	38	207
Shale, light-gray to dark-gray-----	33	240

137-063-01DCA
(Log modified from Traut Wells Inc.)

Altitude: 1450 feet

Date drilled: 8/14/77

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		3	3
Clay, brown-----		16	19
Clay, sandy, brown-----		5	24
Clay, gray-----		93	117
Sand, very coarse-----		2	119
Clay, sandy, gray-----		11	130
Shale-----		5	135

137-063-02ADD
NDSWC 6083

Altitude: 1350 feet

Date drilled: 8/05/82

Alluvium and glacial drift:

Soil-----	1	1
Silt, clayey, dark-brown, organic-----	7	8
Sand, fine; coarse in part-----	23	31
Gravel, cobbly-----	2	33

Pierre Shale:

Shale, medium-gray, noncalcareous-----	9	42
---	---	----

137-063-02BBB
NDSWC 6085

Altitude: 1482 feet

Date drilled: 8/05/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	2	2
	Clay, silty, sandy, yellowish-brown, oxidized; inter- bedded with cobbly gravel-----	29	31
	Silt, yellowish-brown, oxidized; interbedded with sandy clay-----	16	47
	Clay, silty, sandy, pebbly, olive-gray (till)-----	47	94
	Silt, olive-gray; carbona- ceous in part; contains some fine sand beds; gravel beds near base-----	23	117
Pierre Shale:			
	Shale, medium-gray, non- calcareous, bentonitic-----	25	142

137-063-10BBA
NDSWC 6086

Altitude:	1390 feet	Date drilled:	8/05/82
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Gravel, fine to medium, pebbly, oxidized-----	5	6	
Silt, dark-yellowish- orange, oxidized-----	7	13	
Silt, olive-gray; contains clay and silty clay beds-----	28	41	
Clay, silty, olive-gray; interbedded with gravel-----	10	51	
Clay, silty, sandy, pebbly, brownish-gray (till)-----	12	63	
Gravel, fine, pebbly, sandy-----	4	67	
Clay, silty, sandy, pebbly, brownish-gray (till)-----	36	103	
Sand; no description-----	2	105	
Silt, very clayey, olive- gray; interbedded with sandy clay or till-----	16	121	
Pierre Shale:			
Shale, medium-gray, non- calcareous, bentonitic-----	13	134	

137-063-11ABD
NDSWC 6087

Altitude:	1352 feet	Date drilled:	8/05/82
Alluvium and glacial drift:			
Soil-----	1	1	
Silt, clayey, brown-----	4	5	
Sand, very fine-----	3	8	
Sand, fine to coarse; pebbly in part; boulder at 27 feet-----	19	27	
Sand, very coarse, pebbly; abundant detrital shale-----	12	39	
Pierre Shale:			
Shale, medium-gray, bentonitic, fractured-----	8	47	

137-063-11ADD
(Log modified from Traut Wells Inc.)

Altitude: 1380 feet Date drilled: 9/26/76

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil-----	2	2
	Sand-----	21	23
	Shale-----	107	130

137-063-11DDD
(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1370 feet Date drilled: 6/01/77

Soil, black-----	1	1
Gravel-----	44	45
Shale-----	50	95

137-063-12BBC
(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1385 feet Date drilled: 4/18/79

Soil, black-----	2	2
Sand and gravel-----	15	17
Shale-----	98	115

137-063-12BCC
USBR L-47

Altitude: 1379 feet Date drilled: 8/15/67

Glacial drift:

Loam, sandy, gravelly, cobbly, brown-----	20	20
Sand, coarse, loamy, gravelly, brown-----	2	22
Loam, silty, gray; with clay loam-----	13	35
Loam, silty, clayey, gray (till)-----	5	40

137-063-24BBB
NDSWC 6088

Altitude: 1344 feet

Date drilled: 8/06/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Silt, clayey, sandy, dark-brown-----		9	10
Sand, coarse; interbedded with clay-----		18	28
Sand, coarse to very coarse, pebbly-----		4	32
Gravel, fine to medium, pebbly, sandy-----		2	34
Pierre Shale:			
Shale, medium-gray to dark-gray, bentonitic-----		8	42

137-063-25DDD1
NDSWC 6176

Altitude: 1465 feet

Date drilled: 6/10/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Gravel, fine, pebbly, sandy-----		2	3
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		17	20
Gravel, fine to medium, pebbly, sandy, oxidized-----		7	27
Clay, silty, sandy, pebbly, olive-gray (till)-----		13	40
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		3	43
Silt, slightly clayey, yellowish-brown, oxidized-----		2	45
Sand, coarse, pebbly-----		22	67
Gravel, fine, pebbly, sandy; iron-oxide stain; possibly interbedded with sandy clay-----		18	85
Gravel, fine to coarse, sandy; iron-oxide stain below 110 feet; cobbly from 128 to 133 feet-----		48	133
Clay, olive-gray-----		2	135
Sand; no description-----		5	140
Clay, olive-gray; inter- bedded with silt-----		3	143
Gravel, medium to coarse, pebbly, sandy, cobbly; detrital lignite-----		12	155
Clay, medium-gray-----		46	201
Gravel, fine to medium, pebbly, sandy-----		51	252
Pierre Shale:			
Shale, dark-gray to black, waxy-----		11	263

137-063-27ABA
(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1480 feet

Date drilled: 8/02/74

GEOLOGIC SOURCE

MATERIAL

**THICKNESS
(FEET)**

**DEPTH
(FEET)**

Soil, black-----
Clay, yellow-----
Clay, gray-----
Sand-----

1

1

30

B1

95

26

137-063-27DDD
NDSWC 6094

Altitude: 1469 feet

Date drilled: 8/10/82

Glacial drift:

Soil-----	3	3
Sand; no description-----	1	4
Clay, very silty, sandy, pebbly, yellowish-brown, oxidized (till); inter- bedded with silt and fine sand-----	12	16
Clay, silty, sandy, pebbly, olive-gray (till)-----	53	69
Clay, silty, sandy, pebbly, dark-brownish-gray (till)----	42	111
Clay, silty, sandy, pebbly, olive-gray (till); cobbly in part; interbedded with sandy clay-----	82	193
Clay, silty, sandy, pebbly, gray (till); sand from 208 to 210 feet-----	33	226

Pierre Shale:

Shale, medium-gray,
noncalcareous----- 16 242

137-063-34CCC
NDSWC 6234

Altitude:	1489 feet	Date drilled:	7/15/83
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		2	2
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		8	10
Clay, silty, very sandy, yellowish-green, carbon- aceous, oxidized-----		8	18
Clay, silty, sandy, pebbly, yellowish-green, oxidized (till)-----		10	28
Clay, silty, sandy, pebbly, olive-gray (till); sand lens from 52 to 55 feet-----		62	90
Shale, dark-gray; ice- thrust block(?)-----		2	92
Sand, very coarse, pebbly; detrital lignite-----		18	110
Pierre Shale:			
Shale, dark-gray to black-----		23	133

137-063-35CCC
NDSWC 6233

Altitude: 1470 feet

Date drilled: 7/14/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Silt, dark-yellowish-orange-----		4	5
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		5	10
Clay, silty, sandy, pebbly, olive-gray (till)-----		13	23
Silt, olive-gray-----		10	33
Clay, silty, sandy, pebbly, olive-gray (till)-----		54	87
Clay, silty, sandy, very pebbly, brownish-gray (till); gravel lenses-----		23	110
Pierre Shale:			
Shale, black, thinly laminated, fractured; minor bentonite beds-----		33	143

137-063-36ABB1
NDSWC 12251

Altitude: 1347 feet Date drilled: 7/21/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----	1	1	
Silt, sandy, brown-----	8	9	
Clay, silty, olive-brown-----	5	14	
Clay, silty, sandy, gray-----	8	22	
Sand, fine to very coarse, pebbly; "salt and pepper"-----	18	40	
Gravel, cobbly-----	2	42	
Clay, silty, olive-gray-----	14	56	
Gravel, sandy; abundant gray detrital shale-----	2	58	
Clay, silty, olive-gray-----	8	66	
Sand, fine to coarse; "salt and pepper"; some detrital lignite-----	35	101	
Gravel, fine to coarse, pebbly, sandy; abundant gray detrital shale-----	8	109	
Pierre Shale:			
Shale, medium-gray; dark gray in part-----	11	120	

137-063-36BAA
USBR 98

Altitude: 1345 feet Date drilled: 8/24/67

Alluvium and glacial drift:			
Loam, sandy, black-----	1	1	
Sand, fine, loamy-----	7	8	
Loam, silty, limey, brown-----	1	9	
Loam, sandy, dark-gray, dense-----	5	14	
Loam, silty, dark-gray, dense-----	2	16	
Sand, very coarse, brown-----	4	20	

137-063-36BBB
NDSWC 12253

Altitude: 1430 feet

Date drilled: 7/21/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Silt, clayey, yellowish-brown, oxidized-----		2	3
Gravel, fine to coarse, pebbly, oxidized; cobble at base-----		12	15
Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----		6	21
Clay, silty, sandy, pebbly, olive-gray (till); gray detrital shale gravel from 60 to 61 feet-----		57	78
Silt, sandy, olive-gray; some silty clay beds-----		23	101
Gravel, fine to medium, pebbly; abundant gray detrital shale-----		5	106
Pierre Shale:			
Shale, medium-gray; dark gray and fissile in part-----		14	120

137-063-36BCD
USBR 696

Altitude: 1372 feet

Date drilled: 6/13/72

Glacial drift:

Loam, silty-----	2	2
Loam-----	2	4
Loam, coarse, sandy-----	3.5	7.5
Loam, clayey (till)-----	6.5	14

137-063-36CCC
USBR L-46

Altitude: 1379 feet Date drilled: 8/11/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Loam, silty-----		4	4
Loam, sandy, brown-----		5	9
Sand, loamy, brown-----		11	20
Rock-----		1	21

138-062-06CCD
NDSWC 6071A

Altitude: 1390 feet Date drilled: 7/28/82

Glacial drift:			
Soil-----		1	1
Silt, clayey, yellowish- olive-green-----		5	6
Gravel, fine to coarse, sandy, cobbley-----		36	42

138-062-06DDD
NDSWC 6076A

Altitude: 1467 feet

Date drilled: 8/03/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Sand, fine, oxidized-----	6	7
	Sand, medium to coarse, pebbly, oxidized; very pebbly and cobbly in part-----	11	18
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	7	25
	Clay, silty, sandy, pebbly, olive-gray (till)-----	57	82
	Sand, coarse to very coarse, pebbly-----	13	95
	Clay, silty, sandy, pebbly, olive-gray (till)-----	56	151
	Sand; no description-----	3	154
Pierre Shale:			
	Shale, medium-gray, non- calcareous, bentonitic-----	28	182

138-062-09BBB
NDSWC 6070A

Altitude: 1460 feet

Date drilled: 7/27/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); sand and gravel from 7 to 9 feet-----		15	16
Clay, silty, sandy, pebbly, olive-gray (till)-----		5	21
Sand, coarse to very coarse, pebbly; inter- bedded with clay-----		13	34
Clay, silty, sandy, pebbly, olive-gray (till)-----		108	142
Silt, clayey, olive-gray; contains some gravel beds-----		18	160
Sand, medium, clayey; interbedded with detrital lignite-----		8	168
Clay, silty, sandy, pebbly, medium-gray (till)-----		74	242
Pierre Shale:			
Shale; no samples-----		8	250

138-062-17AAA
NDSWC 5733

Altitude: 1469 feet

Date drilled: 7/21/70

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		21	22
Clay, silty, sandy, pebbly, olive-gray (till)-----		108	130
Clay, silty, sandy, pebbly, cobbly, dark-gray to olive-gray (till)-----		18	148
Sand, very fine to very coarse; contains clay beds-----		52	200
Gravel, fine to coarse, pebbly, sandy; cobbly in part-----		28	228
Pierre Shale:			
Shale, dark-gray, non- calcareous; some small yellowish-gray concretions-----		12	240

138-062-18BBB
NDSWC 6171

Altitude: 1392 feet

Date drilled: 6/08/83

Glacial drift:			
Sand, coarse, pebbly-----		10	10
Gravel, fine to medium, cobbly, sandy-----		40	50
Clay, silty, sandy, pebbly, olive-gray (till)-----		14	64
Sand, coarse to very coarse, pebbly; silty clay lens from 87 to 89 feet-----		59	123
Pierre Shale:			
Shale, dark-gray; fractured in part-----		10	133

138-062-18BCC2
NDSWC 6172

Altitude: 1364 feet Date drilled: 6/08/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
Soil-----		1	1
Silt, clayey, dark-brown, organic-----		2	3
Sand, very fine-----		3	6
Glacial drift:			
Gravel, fine to coarse, pebbly, cobbly, sandy; oxidized to 12 feet-----		44	50

138-062-19BCC
NDSWC 6079A

Altitude: 1358 feet Date drilled: 8/05/82

Alluvium and glacial drift:			
Soil-----		1	1
Silt(?), clayey, dark-brown-----		6	7
Sand, fine, oxidized-----		6	13
Boulders, cobbles, gravel, and sand-----		2	15
Pierre Shale:			
Shale, medium-gray, non- calcareous, thinly laminated, fractured; iron stain in fractures from 15 to 23 feet-----		22	37
Shale, medium-gray, bentonitic-----		1	38

138-062-20BBB
NDSWC 6077A

Altitude: 1465 feet

Date drilled: 8/04/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		15	16
Clay, silty, sandy, pebbly, olive-gray (till)-----		25	41
Sand, coarse to very coarse, pebbly-----		7	48
Silt, clayey, gray-----		7	55
Clay, silty, sandy, pebbly, olive-gray (till)-----		62	117
Sand, medium to coarse; pebbly in part; inter- bedded with clay-----		21	138
Clay(?); no samples-----		5	143
Sand, coarse to very coarse, pebbly, cobbly; abundant detrital shale from 170 to 173 feet-----		30	173
Gravel, sandy; interbedded with clay from 177 feet; abundant detrital shale-----		47	220
Boulders, cobbles, and pebbles-----		7	227

138-062-30CDB
NDSWC 12250

Altitude: 1350 feet

Date drilled: 7/21/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Fill:			
	Soil-----	1	1
	Silt, sandy, pebbly, yellowish-brown to light-brown, oxidized-----	1	2
	Gravel, sandy, oxidized-----	1	3
	Silt, sandy, pebbly, yellowish-brown to light-brown-----	9	12
	Cobbles, gravel, and pieces of concrete-----	1	13
	Silt, sandy, pebbly, yellowish-brown to light-brown, oxidized-----	1	14
	Cobbles, gravel, and pieces of concrete-----	3	17
Alluvium and glacial drift:			
	Silt, greenish-gray-----	5	22
	Silt, olive-gray-----	3	25
	Silt, clayey, sandy; some black organic inclusions-----	7	32
	Clay, silty, sandy, pebbly, olive-gray (till)-----	9	41
	Clay, olive-gray to black; organic inclusions-----	4	45
Pierre Shale:			
	Shale, dark-gray, thinly laminated; some medium- gray beds-----	35	80

138-062-31AAA
NDSWC 11806

Altitude: 1462 feet

Date drilled: 11/02/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	30	30
	Clay, silty, sandy, pebbly, olive-gray (till); sandier from 40 to 45 feet-----	80	110
	Gravel, fine to coarse, pebbly; contains some clay beds-----	11	121
	Gravel, fine to coarse, pebbly, sandy-----	41	162
Pierre Shale:			
	Shale; silty in part; alternating light-gray and dark-gray bentonitic beds-----	18	180

138-062-31CCC1
NDSWC 6174

Altitude: 1476 feet Date drilled: 6/09/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		2	2
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		43	45
Sand, very coarse, pebbly; some clay lenses-----		9	54
Clay, silty-----		4	58
Gravel, fine to medium, pebbly, sandy-----		24	82
Clay, silty, sandy, very pebbly, dark-olive-gray (till)-----		37	119
Clay, silty, slightly sandy-----		4	123
Gravel, fine, pebbly, sandy; some clay lenses; abundant detrital lignite-----		10	133
Pierre Shale:			
Shale, dark-gray to black, thinly laminated, slightly fractured-----		10	143

138-062-31DBB
(Log modified from Traut Wells Inc.)

Altitude: 1465 feet Date drilled: 3/17/76

Soil-----	2	2
Clay, yellowish-brown-----	16	18
Clay, sandy, pebbly, gray-----	98	116
Sand, very fine, dirty; detrital lignite-----	6	122
Sand, gray, dirty; with clay-----	58	180
Sand, coarse; with gravel-----	40	220
Clay, sandy, gray-----	18	238
Shale-----	7	245

138-062-34BBB
NDSWC 11317

Altitude: 1457 feet

Date drilled: 8/01/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Sand and silt, oxidized-----	6	7
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	9	16
	Gravel, coarse, pebbly, sandy-----	4	20
	Clay, silty, sandy, pebbly, olive-gray (till)-----	26	46
	Sand, coarse, pebbly; abundant detrital shale-----	4	50
	Clay (till); poor samples-----	130	180
	Sand, coarse-----	67	247
Pierre Shale:			
	Shale, olive-gray to dark- gray; poor samples-----	13	260

138-062-35AAA
NDSWC 11316

Altitude: 1441 feet

Date drilled: 7/31/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, yellowish-brown, oxidized-----		10	11
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		10	21
Clay, silty, sandy, pebbly, olive-gray (till); sand from 31 to 33 feet; dark gray from 169 to 253 feet-----		232	253
Clay; no description-----		1	254
Gravel, fine to medium, pebbly, sandy-----		9	263
Gravel; interbedded with clay-----		11	274
Sand, coarse to very coarse-----		10	284
Sand; interbedded with clay-----		6	290
Niobrara Formation:			
Shale, light-gray-----		20	310

138-063-01AAA
NDSWC 6078A

Altitude: 1378 feet

Date drilled: 8/04/82

Glacial drift:			
Soil-----		3	3
Gravel, fine to coarse, oxidized-----		6	9
Clay(?); no samples-----		4	13
Gravel, fine to very coarse, pebbly, cobbly, oxidized-----		11	24
Clay, silty, sandy, pebbly, olive-gray (till)-----		8	32

138-063-01DCC
NDSWC 6074A

Altitude: 1366 feet

Date drilled: 7/30/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----	3	3	
Silt, brown-----	5	8	
Sand(?), fine, silty; no samples-----	7	15	
Silt, clayey, brown; organic material-----	8	23	
Gravel, fine, pebbly, sandy; interbedded with silt-----	12	35	
Gravel, coarse, pebbly-----	3	38	
Clay, silty, sandy, pebbly, olive-gray (till)-----	9	47	
Gravel, fine, pebbly, sandy; detrital lignite-----	10	57	
Clay, silty, sandy, olive- gray-----	6	63	
Gravel, fine, sandy; abundant detrital lignite-----	26	89	
Clay, silty, sandy, pebbly, greenish-gray; inter- bedded with gravel-----	5	94	
Clay, silty, sandy, pebbly, gray (till?); abundant macerated shale-----	10	104	
Pierre Shale:			
Shale, gray-----	18	122	

138-063-01DDC
NDSWC 6072A

Altitude: 1367 feet Date drilled: 7/28/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Soil-----	1	1
	Silt(?), dark-brown; poor samples-----	3	4
Glacial drift:			
	Gravel, fine, pebbly, sandy, oxidized-----	2	6
	Gravel, coarse, pebbly, cobbly-----	7	13
	Clay, sandy, gray(?); no samples-----	5	18
	Gravel, coarse, pebbly-----	4	22
	Clay, silty, sandy, pebbly, gray (till)-----	26	48
	Silt, brownish-gray-----	13	61
	Clay, silty, sandy, gray; interbedded with silt and gravel from 61 to 100 feet; interbedded with coarse sand and gravel from 100 to 123 feet-----	62	123
	Sand, medium to coarse, pebbly; interbedded with silty and sandy clay-----	41	164
Pierre Shale:			
	Shale, gray, noncalcareous-----	28	192

138-063-12BBB
NDSWC 6073A

Altitude: 1489 feet

Date drilled: 7/29/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Sand and gravel, oxidized-----	2	3	
Silt, clayey, yellowish-brown, oxidized-----	5	8	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized-----	22	30	
Clay, silty, sandy, pebbly, olive-gray (till); interbedded with gravel from 100 to 130 feet-----	116	146	
Clay, silty, sandy, pebbly, dark-olive-gray (till); abundant gray detrital shale pebbles-----	5	151	
Clay, silty, sandy, very pebbly, olive-gray (till); interbedded with gravel-----	19	170	
Gravel, fine to medium, pebbly, sandy; interbedded with sandy clay-----	33	203	
Silt, clayey, olive-gray-----	21	224	
Pierre Shale:			
Shale, gray, noncalcareous-----	38	262	

138-063-25CBC
NDSWC 6080

Altitude: 1488 feet

Date drilled: 8/05/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Sand, medium, oxidized-----	3	4	
Clay, very silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	22	26	
Clay, silty, sandy, pebbly, olive-gray (till)-----	18	44	
Sand, coarse-----	5	49	
Sand, coarse to very coarse, pebbly; clay bed from 61 to 64 feet-----	19	68	
Sand, coarse-----	30	98	
Sand, coarse; interbedded with clay-----	13	111	
Clay, silty, very sandy, pebbly, gray (till); very cobbly from 129 to 144 feet-----	33	144	
Pierre Shale:			
Shale, gray, noncalcareous-----	18	162	

138-063-26ABA
NDSWC 6084

Altitude: 1495 feet

Date drilled: 8/05/82

Glacial drift:			
Soil-----	1	1	
Clay, silty, sandy, yellowish-brown, oxidized (till)-----	6	7	
Sand, very coarse, pebbly-----	8	15	
Clay, silty, sandy, pebbly, olive-gray (till)-----	108	123	
Pierre Shale:			
Shale, gray; concretions or ironstone beds-----	19	142	

138-063-26BAB3
NDSWC 6173

Altitude:	1385 feet	Date drilled:	6/08/83
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, slightly sandy, pebbly, yellowish-brown, oxidized (till)-----		19	20
Clay, silty, sandy, pebbly, dark-olive-gray (till)-----		65	85
Clay, silty, sandy, pebbly, brownish-gray to olive- gray (till); boulders from 113 to 115 feet-----		30	115
Pierre Shale:			
Shale, dark-gray, moderately indurated-----		8	123

138-063-27AAD
NDSWC 6081

Altitude:	1502 feet	Date drilled:	8/05/82
Glacial drift:			
Soil-----		1	1
Sand, coarse, oxidized-----		2	3
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		42	45
Sand, fine, clayey; organic material-----		16	61
Sand, coarse to very coarse, pebbly-----		9	70
Gravel, fine, sandy; coarse in part-----		14	84
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with sand and gravel-----		51	135
Pierre Shale:			
Shale, gray, noncalcareous-----		27	162

138-063-36BDD
NDSWC 6082

Altitude: 1377 feet

Date drilled: 8/05/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Gravel, fine to coarse, oxidized-----		16	17
Clay, silty, sandy, pebbly, olive-gray (till)-----		12	29
Pierre Shale:			
Shale, gray, noncalcareous-----		13	42

139-062-01DDA
NDSWC 9499

Altitude: 1470 feet

Date drilled: 11/06/75

Glacial drift:			
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		25	25
Clay, silty, sandy, pebbly, olive-gray (till)-----		8	33
Sand, fine-----		7	40
Clay, silty, sandy, pebbly, olive-gray (till)-----		36	76
Sand, coarse-----		4	80
Clay, silty, sandy, pebbly, gray to dark-gray (till)-----		47	127
Gravel, fine to coarse, pebbly-----		15	142
Pierre Shale:			
Shale, dark-gray, bentonitic-----		58	200

139-062-02CCC
NDSWC

Altitude: 1466 feet

Date drilled: 4/24/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	10	10
	Sand, fine to medium, oxidized-----	9	19
	Clay, silty, sandy, pebbly, olive-gray (till)-----	11	30
	Gravel, fine to medium, pebbly, sandy-----	30	60
	Gravel, fine, pebbly, sandy-----	3	63
	Clay, silty, sandy, pebbly, olive-gray (till); cobbly from 177 to 182 feet-----	119	182
	Gravel, fine, pebbly, sandy-----	17	199
	Sand, medium to coarse-----	15	214
	Clay, silty, olive-gray-----	6	220
Pierre Shale:			
	Shale, silty, dusky brown, very calcareous-----	6	226
	Shale, silty, yellowish- gray, very calcareous-----	14	240

139-062-06BAB
USBR L-53

Altitude: 1412 feet

Date drilled: 8/16/67

Glacial drift:

Loam-----	2	2
Sand, fine, well-sorted-----	3	5
Sand, coarse-----	5	10
Sand, very coarse, gravelly-----	25	35

139-062-06CCA
USBR 417

Altitude: 1396 feet Date drilled: 3/23/71

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Loam, very fine, sandy-----	1	1
	Loam, silty-----	1	2
	Loam, coarse, sandy, gravelly-----	11	13

139-062-06CCC
NDSWC 6070

Altitude: 1390 feet Date drilled: 7/21/82

Glacial drift:			
	Soil-----	1	1
	Gravel, fine, pebbly, sandy, oxidized; coarse in part-----	30	31
Pierre Shale:			
	Shale, dark-gray, noncalcareous-----	11	42

139-062-07CBB
USBR 84

Altitude: 1396 feet Date drilled: 8/22/62

Glacial drift:			
	Loam, sandy-----	2	2
	Sand, fine-----	2	4
	Sand, very coarse-----	25	29
	Till-----	1	30

139-062-07CCB
USBR L-57

Altitude: 1373 feet

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Loam, sandy-----	1	1
	Loam, silty-----	1	2
	Loam, clayey-----	1	3
Glacial drift:			
	Loam, sandy-----	5	8
	Gravel-----	6	14

139-062-07CCD2
(Log modified from Traut Wells Inc.)

Altitude: 1420 feet Date drilled: 8/01/79

Sand and gravel-----	17	17
Clay, cobbly, gray-----	51	68
Shale; some clay-----	122	190

139-062-07CDC
(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1420 feet Date drilled: 7/06/73

Soil, black-----	1	1
Clay-----	16	17
Sand-----	3	20
Clay-----	104	124
Shale-----	54	178

139-062-08DDD
 (Log modified from Scherbenske Excavating & Trucking)

Altitude: 1480 feet

Date drilled: 4/17/74

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil, black-----	1	1
	Clay, yellow-----	18	19
	Sand-----	1	20
	Clay, yellow-----	2	22
	Clay, gray-----	8	30
	Sand-----	8	38
	Clay, gray-----	98	136
	Shale-----	52	188

139-062-11DCC

NDSWC 11320

Altitude: 1475 feet

Date drilled: 8/05/80

Glacial drift:

Soil-----	1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); gravel beds-----	16	17
Clay, yellowish-brown, oxidized-----	8	25
Clay, silty, sandy, pebbly, olive-gray (till)-----	17	42
Sand, fine to medium-----	14	56
Clay, silty, sandy, pebbly, olive-gray (till); gravel from 106 to 108 feet; gravel beds from 112 to 116 feet-----	65	121
Sand, coarse-----	6	127
Gravel, fine, pebbly, sandy; interbedded with clay-----	13	140
Clay, gray-----	13	153
Gravel, sandy; interbedded with sandy clay-----	6	159
Sand; interbedded with silt and clay-----	19	178
Clay, sandy, gray; inter- bedded with gravel and sand-----	29	207
Sand, fine to medium-----	2	209
Gravel, sandy-----	2	211
Cobbles and pebbles, coarse-----	10	221

139-062-12AAD
NDSWC 9497

Altitude: 1470 feet

Date drilled: 11/06/75

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	26	26
	Clay, silty, sandy, pebbly, olive-gray (till)-----	20	46
	Sand, fine to medium-----	12	58
	Clay, silty, sandy, pebbly, olive-gray (till)-----	46	104
	Sand, coarse-----	11	115
	Gravel, coarse, pebbly, cobbly-----	6	121
Pierre Shale:			
	Shale, silty, dark-gray; bentonite beds-----	19	140

139-062-13AAA2
NDSWC 9501

Altitude: 1464 feet

Date drilled: 11/10/75

Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	21	21
	Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with some sand and gravel beds-----	24	45
	Sand, medium to coarse-----	11	56
	Clay, silty, sandy, pebbly, olive-gray (till)-----	34	90
	Sand, coarse-----	50	140
	Sand, coarse, pebbly-----	155	295
Pierre Shale:			
	Shale, dark-gray, noncalcareous-----	5	300

139-062-14CCC
NDSWC 11319

Altitude: 1443 feet

Date drilled: 8/05/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till); sand and gravel from 4 to 7 feet-----		10	11
Clay, silty, sandy, pebbly, olive-gray (till)-----		77	88
Sand, coarse, pebbly-----		6	94
Sand, coarse; interbedded with clay-----		25	119
Sand, coarse, pebbly-----		16	135
Sand, coarse; interbedded with clay-----		5	140
Sand, very coarse, pebbly-----		16	156
Sand, coarse; interbedded with clay-----		4	160
Sand, fine to medium; detrital lignite-----		36	196
Sand, very coarse, pebbly-----		11	207
Cobbles and pebbles-----		4	211
Pierre Shale:			
Shale, dark-gray, noncalcareous-----		9	220

139-062-15ABB
NDSWC 11322

Altitude: 1442 feet

Date drilled: 8/11/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Gravel, coarse, pebbly, oxidized-----	3	4	
Clay, silty, sandy, yellowish-brown, oxidized-----	3	7	
Sand and gravel, oxidized-----	7	14	
Clay, silty, sandy, pebbly, olive-gray (till)-----	9	23	
Sand and gravel-----	4	27	
Clay, silty, sandy, pebbly, olive-gray (till)-----	133	160	
Sand, coarse to very coarse, pebbly-----	55	215	
Gravel, coarse, pebbly, sandy-----	8	223	
Clay, gray; interbedded with gravel and sand-----	4	227	
Sand and gravel-----	2	229	
Pierre Shale:			
Shale, dark-gray, noncalcareous-----	11	240	

139-062-15BBB
NDSWC 11321

Altitude: 1450 feet

Date drilled: 8/11/80

Glacial drift:			
Soil-----	1	1	
Gravel, coarse, pebbly, oxidized-----	3	4	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	6	10	
Clay, silty, sandy, pebbly, olive-gray (till); sand beds from 160 to 166 feet-----	191	201	
Pierre Shale:			
Shale, dark-gray-----	19	220	

139-062-18ABB
(Log modified from Traut Wells Inc.)

Altitude: 1465 feet Date drilled: 11/20/78

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		2	2
Sand, coarse, gravelly-----		35	37
Clay, gray-----		73	110
Shale-----		130	240

139-062-18BAB
NDSWC 6071

Altitude: 1425 feet Date drilled: 7/22/82

Glacial drift:

Soil-----	1	1
Silt, brown-----	3	4
Sand, very coarse, pebbly-----	7	11
Clay, silty, sandy, pebbly, gray (till)-----	23	34
Sand, very coarse, pebbly-----	2	36
Clay, silty, sandy, pebbly, olive-gray (till)-----	30	66
Clay, silty, gray (till); abundant gray macerated shale and shale frag- ments; sand from 66 to 67 feet-----	16	82

Pierre Shale:

Shale, gray, noncalcareous, thinly laminated; bentonite beds and concretions-----	31	113
Shale, gray, noncalcareous; concretions or ironstone beds-----	89	202

139-062-18DAA
(Log modified from Traut Wells Inc.)

Altitude: 1480 feet Date drilled: 3/26/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		2	2
Clay, yellow-----		11	13
Clay, yellow; with fine sand and silt-----		19	32
Clay, gray-----		102	134
Shale-----		106	240

139-062-19BBB
USBR DH71-3

Altitude: 1370 feet Date drilled: 4/29/71

Alluvium:	Soil, black-----	1	1
	Clay, silty, sandy, brown-----	8	9
Glacial drift:			
	Clay, silty, sandy, brown; with sand and gravel lenses-----	21	30
Pierre Shale:			
	Shale, gray-----	20	50

139-062-30DDD
(Log modified from Carlson Drilling)

Altitude: 1475 feet Date drilled: 4/04/78

Soil-----	1	1
Clay, yellow, rocky-----	24	25
Clay, gray, rocky-----	110	135
Shale; no water-----	10	145
Shale; water-----	20	165

139-062-33ACA
 (Log modified from Green Circle Supply, Inc.)

Altitude: 1455 feet Date drilled: 11/18/76

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		1	1
Clay, brown, oxidized-----		18	19
Clay, gray; some pebbles-----		94	113
Gravel, medium; with silty clay-----		4	117
Clay, gray-----		6	123
Till, gray-----		51	174
Till, gravelly, cobbly; with sand-----		7	181
Sand and gravel, cobbly-----		45	226
Till, gray-----		3	229
Sand, medium; with clay lenses-----		8	237
Shale, gray-----		3	240

139-062-33CCC
 (Log modified from Carlson Drilling)

Altitude: 1455 feet Date drilled: 7/24/74

Soil-----	1	1
Clay, yellow, rocky-----	29	30
Clay, gray-----	70	100
Clay, gray, rocky-----	26	126
Sand-----	5	131

139-063-02ABB
 (Log modified from Traut Wells Inc.)

Altitude: 1480 feet

Date drilled: 9/28/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		1	1
Clay, brown-----		45	46
Clay, gray-----		86	132
Sand, fine; with lignite pebbles and clay-----		17	149
Clay, gray-----		4	153
Clay, gray; with lignite pebbles and fine dirty sand-----		4	157
Clay; with dirty sand-----		12	169
Clay, gray, hard, smeary-----		47	216
Sand, fine, gray; with thin clay beds-----		25	241
Clay, gray; with silt-----		24	265
Sand, silty, gray; with medium sand-----		53	318

139-063-02BBA
NDSWC 6063

Altitude: 1470 feet

Date drilled: 7/14/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		17	18
Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----		5	23
Clay, silty, sandy, pebbly, olive-gray (till); sandier and cobbly from 100 to 127 feet-----		104	127
Gravel, fine to medium, pebbly; clayey in part; interbedded with glacial till; ice-contact deposit-----		27	154
Clay, silty, sandy, pebbly, gray; interbedded with gray silt; ice-contact deposit-----		32	186
Pierre Shale:			
Shale, dark-gray; thinly bedded to massive-----		11	197

139-063-03BAA
(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1490 feet

Date drilled: 8/20/73

Soil, black-----	1	1
Sand-----	17	18
Clay-----	14	32
Sand-----	2	34
Clay-----	105	139
Sand-----	18	157

139-063-03CCC
USGS FW-7

Altitude: 1385 feet

Date drilled: 8/ /62

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil, black-----	2	2	
Clay and silt, sandy, light-brown-----	6	8	
Clay and silt, yellowish- gray; gastropod shells-----	10	18	
Sand, medium to coarse; lignite cobbles; abundant detrital shale-----	22	40	
Gravel, fine to medium, pebbly, cobbly-----	7	47	
Sand, coarse; abundant detrital shale-----	5	52	
Sand, fine to medium; abundant detrital shale-----	5	57	
Pierre Shale:			
Shale, gray, soft-----	3	60	

139-063-04DDC
USGS FW-9

Altitude:	1375 feet	Date drilled:	8/ /62
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil, black-----	2	2	
Clay and silt, yellowish-gray-----	5	7	
Sand, fine-----	3	10	
Clay and silt, yellowish-brown-----	6	16	
Sand, fine to medium-----	6	22	
Sand, fine to coarse-----	3	25	
Sand, fine to medium; abundant detrital shale-----	13	38	
Sand, fine, gray-----	19	57	
Till, gray-----	14	71	
Clay, gray, silty; boulder at 76 feet-----	8	79	
Sand, fine; abundant detrital shale-----	6	85	
Gravel, fine to medium; abundant detrital shale-----	1	86	
Pierre Shale:			
Shale, gray-----	4	90	

139-063-05CDD
USBR DH71-1

Altitude:	1386 feet	Date drilled:	4/20/71
<u>Alluvium:</u>			
Clay, sandy, gray-----	4	4	
Sand, silty, brown-----	2.5	6.5	
Sand, silty, clayey, brown-----	22.5	29	
<u>Glacial drift:</u>			
Sand, coarse, gravelly, gray-----	19	48	
Shale, gray, dense-----	2	50	

139-063-06ABC1
NDSWC 6060

Altitude: 1389 feet Date drilled: 7/12/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Sand, fine to medium, oxidized-----		6	7
Sand, coarse to very coarse, pebbly-----		10	17
Sand, very coarse, pebbly-----		23	40
Gravel, fine, pebbly, sandy-----		5	45
Gravel, medium to coarse, pebbly; cobble in part-----		22	67
Clay, silty, very sandy, pebbly, gray (till?)-----		16	83
Pierre Shale:			
Shale, light-gray and gray; thinly bedded-----		5	88
Shale, dark-gray; thinly bedded-----		12	100

139-063-06BBA
NDSWC 2-624

Altitude: 1390 feet Date drilled: 6/03/63

Alluvium and glacial drift:			
Clay, silty, black-----		3	3
Clay, sandy, brown-----		7	10
Sand, medium, dark- greenish-gray-----		10	20
Gravel, fine to medium, sandy-----		15	35
Sand, fine to coarse-----		7	42

139-063-08AAB1
(Log modified from Traut Wells Inc.)

Altitude: 1380 feet Date drilled: 5/02/80

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----	2	2	
Clay, brown-----	11	13	
Sand, coarse, cobbly-----	12	25	
Sand, medium-----	10	35	
Boulder-----	1	36	
Clay, gray, hard-----	4	40	

139-063-08AAB2
(Log modified from Traut Wells Inc.)

Altitude: 1380 feet Date drilled: 7/16/81

Soil-----	2	2
Clay, brown-----	13	15
Sand, coarse; with gravel-----	10	25
Sand, medium-----	12	37
Shale-----	8	45

139-063-08ACC
NDSWC 6078

Altitude: 1395 feet Date drilled: 7/27/82

Glacial drift:

Soil-----	3	3
Gravel, fine to medium, pebbly, oxidized-----	22	25
Gravel, coarse, pebbly, cobbly-----	12	37
Gravel, fine to medium, pebbly, sandy-----	5	42
Sand, coarse to very coarse-----	32	74
Sand and gravel; abundant detrital shale pebbles-----	14	88
Silt(?); gravel bed from 92 to 94 feet; no samples-----	15	103

Pierre Shale:

Shale, gray-----	19	122
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139-063-08DDA
(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1490 feet

Date drilled: 4/02/74

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil, black-----	1	1
	Clay-----	94	95
	Shale-----	62	157

139-063-09AAA
(Log modified from L.T.P. Enterprises Inc.)

Altitude: 1380 feet

Date drilled: 12/04/78

Soil, black-----	1	1
Sand, fine, brown-----	8	9
Sand and gravel, brown; with clay-----	33	42
Sand, rocky-----	12	54
Clay, gray-----	8	62

139-063-09ABA1
USGS FW-8

Altitude:	1380 feet	Date drilled:	8/ /62
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil, brown-----		2	2
Clay and silt, sandy, light-yellowish-gray to olive-----		8	10
Sand, fine to medium-----		9	19
Sand, medium; abundant detrital shale-----		4	23
Sand, medium to coarse-----		7	30
Sand, medium to coarse; abundant detrital shale-----		13	43
Till, gray, cohesive-----		4	47
Clay, gray, carbonaceous-----		6	53
Clay, sandy, gray-----		7	60
Sand, fine to coarse; with clay-----		5	65
Gravel; composed of detrital shale-----		5	70
Pierre Shale:			
Shale, gray, bentonitic, dense, brittle-----		5	75

139-063-09ABA2
USGS FW-10

Altitude:	1380 feet	Date drilled:	8/ /62
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil, black-----	2	2	
Clay and silt, dark-brown-----	13	15	
Sand, medium to coarse, clayey-----	7	22	
Sand, coarse; with fine pebbly gravel-----	5	27	
Sand, medium to coarse, clayey; with fine pebbly gravel-----	6	33	
Sand, coarse to very coarse-----	3	36	
Gravel, very fine; abundant detrital shale-----	5	41	
Sand, coarse to very coarse-----	2	43	
Till, gray; with boulders-----	3	46	
Clay, sandy, gray; organic material from 46 to 55 feet-----	31	77	
Till, gray-----	2	79	
Pierre Shale:			
Shale, gray, bentonitic-----	3	82	

Altitude: 1380 feet Date drilled: 8/ /62

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil, black-----		2	2
Clay and silt, brown-----		13	15
Sand, fine, clayey-----		2	17
Sand, fine to coarse, clayey-----		9	26
Sand, coarse to very coarse-----		4	30
Sand, medium to very coarse; abundant detrital shale-----		5	35
Sand, medium to coarse, clayey-----		3	38
Sand, medium to very coarse-----		1	39
Clay, sandy-----		2	41
Sand, medium to very coarse; with fine pebbly gravel com- posed of detrital shale-----		2	43
Clay, sandy-----		1	44
Sand, coarse to very coarse; with fine pebbly gravel com- posed of detrital shale-----		2	46
Till, gray-----		3	49

139-063-09ABA4
USGS FW-12

Altitude: 1380 feet Date drilled: 8/ /62

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil, black-----	5	5	
Clay and silt, brown-----	12	17	
Gravel, clayey-----	6	23	
Sand, fine to coarse, clayey-----	9	32	
Sand, medium to very coarse, clayey-----	3	35	
Sand, fine to coarse; abundant detrital shale-----	1	36	
Sand, medium to coarse; abundant detrital shale-----	2	38	
Sand, fine to medium-----	3	41	
Sand, fine to medium; abundant detrital shale-----	2	43	
Till, gray-----	1	44	

139-063-09ABB
USGS FW-1

Altitude: 1385 feet Date drilled: 8/ /62

Alluvium and glacial drift:			
Clay and silt, yellowish- brown-----	11	11	
Clay and silt, gray-----	3	14	
Sand, fine to medium-----	3	17	
Gravel, fine, pebbly; with coarse sand; abundant detrital shale-----	13	30	
Sand, coarse; with some fine pebbly gravel; abundant detrital shale-----	10	40	
Gravel, cobbly; composed of detrital lignite and detrital shale-----	2	42	
Till, gray; boulder at 48 feet-----	6	48	

139-063-09ABC
USGS FW-3

Altitude: 1380 feet Date drilled: 8/ /62

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Clay and silt, brown-----		8	8
Sand, medium to coarse; abundant detrital shale-----		14	22
Gravel, fine to medium; with medium to coarse sand; gravel composed of detrital shale-----		3	25
Clay, gray-----		2	27
Clay, sandy, gray-----		3	30
Clay, fine sand, and gravel composed of detrital shale-----		26	56
Pierre Shale:			
Shale, gray-----		19	75

139-063-09ACB
USGS FW-2

Altitude: 1375 feet Date drilled: 8/ /62

Alluvium and glacial drift:			
Clay and silt-----		8	8
Sand, fine to medium; abundant mollusk shells-----		2	10
Sand, medium to coarse; abundant mollusk shells-----		5	15
Gravel, fine to medium, pebbly; with coarse sand-----		10	25
Gravel, medium to very coarse, pebbly; with coarse sand-----		11	36
Pierre Shale:			
Shale, medium-gray-----		9	45

139-063-09CB
(Log modified from Traut Wells Inc.)

Altitude: 1385 feet Date drilled: 7/13/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Gravel, coarse, brown-----	17	17
	Sand, dirty; with gravel-----	21	38
	Sand, coarse; with gravel-----	12	50
	Gravel, dirty; with clay-----	4	54
	Gravel, coarse-----	18	72
	Shale, clay, and gravel-----	4	76
	Gravel, coarse-----	4	80

139-063-09CBB
USBR L-55

Altitude: 1392 feet Date drilled: 8/16/67

Glacial drift:			
	Loam, sandy, dark-brown-----	2	2
	Sand, coarse, loamy, light-brown-----	6	8
	Loam, silty, clayey, brown-----	6	14
	Till, dark-brown, reworked-----	1	15
	Sand, coarse to very coarse, brown-----	15	30

139-063-09DAA
(Log modified from Carlson Drilling)

Altitude: 1490 feet Date drilled: 9/20/74

Soil-----	1	1
Clay and sand-----	29	30
Clay, gray; with sand-----	50	80
Shale; no water-----	35	115
Shale; water-----	45	160

139-063-10ACD
(Log modified from Traut Wells Inc.)

Altitude: 1485 feet

Date drilled: 8/11/78

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		2	2
Clay, brown-----		63	65
Clay, gray-----		12	77
Sand, fine; with lignite pebbles-----		39	116
Shale-----		14	130

139-063-10BBA
NDSWC 6062

Altitude: 1379 feet

Date drilled: 7/13/82

Alluvium and glacial drift:

Soil-----	1	1
Silt, yellowish-brown; interbedded with brown clay-----	12	13
Sand, medium to coarse-----	12	25
Sand, coarse; some gravel lenses-----	4	29
Gravel, fine to coarse; boulder at 33 feet; abundant detrital shale-----	4	33
Gravel, coarse to very coarse, cobbly-----	10	43

Pierre Shale:

Shale, dark-gray----- 19 62

139-063-10BBB1
USGS FW-4

Altitude:	1380 feet	Date drilled:	8/ /62
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
	Soil, black to brown-----	2	2
	Clay and silt, brownish-gray-----	12	14
	Gravel, fine, pebbly; with coarse sand-----	1	15
	Sand, medium to coarse-----	16	31
	Clay, gray-----	2	33
	Gravel, medium to very coarse, pebbly; abundant detrital shale-----	7	40
	Gravel, fine to coarse, pebbly; with medium to coarse sand-----	5	45
	Clay, gray-----	2	47
	Gravel, fine to medium, pebbly; with very coarse sand; abundant detrital shale-----	3	50
	Clay, sandy, gray-----	1	51
Pierre Shale:			
	Shale, gray-----	9	60

139-063-10BBBB2
USGS FW-5

Altitude:	1380 feet	Date drilled:	8/ /62
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil, black-----	2	2	
Clay-----	2	4	
Sand, fine to coarse; mollusk shells-----	3	7	
Sand, fine to medium; abundant mollusk shells-----	8	15	
Sand, coarse; with fine to medium pebbly shale gravel-----	5	20	
Sand, medium to coarse; with fine gravel-----	5	25	
Gravel, fine, pebbly; with medium to coarse sand; detrital shale-----	5	30	
Pierre Shale:			
Shale, gray-----	10	40	

139-063-10BBB3
USGS FW-6

Altitude: 1380 feet Date drilled: 8/ /62

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil, black-----	2	2	
Clay and silt, yellowish-gray-----	3	5	
Sand, fine to medium, clayey-----	2	7	
Clay, light-brown-----	4	11	
Clay and silt, gray-----	4	15	
Boulder-----	1	16	
Sand, fine to coarse; abundant detrital shale-----	2	18	
Gravel, boulder, and cobbles-----	1	19	
Clay, gray; organic material-----	16	35	
Gravel, fine to coarse, pebbly; detrital shale-----	2	37	
Gravel, cobbly-----	4	41	
Gravel, medium, pebbly; detrital shale-----	8	49	
Gravel, coarse, pebbly and cobbly-----	1	50	
Pierre Shale:			
Clay; mottled light gray and dark gray; weathered shale-----	10	60	

139-063-10CAA
(Log modified from Traut Wells Inc.)

Altitude: 1485 feet Date drilled: 6/06/78

Sand-----	2	2
Clay, brown-----	61	63
Clay, gray-----	27	90
Sand, very coarse; with lignite pebbles-----	30	120
Shale-----	10	130

139-063-11BDA
USBR 365

Altitude: 1380 feet

Date drilled: 2/17/71

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Loam-----	2	2	
Loam, sandy, clayey-----	2	4	
Loam, coarse, sandy, gravelly-----	8	12	
Loam (till)-----	1	13	

139-063-12ACD
USBR DH71-2

Altitude: 1375 feet

Date drilled: 4/22/71

Alluvium:			
Soil, black-----	1.3	1.3	
Sand, silty, brown-----	9.7	11	
Sand, silty, gray-----	8	19	
Glacial drift:			
Clay, silty, sandy, pebbly (till)-----	5.5	24.5	

Pierre Shale:

Shale, gray, soft; fissile in part-----	25.5	50
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139-063-12DAB
NDSWC 6169

Altitude: 1370 feet

Date drilled: 6/08/83

Glacial drift:			
Soil-----	1	1	
Gravel, coarse, pebbly, cobbly-----	22	23	

Pierre Shale:

Shale, dark-gray, mod- erately indurated, fractured-----	13	36
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139-063-12DCC
USBR L-51

Altitude: 1380 feet

Date drilled: 8/16/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Loam, sandy-----	1	1
	Sand, fine, loamy-----	4	5
	Sand, loamy, gravelly-----	6	11
	Sand, coarse, gravelly-----	2	13
	Rock-----	--	13

139-063-12DDA
USBR 439

Altitude: 1372 feet

Date drilled: 3/31/71

Glacial drift:			
	Loam-----	4	4
	Loam, sandy, gravelly-----	2	6
	Loam, coarse, sandy, gravelly-----	4	10
	Loam (till)-----	3	13

139-063-12DDD
USBR L-52

Altitude: 1375 feet

Date drilled: 8/16/67

Alluvium:			
	Loam, clayey, very dark gray-----	2	2
	Loam, clayey, dark-gray, dense-----	2	4
	Loam, fine, sandy, brown-----	3	7
Glacial drift:			
	Loam, fine, sandy, gravelly, brown (till?)-----	5	12
	Loam, fine, sandy, gravelly, dark- gray, dense (till)-----	6	18

139-063-13AAA
NDSWC 6071

Altitude: 1370 feet Date drilled: 7/22/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
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Alluvium: Silt, dark-brown----- 7 7

Glacial drift:
Sand, very coarse, pebbly,
oxidized----- 3 10
Clay, silty, sandy, pebbly,
greenish-gray (till)----- 5 15
Clay, silty, sandy, pebbly,
cobbly, olive-gray (till)---- 7 22
Clay, silty, very sandy,
pebbly, brownish-gray
(till)----- 2 24

Pierre Shale:
Shale, gray to dark-gray;
thinly bedded;
bentonite beds----- 18 42

139-063-13BAA
NDSWC 6079

Altitude: 1375 feet Date drilled: 7/27/82

Alluvium: Silt, sandy, clayey,
dark-brown----- 3 3

Glacial drift:
Gravel, sandy, cobbly,
oxidized; boulder at
7 feet; abundant
detrital shale from
7 to 14 feet----- 11 14

Pierre Shale:
Shale, gray, non-
calcareous----- 8 22

139-063-13BAB
NDSWC 6073

Altitude: 1393 feet Date drilled: 7/22/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Silt, clayey, brown; organic material-----	3	3
Glacial drift:	Gravel, fine to coarse, pebbly, oxidized; interbedded with till-----	12	15
	Clay, silty, sandy, pebbly, cobbly, olive-gray (till)-----	7	22
Pierre Shale:	Shale, dark-gray, noncalcareous, fractured-----	11	33

139-063-13BBB
NDSWC 6074

Altitude: 1435 feet

Date drilled: 7/23/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Gravel, coarse, pebbly, cobble, oxidized-----	9	10
	Gravel, fine to medium, pebbly, oxidized-----	13	23
	Clay, silty, sandy, pebbly, greenish-gray (till)-----	38	61
	Clay(?) (till?); no samples-----	23	84
Pierre Shale:			
	Shale, gray to dark-gray, noncalcareous; thinly bedded-----	18	102

139-063-15DCD
(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1485 feet

Date drilled: 5/04/79

Soil, black-----	1	1
Clay, yellow-----	6	7
Sand, yellow-----	18	25
Sand and gravel-----	35	60
Clay, gray-----	20	80
Sand-----	67	147

139-063-15DDD
NDSWC 6075

Altitude: 1480 feet

Date drilled: 7/23/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		3	3
Clay, silty, sandy, pebbly, cobbly, yellowish-brown, oxidized (till)-----		5	8
Sand, fine to medium, oxidized; inter- bedded with till; ice-contact deposit-----		9	17
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		9	26
Clay, silty, sandy, pebbly, olive-gray (till)-----		68	94
Gravel and sand; inter- bedded with till-----		8	102
Sand, coarse, pebbly; interbedded with clay-----		6	108
Clay, very sandy, greenish- gray; gravel lens from 118 to 120 feet-----		12	120
Clay, silty, sandy, pebbly, medium-gray to dark-gray (till); abundant macerated shale and detrital shale pebbles-----		8	128
Pierre Shale:			
Shale, dark-gray, non- calcareous; light-brown concretions or ironstone-----		14	142

139-063-16BAA

(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1490 feet

Date drilled: 9/10/73

Soil, black-----	1	1
Clay-----	83	84
Sand-----	2	86
Clay-----	40	126
Shale-----	41	167

139-063-17ABB
(Log modified from Traut Wells Inc.)

Altitude: 1480 feet Date drilled: 8/27/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		1	1
Clay, brown-----		63	64
Clay, gray-----		16	80
Clay, silty, soft-----		29	109
Shale, brittle-----		69	178

139-063-19CBC
(Log modified from Carlson Drilling)

Altitude: 1470 feet Date drilled: 10/04/78

Soil-----	1	1
Clay, yellow-----	29	30
Clay, gray-----	85	115
Sand, fine-----	5	120

139-063-23DDD
NDSWC 6076

Altitude: 1475 feet Date drilled: 7/26/82

Glacial drift:

Soil-----	1	1
Silt, yellowish-brown, oxidized-----	4	5
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	16	21
Sand, very coarse, pebbly, oxidized-----	3	24
Clay, silty, sandy, pebbly, olive-gray (till)-----	79	103

Pierre Shale:

Shale, dark-gray, non- calcareous; concretions or ironstone beds; bentonite beds-----	59	162
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139-063-24DDA
USBR 452

Altitude: 1370 feet Date drilled: 4/08/71

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:	Loam-----	1.5	1.5
	Loam, silty-----	2	3.5
Glacial drift:	Loam (till)-----	9.5	13

139-063-25AAC
NDSWC 6170

Altitude: 1370 feet Date drilled: 6/08/83

Alluvium:	Soil-----	1	1
	Silt, black, organic-----	2	3
	Silt, gray-----	2	5
Glacial drift:	Gravel, fine to very coarse, pebbly-----	2	7

Pierre Shale:	Shale, black, thinly laminated, fractured; bentonite beds-----	16	23
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139-063-25ACD
USBR 214

Altitude: 1370 feet Date drilled: 9/10/68

Alluvium:	Loam, fine, sandy, black-----	2	2
	Loam, clayey, brown-----	5	7
Glacial drift:	Till, light-gray, dense-----	6	13

139-063-25DDD
USBR 75

Altitude: 1370 feet Date drilled: 8/21/67

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Loam, silty-----	2	2
	Clay, silty, very dense-----	2	4
Glacial drift:			
	Gravel, very coarse-----	1	5
	Loam-----	6	11
Pierre Shale:			
	Loam, clayey; abundant weathered shale-----	3	14

139-063-26CAD
(Log modified from Traut Wells Inc.)

Altitude: 1480 feet Date drilled: 8/01/77

Soil-----	2	2
Clay, brown-----	16	18
Clay, gray-----	40	58
Sand, fine, gray-----	7	65
Shale, gray-----	50	115
Shale-----	40	155

139-063-36ACC
USBR DH71-4

Altitude: 1364 feet Date drilled: 5/04/71

Alluvium:			
	Soil, black-----	1	1
	Sand-----	14	15
Pierre Shale:			
	Shale, gray, hard-----	35	50

139-063-36ADC
USBR 492

Altitude: 1371 feet Date drilled: 4/22/71

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Loam, silty-----	1	1
	Loam-----	3	4
Glacial drift:			
	Loam, silty; some gravel lenses-----	3	7
	Loam (till)-----	6	13

139-064-24AAA
NDSWC 6077

Altitude: 1472 feet Date drilled: 7/26/82

Glacial drift:			
	Soil-----	1	1
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	20	21
	Sand, medium; interbedded with till or clay-----	8	29
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	3	32
	Clay, silty, sandy, pebbly, olive-gray (till)-----	62	94
	Sand, very fine, silty, clayey-----	11	105
	Sand, coarse-----	7	112
	Sand, very coarse, pebbly-----	8	120
	Gravel, fine, pebbly, sandy; interbedded with clay from 140 to 145 feet-----	25	145
Pierre Shale:			
	Shale, gray, noncalcareous-----	17	162

140-062-01BBB1
NDSWC 11817A

Altitude: 1506 feet

Date drilled: 11/11/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		17	18
Clay, silty, sandy, pebbly, olive-gray (till)-----		49	67
Clay, very silty, olive- gray-----		31	98
Gravel-----		1	99
Clay, silty, sandy, pebbly, olive-gray (till)-----		37	136
Sand, coarse, pebbly-----		54	190
Sand, medium-----		62	252
Sand, fine-----		31	283
Gravel, coarse, pebbly; interbedded with clay-----		6	289
Pierre Shale:			
Shale, gray to black-----		11	300

140-062-02BAA
NDSWC 11816

Altitude: 1485 feet

Date drilled: 11/11/81

Glacial drift:			
Soil-----		1	1
Clay, silty, very sandy, pebbly, yellowish-brown, oxidized (till)-----		17	18
Sand, coarse, pebbly-----		20	38
Clay, silty, sandy, pebbly, olive-gray (till)-----		180	218
Sand, coarse-----		23	241
Pierre Shale:			
Shale, gray to black-----		19	260

140-062-02CCC1
NDSWC 9281

Altitude: 1481 feet

Date drilled: 6/04/75

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, very sandy, pebbly, dark-yellowish- brown, oxidized (till)-----		24	25
Clay, silty, sandy, pebbly, dark-gray (till)-----		25	50
Gravel, fine to coarse, pebbly, sandy-----		15	65
Clay, silty, sandy, pebbly, dark-gray (till)-----		60	125
Sand, medium-----		51	176
Silt, sandy, clayey, dark- gray; gravel-----		54	230
Gravel, sandy-----		3	233
Clay, silty, sandy, pebbly, dark-gray (till)-----		9	242
Pierre Shale:			
Shale, dark-gray, non- calcareous; bentonite beds-----		38	280

140-062-02CCC2
NDSWC 11815

Altitude: 1481 feet

Date drilled: 11/10/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		23	24
Clay, silty, sandy, pebbly, olive-gray (till)-----		4	28
Gravel, fine, pebbly, sandy-----		7	35
Gravel, fine, pebbly, sandy; interbedded with till-----		5	40
Clay, silty, sandy, pebbly, olive-gray (till)-----		14	54
Sand, coarse, pebbly-----		10	64
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded from 123 to 127 feet-----		63	127
Sand, medium-----		35	162
Gravel, fine, pebbly, sandy-----		10	172
Sand; interbedded with sandy clay or till-----		9	181
Clay, silty, sandy, olive- gray-----		51	232
Sand, fine to coarse-----		1	233
Clay, silty, olive-gray-----		3	236
Pierre Shale:			
Clay, gray to black; some bentonite beds-----		14	250

140-062-02DCC
NDSWC 11818

Altitude: 1482 feet

Date drilled: 11/12/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		11	12
Gravel, fine to coarse, oxidized-----		4	16
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		5	21
Sand, fine to medium, oxidized-----		10	31
Clay, silty, sandy, pebbly, olive-gray (till)-----		10	41
Sand, coarse, pebbly; gravel lenses-----		25	66
Clay, silty, sandy, pebbly, olive-gray (till); sand lenses-----		15	81
Sand, medium-----		5	86
Clay, silty, sandy, pebbly, olive-gray (till)-----		115	201
Sand, fine to coarse-----		45	246
Gravel, sandy-----		18	264
Pierre Shale:			
Shale, gray to black; hard and fissile in part-----		16	280

140-062-04DAD
NDSWC 11814

Altitude: 1495 feet

Date drilled: 11/10/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	16	16
	Clay, silty, sandy, pebbly, olive-gray (till)-----	12	28
	Clay, silty, brown-----	5	33
	Sand, fine, silty-----	10	43
	Clay, silty, sandy, pebbly, olive-gray (till)-----	84	127
	Clay, very silty, olive- gray-----	24	151
	Clay, silty, sandy, pebbly, olive-gray (till)-----	2	153
Pierre Shale:			
	Shale, gray to black-----	27	180

140-062-09DDD1
NDSWC 11813A

Altitude: 1473 feet

Date drilled: 11/09/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	18	18
	Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with gravel from 33 to 40 feet-----	22	40
	Sand, coarse-----	3	43
	Clay, silty, sandy, pebbly, olive-gray (till)-----	100	143
	Clay, olive-gray-----	34	177
	Clay, silty, sandy, pebbly, olive-gray (till)-----	6	183
	Clay, silty, gray, carbonaceous-----	21	204
	Sand, fine to coarse; abundant detrital lignite-----	8	212
	Sand, coarse, pebbly-----	14	226
Pierre Shale:			
	Shale, olive-green; black in part-----	34	260

140-062-16DDD1
NDSWC 9282

Altitude: 1474 feet Date drilled: 6/05/75

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		7	8
Sand, coarse, pebbly, oxidized-----		8	16
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		4	20
Clay, silty, sandy, pebbly, dark-gray (till)-----		6	26
Sand, medium-----		14	40
Clay, silty, sandy, pebbly, dark-gray (till)-----		162	202
Gravel, medium to coarse, pebbly, sandy-----		22	224
Pierre Shale:			
Shale, dark-gray, non- calcareous-----		16	240

140-062-17CDB
(Log modified from Traut Wells Inc.)

Altitude: 1425 feet Date drilled: 10/10/76

Soil-----	2	2
Clay, sandy, brown-----	14	16
Clay, sandy, gray-----	43	59
Sand, brown, clean; with fines-----	3	62
Clay, gray; with fine sand-----	36	98
Clay, gray, firm-----	15	113
Clay, gray, and shale-----	108	221
Clay, gray, smooth; with sand-----	39	260

140-062-18DDD
NDSWC 6069

Altitude: 1420 feet

Date drilled: 7/21/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Gravel, fine, pebbly, sandy, oxidized; coarse in part; interbedded with clay from 32 to 46 feet; abundant detrital shale from 35 to 46 feet-----	45	46
Pierre Shale:			
	Shale, dark-gray, noncalcareous-----	16	62

140-062-20AAA
NDSWC 6068

Altitude: 1460 feet Date drilled: 7/20/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, cobbly, yellowish-brown, oxidized (till)-----		26	27
Clay, silty, sandy, pebbly, olive-gray (till); cobbly from 35 to 50 feet; oxidized from 50 to 52 feet-----		65	92
Clay(?); no samples-----		6	98
Clay, silty, sandy, pebbly, olive-gray (till)-----		10	108
Sand, coarse; pebbly in part; interbedded with clayey silt-----		8	116
Silt, clayey, olive-gray-----		11	127
Clay, olive-gray-----		13	140
Sand, very fine, silty; contains silt beds-----		15	155
Gravel, coarse, pebbly-----		7	162
Clay, silty, sandy, pebbly, greenish-gray (till?)-----		17	179
Pierre Shale:			
Shale, dark-gray, noncalcareous-----		23	202

140-062-20CDB
(Log modified from Traut Wells Inc.)

Altitude: 1410 feet Date drilled: 5/24/77

Soil-----	1	1
Sand, fine, brown-----	9	10
Sand, coarse, gravelly-----	48	58
Clay, sandy-----	2	60

140-062-22AAA2
NDSWC 8739

Altitude: 1473 feet

Date drilled: 7/16/73

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	15	15
	Clay, silty, sandy, pebbly, olive-gray (till)-----	5	20
	Sand, fine, clayey-----	4	24
	Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded gravel lenses from 88 to 91 and 104 to 106 feet-----	171	195
	Sand, coarse to very coarse-----	30	225
	Gravel, fine to medium, pebbly, sandy-----	17	242
Pierre Shale:			
	Shale, dark-gray, non- calcareous; bentonite beds-----	18	260

140-062-23AAB
NDSWC 9280

Altitude: 1478 feet

Date drilled: 6/04/75

Glacial drift:			
	Soil-----	1	1
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	14	15
	Clay, silty, sandy, pebbly, dark-gray (till)-----	187	202
	Sand, fine to coarse-----	18	220
	Gravel, medium to coarse, pebbly, sandy-----	96	316
	Clay, silty, sandy, pebbly, gray (till?)-----	5	321
Pierre Shale:			
	Shale, dark-gray, non- calcareous-----	19	340

140-062-23ABB
NDSWC 9279

Altitude:	1481 feet	Date drilled:	6/03/75
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		15	16
Clay, silty, sandy, pebbly, dark-gray (till)-----		50	66
Gravel, fine to coarse, pebbly, sandy-----		5	71
Clay, silty, sandy, pebbly, dark-gray (till)-----		133	204
Sand, fine to coarse-----		46	250
Sand, very coarse, pebbly-----		76	326
Pierre Shale:			
Shale, dark-gray, noncalcareous-----		14	340

140-062-24ABB
NDSWC 11325

Altitude:	1475 feet	Date drilled:	8/13/80
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		16	17
Clay, silty, sandy, pebbly, olive-gray (till); gravel lenses from 22 to 24 and 83 to 86 feet-----		187	204
Clay, silty, sandy, brownish-gray-----		9	213
Clay, silty, sandy, pebbly, cobble, olive-gray (till); numerous sand and gravel beds-----		60	273
Pierre Shale:			
Shale, black, carbonaceous-----		17	290

140-062-24CBB
NDSWC 12272

Altitude: 1483 feet

Date drilled: 8/09/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		23	24
Clay, silty, sandy, pebbly, olive-gray (till)-----		9	33
Sand, very fine to medium; abundant detrital shale-----		7	40
Clay, silty, olive-gray; interbedded with fine sand from 44 to 53 feet-----		13	53
Clay, silty, sandy, pebbly, olive-gray (till)-----		150	203
Sand, medium to coarse, pebbly; interbedded with silty clay from 209 to 216 feet-----		13	216
Gravel, fine to coarse, pebbly, cobbly, sandy-----		4	220
Gravel; interbedded with clay-----		10	230
Gravel, fine to coarse, pebbly, sandy; abundant detrital lignite-----		11	241
Gravel, sandy; interbedded with clay-----		69	310
Boulders and cobbles-----		1	311

140-062-25AAB
NDSWC 12269

Altitude: 1475 feet Date drilled: 8/03/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		28	29
Clay, silty, sandy, pebbly, olive-gray (till)-----		113	142
Clay, silty, very sandy, olive-gray-----		7	149
Clay, silty, gray to olive-gray-----		13	162
Clay, silty, sandy, pebbly, olive-gray (till)-----		20	182
Shale, black; interbedded with gravel; bentonite beds-----		14	196
Sand and gravel; poor samples-----		4	200
Clay, silty, olive-gray-----		6	206
Sand and gravel; poor returns-----		4	210
Clay, gray to black; detrital lignite-----		10	220
Sand, pebbly; interbedded with clay; poor samples-----		10	230
Shale, gray to black; interbedded with silt- stone-----		7	237
Shale, black; bentonite beds; brown clay and siltstone beds-----		10	247
Gravel, fine, sandy-----		9	256
Pierre Shale:			
Shale, black; bentonite beds-----		5	261

140-062-26AAA1
NDSWC 12271A

Altitude: 1471 feet

Date drilled: 8/08/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	20	21
	Clay, silty, sandy, pebbly, olive-gray (till)-----	10	31
	Sand, fine to medium-----	9	40
	Sand, coarse, pebbly; some gravel beds-----	20	60
	Gravel, fine to coarse, pebbly, sandy; abundant detrital shale-----	4	64
	Clay, silty, sandy, pebbly, olive-gray (till)-----	127	191
	Clay, very sandy, olive- gray; carbonaceous in part; contains some silt, sand, and gravel beds-----	16	207
	Sand, pebbly-----	20	227
	Gravel, sandy; interbedded with sand-----	70	297

140-062-27CCC1
NDSWC 9278

Altitude: 1483 feet Date drilled: 5/29/75

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		15	16
Clay, silty, sandy, pebbly, olive-gray (till)-----		21	37
Gravel, fine to coarse, pebbly, sandy-----		31	68
Clay, silty, sandy, pebbly, olive-gray to dark-gray (till)-----		139	207
Sand, coarse-----		13	220
Gravel, fine to medium, pebbly, sandy-----		50	270
Pierre Shale:			
Shale, dark-gray, noncalcareous-----		10	280

140-062-29CCC1
USBR L-54

Altitude: 1417 feet Date drilled: 9/16/67

Glacial drift:			
Loam-----		2	2
Sand, fine, brown-----		2.5	4.5
Sand, coarse, well-sorted-----		7.5	12
Sand, very coarse, gravelly-----		4	16
Sand, very coarse, gravelly; shale pebbles-----		19	35

140-062-29CCC2
NDSWC 6067

Altitude: 1416 feet

Date drilled: 7/20/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, sandy, yellowish-brown, oxidized-----		2	3
Gravel, fine, pebbly, sandy; coarse in part-----		12	15
Sand, coarse to very coarse, pebbly-----		9	24
Gravel, coarse, pebbly, cobbley-----		6	30
Gravel, medium, pebbly-----		12	42
Gravel, coarse, pebbly, cobbley-----		10	52
Clay, silty, sandy, pebbly, olive-gray (till); coarse sand from 88 to 90 feet-----		64	116
Silt, olive-gray; inter-bedded with clay from 123 to 140 feet-----		37	153
Sand, fine-----		8	161
Gravel, coarse, pebbly-----		3	164
Pierre Shale:			
Shale, medium-gray to dark-gray, noncalcareous-----		18	182

140-062-30AAA
NDSWC 6167

Altitude: 1409 feet Date drilled: 6/07/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Gravel, medium to coarse, pebbly, cobbly, sandy-----	35	35
	Sand, very coarse, pebbly-----	45	80
	Silt, sandy, clayey, brownish-gray, organic-----	15	95
	Sand(?); probably fine; poor samples-----	8	103
	Interbedded silt and sand; cobbles at 110 feet-----	8	111
	Clay, silty, sandy, pebbly, brownish-gray (till)-----	17	128
Pierre Shale:			
	Shale, medium-gray-----	15	143

140-062-30ABA
USBR 318

Altitude: 1400 feet Date drilled: 12/15/70

Alluvium:	Loam, sandy-----	3.5	3.5
Glacial drift:			
	Sand, coarse, gravelly, loamy-----	8.5	12

140-062-30ACC
USBR 313

Altitude: 1396 feet Date drilled: 12/14/70

Alluvium:	Loam, silty-----	2	2
Glacial drift:			
	Loam, coarse, sandy, gravelly-----	4	6
	Loam (till)-----	7	13

140-062-30BAC1
(Log modified from Mann Drilling Co.)

Altitude: 1450 feet Date drilled: 11/01/73

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Till-----	36	36	
Gravel-----	6	42	
Till-----	39	81	
Sand, coarse-----	39	120	
Till, silty-----	55	175	
Gravel-----	10	185	
Till-----	8	193	
Shale-----	7	200	

140-062-30BAC2
(Log modified from Layne Minnesota Co.)

Altitude: 1450 feet Date drilled: 1975

Soil-----	1	1
Clay-----	24	25
Clay, sandy-----	60	85
Sand and gravel-----	55	140
Clay-----	5	145

140-062-30DCA
USBR 309

Altitude: 1393 feet Date drilled: 12/11/70

Alluvium:

Loam, silty-----	3	3
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Glacial drift:

Loam (till)-----	10	13
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140-062-31ABB
NDSWC 6065

Altitude: 1422 feet Date drilled: 7/15/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	2	2	
Sand, coarse, oxidized-----	2	4	
Gravel, coarse to very coarse, pebbly, sandy-----	12	16	
Silt or clay; no samples-----	8	24	
Sand, coarse; pebbly at base of unit-----	3	27	
Clay, silty, sandy, pebbly, gray (till)-----	15	42	
Sand, very fine, clayey; organic material-----	22	64	
Sand; no description-----	8	72	
Clay, silty, sandy, pebbly, olive-gray (till)-----	5	77	
Sand; no description-----	4	81	
Clay, silty, sandy, pebbly, olive-gray (till)-----	6	87	
Sand and gravel-----	4	91	
Clay, silty, sandy, pebbly, olive-gray (till); numerous gravel and sand beds-----	24	115	
Gravel, fine to coarse, pebbly, cobbly; inter- bedded with till or clay-----	35	150	
Clay, silty, sandy, pebbly, cobbly, olive-gray (till); several boulders-----	12	162	

140-062-31ACD
(Log modified from Traut Wells Inc.)

Altitude: 1415 feet Date drilled: 11/08/74

Sand, brown-----	30	30
Sand, gray-----	10	40

140-062-31BBA
NDSWC 6066

Altitude: 1397 feet

Date drilled: 7/15/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium and glacial drift:			
Soil-----		1	1
Silt(?); no samples-----		4	5
Sand, very coarse, pebbly, oxidized-----		5	10
Clay, silty, sandy, pebbly, gray to greenish-gray (till); interbedded with sand and gravel from 22 to 30 feet-----		25	35
Gravel, fine, pebbly; coarse in part; inter- bedded with clay-----		5	40
Gravel, very coarse, pebbly, cobbly-----		23	63
Clay, silty, sandy, pebbly, olive-gray (till)-----		7	70
Silt, brownish-gray-----		12	82

140-062-31BCC
USBR 282

Altitude: 1386 feet

Date drilled: 12/03/70

Alluvium:

Loam, silty----- 2.5 2.5

Glacial drift:

Loam, sandy; 30 percent
gravel----- 3.5 6

Sand, coarse, gravelly,
loamy----- 7 13

140-062-31CCB
USBR 288

Altitude: 1387 feet Date drilled: 12/03/70

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Alluvium:			
	Loam, silty-----	2	2
	Loam-----	1	3
Glacial drift:			
	Sand, coarse, gravelly, loamy-----	1	4
	Loam (till)-----	9	13

140-062-31DBD
(Log modified from Traut Wells Inc.)

Altitude: 1420 feet Date drilled: 7/25/74

Sand, fine, brown-----	23	23
Silt, gray-----	12	35
Sand, gray-----	20	55

140-062-32AAA
NDSWC 6168

Altitude: 1457 feet

Date drilled: 6/07/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
	Soil-----	1	1
	Clay, silty, pebbly, yellowish-brown, oxidized (till)-----	14	15
	Clay, silty, pebbly, olive- gray (till); sand lenses from 23 to 27 feet-----	27	42
	Sand, coarse-----	4	46
	Clay, silty, pebbly, olive-gray (till)-----	64	110
	Gravel, fine, pebbly; interbedded with clay lenses-----	5	115
	Clay, silty, pebbly, olive-gray (till)-----	70	185
	Gravel, fine, pebbly, sandy-----	39	224
Pierre Shale:			
	Shale, medium-gray to dark-gray, waxy; silty in part-----	6	230

140-062-34AAA
NDSWC 11323

Altitude:	1475 feet	Date drilled:	8/12/80
<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		25	26
Clay, silty, sandy, pebbly, olive-gray (till)-----		11	37
Sand, medium to very coarse; abundant detrital shale-----		10	47
Clay, silty, sandy, pebbly, olive-gray (till)-----		89	136
Sand, coarse, pebbly; interbedded with clay from 148 to 151 feet-----		18	154
Clay, silty, sandy, pebbly, olive-gray (till); inter- bedded with sand from 191 to 194 feet-----		40	194
Sand, medium to coarse, pebbly-----		16	210
Sand, medium to coarse-----		10	220
Sand, coarse to very coarse, pebbly; cobbly at base-----		32	252
Pierre Shale: Shale, dark-gray to black-----		28	280

140-062-35CCB
NDSWC 12264

Altitude: 1475 feet Date drilled: 8/01/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Clay, silty, yellowish-brown, oxidized-----	6	7	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	8	15	
Clay, silty, sandy, pebbly, olive-gray (till)-----	13	28	
Sand, fine to medium-----	12	40	
Gravel, fine to medium, pebbly, sandy-----	2	42	
Clay, silty, sandy, pebbly, olive-gray (till)-----	155	197	
Clay, olive-gray; occasional fragments of shale; ice-thrust block(?); Pierre Shale(?)-----	10	207	
Gravel, sandy; interbedded with clay; abundant detrital shale-----	5	212	
Gravel, sandy; interbedded with sand-----	33	245	
Gravel, fine to medium, pebbly; coarse in part-----	32	277	
Shale, black; interbedded with gravel-----	2	279	
Pierre Shale:			
Shale, gray to black; some bentonite beds-----	21	300	

140-062-36ABB
NDSWC 12266

Altitude: 1476 feet

Date drilled: 8/02/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, cobbly, yellowish-brown, oxidized (till)-----		29	30
Clay, silty, sandy, pebbly, olive-gray (till)-----		12	42
Sand, fine, silty-----		3	45
Clay, silty, sandy, pebbly, olive-gray (till)-----		92	137
Gravel, fine to medium, pebbly, sandy-----		142	279
Boulders, cobbles, and pebbles-----		2	281

140-062-36BBB
NDSWC 12265

Altitude: 1471 feet Date drilled: 8/01/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----		20	21
Clay, silty, sandy, pebbly, olive-gray (till)-----		10	31
Sand, fine to coarse, pebbly-----		9	40
Sand; interbedded with detrital shale and lignite gravel-----		17	57
Clay, silty, sandy, pebbly, cobbly, olive-gray (till)-----		85	142
Gravel, sandy; interbedded with silty clay-----		37	179
Clay, gray to black; inter- bedded with detrital shale gravel-----		17	196
Pierre Shale:			
Shale, gray to black, carbonaceous; hard and fissile in part-----		14	210

140-063-01CAC
(Log modified from Traut Wells Inc.)

Altitude: 1475 feet Date drilled: 7/28/83

Soil-----	1	1
Clay, brown-----	5	6
Clay, sandy, gray-----	8	14
Sand, coarse; with clay-----	5	19
Sand, fine; with clay-----	11	30
Clay, gray, hard-----	4	34
Shale, black, brittle-----	4	38

140-063-14ADD

(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1490 feet

Date drilled: 5/21/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil, black-----	2	2
	Clay, yellow-----	8	10
	Clay, gray-----	5	15
	Sand and gravel-----	10	25
	Clay, gray-----	45	70
	Sand, gray-----	8	78
	Shale-----	42	120

140-063-24AAD

(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1475 feet

Date drilled: 10/08/73

Soil, black-----	1	1
Clay-----	14	15
Sand, fine-----	4	19
Clay-----	63	82
Shale-----	75	157

140-063-27BBB

(Log modified from Carlson Drilling)

Altitude: 1505 feet

Date drilled: 6/21/74

Clay, yellow, rocky-----	20	20
Clay, rocky-----	40	60
Shale-----	50	110

140-063-28BBBB

(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1505 feet

Date drilled: 10/30/73

Soil, black-----	1	1
Clay-----	45	46
Shale-----	69	115

140-063-30DAA
(Log modified from Traut Wells Inc.)

Altitude: 1495 feet

Date drilled: 6/21/79

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil-----	2	2
	Clay, brown-----	12	14
	Clay, gray-----	50	64
	Sand and gravel-----	26	90
	Shale-----	130	220

140-063-31ABB
(Log modified from Traut Wells Inc.)

Altitude: 1465 feet

Date drilled: 10/13/81

Soil-----	2	2
Clay, brown-----	33	35
Clay, sandy, brown-----	14	49
Gravel; with sand and clay-----	5	54
Clay, brown; with gravel-----	2	56
Sand and gravel-----	8	64
Clay, brown-----	20	84
Clay, gray-----	4	88
Clay, gray; with fine sand and detrital lignite-----	5	93
Clay, gray-----	1	94
Clay, brown-----	9	103
Clay, gray-----	6	109
Clay, gray; with fine sand and detrital lignite-----	5	114
Clay, silty, gray; with fine sand-----	75	189
Sand, medium, silty-----	16	205
Sand, coarse-----	25	230
Clay, gray; with silt-----	20	250

140-063-31ABD
(Log modified from Traut Wells Inc.)

Altitude: 1450 feet

Date drilled: 8/31/81

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Soil-----		2	2
Clay, sandy, brown-----		3	5
Sand, rocky-----		4	9
Clay, brown-----		7	16
Clay, gray-----		11	27
Clay, sandy, brown-----		12	39
Clay, gray-----		2	41
Clay, sandy, brown-----		4	45
Clay, gray-----		2	47
Clay, sandy, brown-----		6	53
Clay, gray-----		3	56
Sand and gravel, dirty-----		3	59
Clay, gray-----		95	154
Silt, sandy; lignite pebbles-----		3	157
Clay, gray-----		4	161
Sand and gravel, dirty-----		2	163
Clay, gray-----		4	167
Clay, gray to green, soft-----		10	177
Clay, gray, hard, greasy-----		34	211
Shale, black, brittle-----		6	217

140-063-31ACD
(Log modified from Traut Wells Inc.)

Altitude: 1420 feet

Date drilled: 4/25/81

Soil-----	1	1
Clay, sandy, brown-----	5	6
Sand-----	2	8
Clay, brown-----	4	12
Gravel, coarse-----	6	18
Gravel; with brown clay-----	24	42
Sand, fine, brown; with lignite pebbles-----	12	54
Clay, gray-----	41	95
Sand, medium, gray; with lignite pebbles-----	17	112
Rock-----	--	112

140-063-31ADB
(Log modified from Traut Wells Inc.)

Altitude: 1465 feet Date drilled: 6/28/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Clay, brown, hard-----	61	61
	Clay, gray-----	17	78
	Sand, fine; with silt-----	6	84
	Sand, medium; with clay-----	6	90
	Detrital lignite; with fine sand-----	4	94
	Clay, soft; with silt-----	22	116
	Clay, gray, hard-----	4	120
	Clay, silty, gray; detrital lignite-----	12	132
	Clay, gray, hard-----	21	153
	Sand, fine; with silt-----	13	166
	Clay, gray; with silt-----	6	172
	Clay, gray-----	18	190
	Gravel, dirty; with clay-----	5	195
	Sand, coarse-----	5	200
	Gravel; with clay-----	5	205
	Sand; with gravel-----	9	214
	Sand, fine; detrital lignite-----	12	226
	Clay, silty, gray, soft-----	10	236

140-063-31DCA
(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1410 feet Date drilled: 8/11/78

Soil, black-----	1	1
Clay, yellow-----	5	6
Sand-----	42	48
Clay, sandy, gray-----	7	55
Sand and gravel-----	45	100

140-063-32CBB
NDSWC 6165

Altitude: 1485 feet

Date drilled: 6/06/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Clay, very silty, yellowish-orange to yellowish-brown, varved(?), oxidized; few pebbles-----		9	10
Gravel, sandy, oxidized-----		1	11
Clay, silty, sandy, very pebbly, yellowish-brown to olive-gray, partially oxidized (till); mottled with red iron-oxide stains-----		44	55
Clay, silty, sandy, very pebbly, olive-gray (till); siltier and sandier in parts-----		28	83
Silt, slightly clayey, light-gray to medium- gray; detrital lignite-----		12	95
Sand, fine, clayey, gray-----		10	105
Sand, fine, gray; inter- bedded coarse detrital lignite gravel-----		7	112
Sand, fine, very clayey, gray-----		18	130
Gravel, fine to medium, pebbly; detrital lignite gravel-----		10	140
Sand, coarse, well-sorted; detrital lignite-----		15	155
Clay, silty, brownish-gray to medium-gray, slightly micaceous-----		5	160
Sand, coarse, well-sorted; detrital lignite-----		10	170
Silt, clayey, brownish-gray to medium-gray, micaceous; some sand lenses; sandy below 235 feet-----		80	250

140-063-32CBB, Continued
NDSWC 6165

Altitude: 1485 feet

Date drilled: 6/06/83

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift, Continued:			
	Silt, clayey, sandy, pebbly, brownish- gray to medium- gray (till?)-----	10	260
	Clay, very silty, sandy, pebbly, medium-gray (till)-----	10	270
	Silt, clayey, brownish-gray----	53	323
Pierre Shale:			
	Shale, dark-gray-----	10	333

140-063-32DBB
NDSWC 6061

Altitude: 1483 feet Date drilled: 7/13/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	9	10	
Sand and gravel, oxidized-----	2	12	
Clay, silty, sandy, pebbly, olive-brown, oxidized (till)-----	23	35	
Clay, silty, sandy, pebbly, light-olive-gray (till)-----	10	45	
Clay, silty, sandy, pebbly, olive-gray (till); some silt beds-----	37	82	
Sand, very coarse, pebbly; detrital lignite from 100 to 110 feet-----	30	112	
Silt, gray; interbedded with clay-----	15	127	
Sand and gravel; inter- bedded with silt and clay-----	18	145	
Clay, silty, very sandy, pebbly, gray to brownish- gray; interbedded with gravel-----	16	161	
Pierre Shale:			
Shale, dark-gray, thinly bedded; concretions or ironstone beds-----	19	180	
Shale, dark-gray; bentonite beds; concretions or ironstone beds-----	22	202	

140-063-33BAD
(Log modified from Traut Wells Inc.)

Altitude: 1485 feet

Date drilled: 5/30/76

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
	Soil-----	2	2
	Clay, brown-----	14	16
	Clay, gray-----	18	34
	Sand, gray-----	2	36
	Clay, gray-----	17	53
	Sand, gray-----	12	65
	Clay, gray-----	25	90
	Clay, gray; with sand-----	18	108
	Clay, gray-----	13	121
	Sand, gray; with clay-----	61	182
	Shale-----	8	190

140-063-33BDC
(Log modified from Traut Wells Inc.)

Altitude: 1490 feet

Date drilled: 6/13/75

Clay, brown-----	16	16
Clay, gray-----	16	32
Sand, gray-----	3	35
Clay, gray-----	22	57
Sand, gray-----	5	62
Clay, gray-----	31	93
Sand, gray; with clay-----	17	110
Clay, gray-----	8	118
Sand, gray; with clay-----	42	160
Shale-----	20	180

140-063-34BBB
NDSWC 6075A

Altitude: 1491 feet

Date drilled: 7/30/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----		1	1
Silt, brown to yellowish-brown, oxidized-----		9	10
Sand, fine, oxidized-----		5	15
Clay, silty, sandy, pebbly, olive-gray (till)-----		4	19
Sand, fine-----		17	36
Gravel, fine, pebbly-----		2	38
Gravel, coarse, pebbly, cobble; interbedded with clay-----		10	48
Clay, silty, sandy, pebbly, olive-gray (till)-----		46	94
Silt, brownish-gray; contains some sandy clay beds-----		49	143
Silt, brownish-gray; cobbles at 196 feet-----		53	196
Clay, gray-----		4	200
Gravel, fine to medium, pebbly-----		6	206
Cobbles and gravel in a clay matrix (till?); no samples-----		14	220
Pierre Shale:			
Shale, medium-gray, noncalcareous-----		12	232

140-063-35AAA
NDSWC 6064

Altitude: 1482 feet

Date drilled: 7/14/82

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Glacial drift:			
Soil-----	1	1	
Clay, silty, sandy, pebbly, yellowish-brown, oxidized (till)-----	21	22	
Clay, silty, sandy, pebbly, olive-brown to olive- gray, partially oxidized (till)-----	15	37	
Clay, silty, sandy, pebbly, olive-gray (till)-----	67	104	
Clay, dark-gray-----	18	122	
Sand, coarse; abundant detrital lignite-----	18	140	
Sand, fine to medium-----	29	169	
Clay; no description-----	3	172	
Sand, very coarse, pebbly-----	8	180	
Sand, coarse; detrital lignite-----	5	185	
Sand, very coarse-----	5	190	
Clay; no description-----	4	194	
Gravel and sand; no description-----	12	206	
Clay, silty, very sandy, gray-----	9	215	
Pierre Shale:			
Shale, dark-gray, noncalcareous-----	25	240	

140-063-36ABA
(Log modified from Scherbenske Excavating & Trucking)

Altitude: 1475 feet

Date drilled: 7/12/76

<u>GEOLOGIC SOURCE</u>	<u>MATERIAL</u>	<u>THICKNESS (FEET)</u>	<u>DEPTH (FEET)</u>
Gravel-----		10	10
Clay, yellow-----		6	16
Clay, gray-----		69	85
Silt-----		25	110
Sand-----		58	168

140-063-36BBA
(Log modified from Carlson Drilling)

Altitude: 1485 feet

Date drilled: 8/03/78

Soil-----		1	1
Clay, yellow; with sand-----		19	20
Sand and gravel, rocky; no water-----		45	65
Clay, gray-----		55	120
Sand, fine, silty-----		7	127
Sand-----		5	132

TABLE 4.--Chemical analyses of ground water from wells

<u>Principal aquifer</u>	<u>Specific conductance</u>
111, Holocene	Value shown is the field specific conductance measured at the well at the time of sampling.
112, Pleistocene	
211, Upper Cretaceous	
ALVM, alluvium	
BGFV, buried glaciofluvial deposits	pH
ELDL, Ellendale aquifer	
GLPH, Guelph aquifer	
HOMR, Homer aquifer	
JMSN, Jamestown aquifer	
LCSR, lacustrine deposits	
LMUR, LaMoure aquifer	
MDWY, Midway aquifer	
NRVL, Nortonville aquifer	
OKES, Oakes aquifer	
OTSH, outwash deposits	
PIRR, Pierre Shale	
SPRD, Spiritwood aquifer	
SVMC, Seven Mile Coulee aquifer	
YPSL, Ypsilanti aquifer	

LOCAL IDENT- I- FIER	GEO-LOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	SPECIFIC CON- DUCTANCE ($\mu\text{S}/\text{cm}$)	DATE SAMPLE AT 25°C)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS NONCAR- BONATE (MG/L AS CACO ₃)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS Na)	SODIUM AD- SORP- TION PERCENT SODIUM	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE FET-FLD (MG/L AS HCO ₃)	CAR- BONATE FET-FLD (MG/L AS CO ₃)	SULFATE, DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	SOLIDS, RESIDUE (MG/L AS N)	NITRO- GEN, DIS- SOLVED (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS Mn)	MANGA- NESE, DIS- SOLVED (UG/L AS Mn)			
129-059-3000D	112SPRD	101	79-08-01	1900	8.4	12.0	590	160	150	52	260	48	5.0	10	500	13	570	120	0.2	30	1420	--	770	100	2000	
130-059-018CC	1120KES	45	83-01-19	9500	8.7	9.0	4600	3900	540	790	1900	47	12	42	871	0	6700	66	.2	26	10500	--	150	5700	1200	
130-059-170AB4	1120KES	24	75-07-30	600	7.7	--	320	49	80	29	8.4	5	.2	2.6	330	0	52	4.0	.4	18	351	--	40	370	680	
131-059-038BA	112SPRD	200	81-09-04	1500	8.0	8.0	220	0	46	26	270	72	8.0	11	550	0	260	93	.9	21	958	--	800	440	190	
131-059-04CDC	112SPRD	113	82-09-21	1020	8.0	10.0	300	0	83	22	160	53	4.0	9.6	451	0	150	18	.4	28	676	1.3	530	250	290	
131-059-05AAA	112SPRD	190	81-09-04	1260	7.9	8.0	240	0	45	31	210	64	6.0	12	553	0	200	45	.5	30	813	--	660	710	120	
131-059-05BA1	112SPRD	171	82-09-22	1170	8.1	10.0	180	0	40	19	220	71	7.0	13	509	0	180	33	.5	27	757	1.7	420	280	190	
131-059-05DD2	111ALVM	20	83-08-03	1950	8.1	11.0	320	0	80	30	270	64	7.0	11	597	0	370	51	.5	28	1130	--	540	410	830	
131-059-08ABA	112SPRD	160	82-09-21	1200	8.0	10.0	160	0	36	16	230	74	8.0	12	501	0	190	38	.6	29	834	1.4	740	580	30	
131-059-17ABA	1120KES	38	82-10-29	670	7.0	--	350	89	99	25	37	18	.9	6.0	320	0	88	17	.2	25	457	--	170	50	410	
131-059-178BA	112LMUR	46	82-10-29	1050	--	7.0	220	0	55	20	160	60	5.0	11	450	0	95	59	.5	27	632	--	540	140	980	
131-059-178BB	112LMUR	35	82-11-03	1100	8.0	7.0	240	0	63	19	150	57	4.0	12	450	0	120	72	.5	25	706	--	520	150	1100	
131-059-178CC	112LMUR	100	82-11-02	845	--	7.0	250	0	67	20	84	41	2.0	8.3	390	0	73	31	.4	28	447	--	330	190	840	
131-059-208BB	1120KES	30	82-11-02	1200	8.0	6.0	460	64	110	44	95	31	2.0	12	480	0	210	22	.4	27	794	--	300	80	550	
131-059-228BB	112SPRD	200	82-09-21	790	8.0	7.9	11.0	280	0	82	18	680	34	18	9.2	369	0	46	12	.2	28	420	.83	240	850	290
131-059-22CBB2	1120KES	33	83-01-19	550	8.1	8.0	290	56	77	24	5.0	4	.1	5.0	287	0	63	5.7	.2	27	344	--	20	30	600	
131-059-27CBB1	112SPRD	132	83-01-19	2150	8.3	8.0	92	0	21	9.5	480	91	22	480	668	0	92	290	1.0	31	1240	--	1600	320	50	
131-059-31AAA	1120KES	29	82-11-03	20000	7.6	6.0	5900	5400	550	1100	3500	56	20	51	610	0	5400	5100	.2	27	16000	--	570	17000	3100	
131-060-01ABA	112BGFV	80	82-10-06	1750	--	8.0	270	0	71	22	320	71	9.0	16	490	0	300	170	.6	26	1130	1.6	980	110	680	
131-060-08DD2	112GLPH	48	76-11-04	1180	8.2	7.5	640	360	170	52	29	9	.5	6.8	340	0	380	40	.1	26	890	--	450	1000	1100	
131-060-17CCA	112GLPH	53	75-07-30	2120	7.7	--	580	230	140	56	260	49	5.0	12	430	0	520	190	1.0	17	1440	.99	430	960	700	
131-060-17BC1	112GLPH	50	75-07-30	1360	7.8	--	710	410	180	63	34	9	.6	8.1	370	0	420	58	.2	19	979	--	0	150	480	
131-060-18DD2	112GLPH	46	75-11-04	1020	8.2	7.5	570	220	150	47	25	9	.5	6.2	420	0	270	6.6	.1	24	710	--	380	290	880	
132-059-04CCC	112SPRD	198	79-08-01	1600	7.9	14.0	270	0	69	24	260	67	7.0	9.4	516	0	330	67	.4	29	1050	--	970	60	220	
132-059-04DCG	112SPRD	161	79-08-01	1440	7.9	14.0	320	0	87	25	230	60	6.0	9.5	558	0	330	35	.3	29	982	--	1200	20	440	
132-059-09CDF	112SPRD	165	80-07-23	1650	7.9	8.0	350	0	91	30	210	56	5.0	8.8	540	0	290	39	.5	30	985	.09	920	170	320	
132-059-17CD2	112BGFV	128	82-09-22	1210	7.9	10.0	480	110	130	37	100	31	2.0	14	452	0	270	9.2	.1	26	812	.07	720	450	440	
132-059-17CD1	112SPRD	193	02-09-22	1300	8.1	11.0	150	0	36	15	270	78	10	12	513	0	200	71	.7	29	901	2.0	830	60	140	
132-059-17DCD3	112BGFV	63	82-09-22	975	7.9	10.0	490	140	130	41	48	17	1.0	12	436	0	210	7.6	.2	28	746	--	270	100	470	
132-059-18DCG	112SPRD	250	82-09-22	810	7.9	10.0	370	13	100	29	42	19	1.0	9.8	435	0	100	4.1	.2	25	525	1.1	220	730	430	
132-059-19AAA	112SPRD	241	79-08-01	1420	8.0	13.0	150	0	36	15	270	78	10	8.9	540	0	230	45	.5	29	898	--	1200	650	240	
132-059-21BAA	112SPRD	216	79-07-12	1020	7.9	12.0	350	0	93	29	84	34	2.0	8.9	452	0	130	13	.2	26	557	--	370	240	440	
132-059-27ADD	112SPRD	156	80-07-23	1750	8.1	8.0	230	0	56	22	290	72	9.0	7.7	593	0	290	69	.5	32	1050	.14	990	100	150	
132-059-27DC1	112SPRD	214	83-08-03	2300	8.0	11.0	170	0	45	14	370	81	13	10	484	0	380	150	1.3	31	1250	--	740	320	210	
132-059-27CDD	112TSH	54	82-10-29	960	--	7.0	510	210	120	52	45	16	.9	5.9	370	0	220	10	.2	27	673	--	100	570	430	
132-059-35CCC	112SPRD	180	81-09-04	1360	8.2	9.0	240	0	53	26	240	67	7.0	11	533	0	230	89	.5	30	919	--	850	310	340	
132-060-01BDC	112SPRD	208	82-09-23	1320	8.0	9.0	270	0	57	30	220	63	6.0	15	515	0	260	28	.5	28	871	2.5	740	590	90	
132-060-10BAA	112SPRD	208	82-08-26	1300	8.1	9.0	130	0	33	12	260	79	10	11	594	0	170	46	.8	28	831	--	1300	30	230	
132-060-11BAA	112SPRD	208	82-09-23	1210	8.0	9.0	320	0	84	26	170	52	4.0	15	489	0	260	15	.4	27	848	1.5	610	80	680	
132-060-12BBBB	1120LUR	121	82-11-07	950	8.0	15.0	220	0	61	17	120	53	4.0	9.2	467	0	92	19	.3	30	582	--	670	60	160	
132-060-19BAA	1120LUR	63	82-10-07	790	--	8.0	390	45	100	33	21	10	.5	6.3	420	0	78	10	.4	28	485	.47	140	560	1000	
132-060-23ADD	1120LUR	160	83-07-21	1420	7.9	10.0	300	0	78	26	160	52	4.0	11	510	0	220	28	.5	24	770	--	520	280	330	
132-060-23CDD	1120LUR	132	82-10-07	960	--	9.0	300	0	82	24	110	43	3.0	11	450	0	140	29	.3	28	624	.86	510	110	630	
132-060-26ABA	1120LUR	88	82-10-07	1090	--	8.0	270	0	72	23	150	53	4.0	12	480	0	150	45	.4	28	677	.99	650	500	500	
132-060-28AAA	112LMUR	73	82-11-04	915	--	6.0	280	0	77	22	86	39	2.0	10	450	0	49	48	.4	27	551	--	360	170	680	
132-060-34ADD	112LMUR	73	82-11-03	1120	7.9	6.0	300	0	76	27	150	51	4.0	13	430											

LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DATE OF SAMPLE	SPE- CIFIC CON- DUCT- ANCE (STAND- ARD UNITS)	PH AT 25°C	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	HARD- NESS, CAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE FET-FLD (MG/L HC03)	CAR- BONATE FET-FLD (MG/L AS C03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L SiO2)	SOLID, RESIDUE AT 180 DEG C (MG/L AS N)	NITRO- GEN, DIS- SOLVED (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)		
133-060-15CAC1	112LMUR	109	76-07-16	700	--	14.0	330	44	87	27	29	16	0.7	4.0	350	0	110	7.9	0.1	32	476	--	110	850	640
133-060-15CCC	112LMUR	61	74-11-27	786	7.8	8.0	250	0	66	21	68	37	4.4	310	0	67	63	.2	17	478	--	390	300	480	
133-060-15CDC	112LMUR	53	82-07-14	850	--	11.0	360	58	95	30	47	22	1.0	6.7	370	0	130	9.8	.3	27	527	--	150	30	520
133-060-16ACD	112LMUR	70	76-07-13	400	7.0	8.5	220	12	54	21	9.6	9	.3	2.6	260	0	30	2.7	.1	33	248	0.56	0	130	600
133-060-16CAA	112LMUR	60	76-07-12	540	7.4	8.5	310	50	76	29	15	9	.4	3.1	320	0	66	3.1	.1	33	363	.56	110	<10	560
133-060-16DA	112LMUR	63	75-09-24	423	8.0	8.5	220	30	57	19	6.9	6	.2	2.5	230	0	33	1.4	.2	19	275	--	3900	1800	160
133-060-16DA	112LMUR	63	80-08-25	385	--	10.0	210	17	57	17	1.2	1	.0	.7	240	0	15	.0	.2	26	236	--	240	640	510
133-060-16DAC	112LMUR	63	81-10-07	1450	--	8.5	650	310	170	55	150	33	3.0	12	410	0	390	150	.1	24	1110	--	430	1900	660
133-060-16DAC	112LMUR	78	76-07-13	445	7.1	8.5	220	13	58	18	11	10	.3	2.8	250	0	40	3.7	.1	33	251	0.56	0	230	420
133-060-16DC	112LMUR	31	82-07-15	575	--	12.0	190	9	53	15	47	34	2.0	5.8	230	0	85	17	.2	26	348	--	90	10	410
133-060-17ADA	112LMUR	61	74-12-03	874	8.0	8.0	340	0	95	25	62	28	2.0	5.5	440	0	100	16	.1	18	582	--	240	570	860
133-060-17BCB	112LMUR	33	82-07-13	440	--	10.0	180	0	48	14	17	17	.6	4.8	240	0	21	5.4	.1	27	245	--	30	40	340
133-060-17CCB1	112LMUR	63	82-07-13	690	--	10.0	270	0	73	21	34	21	.9	4.7	330	0	72	11	.1	27	405	--	120	1300	600
133-060-17CCB2	111ALVM	15	82-07-13	--	--	18.0	250	23	48	32	87	41	2.0	13	280	0	180	22	.2	13	565	--	210	80	610
133-060-17CCD	112LMUR	31	82-07-13	635	--	10.0	230	0	62	19	36	25	1.0	4.8	330	0	24	17	.1	26	362	--	180	30	780
133-060-17DAA	112LMUR	40	82-07-14	600	--	10.0	230	0	64	18	31	22	.9	4.4	300	0	50	5.8	.1	27	344	--	120	10	400
133-060-18CCB	112LMUR	36	82-07-13	990	--	10.0	390	70	95	36	69	28	2.0	7.6	380	0	170	29	.2	26	610	--	170	20	1700
133-060-19ABA1	112LMUR	86	82-07-14	1750	--	10.0	140	0	35	13	350	83	13	15	630	0	49	240	.7	28	996	--	710	290	180
133-060-19ABA2	112LCSPR	59	82-07-14	680	--	19.0	230	19	51	25	54	32	2.0	14	260	0	110	19	.2	8.8	436	--	140	130	250
133-060-19ABA3	112LCSPR	25	82-07-14	730	--	12.0	230	14	47	27	68	38	2.0	14	260	0	130	22	.2	8.9	449	--	90	40	110
133-060-21CAA1	112LMUR	52	82-07-15	430	--	9.0	250	34	69	18	15	12	.4	2.8	260	0	44	8.4	.1	29	317	--	100	600	680
133-060-21CAA2	112LMUR	23	82-07-15	--	--	9.0	240	27	67	17	8.0	7	.2	1.9	260	0	39	2.4	.1	28	261	--	30	690	660
133-060-21DDC	112LMUR	83	82-07-15	--	--	10.0	310	0	84	24	64	30	2.0	7.2	380	0	100	28	.2	29	527	--	220	150	520
133-060-22BDB2	112LMUR	105	76-07-13	730	7.0	--	320	58	79	30	35	19	.9	4.0	320	0	94	23	.1	32	436	.56	260	3100	640
133-060-22CCB	112LMUR	93	76-07-12	680	7.2	8.5	310	35	76	29	33	19	.8	3.7	330	0	91	17	.2	33	447	.45	110	1700	620
133-060-23AAA	112SPR0	220	81-08-25	1160	8.0	9.0	380	0	88	39	140	44	3.0	11	520	0	210	41	.3	31	765	--	50	490	170
133-060-23ABB	112SPR0	214	81-08-27	1420	8.2	9.0	250	0	49	31	230	65	6.0	12	500	0	250	73	.5	28	851	--	700	30	90
133-060-24AAA	112SPR0	210	81-08-27	1100	8.3	12.0	310	0	83	25	160	52	4.0	12	521	0	190	26	.4	30	776	--	450	20	700
133-060-24ABA	112SPR0	220	81-08-27	1360	7.7	9.0	420	0	93	46	150	43	3.0	13	548	0	260	36	.4	31	876	--	300	2000	200
133-060-25BBB	112SPR0	221	79-08-01	1650	8.0	15.0	230	0	52	24	260	70	8.0	9.1	479	0	290	90	.4	30	1080	--	1100	410	140
133-060-25CCC	112SPR0	213	82-09-23	940	a/8.1	10.0	80	0	22	6.0	240	85	9.5	1.6	517	0	82	12	.6	29	651	1.2	710	140	40
133-060-26CCC	112SPR0	207	82-09-23	770	a/8.2	10.0	170	0	45	15	110	56	4.0	13	448	0	65	2.0	.5	28	529	1.3	530	880	80
133-060-28AAA1	112LMUR	81	74-11-29	892	8.0	8.0	330	20	90	26	72	32	2.0	5.7	380	0	160	6.8	.1	18	606	--	160	1400	600
133-060-28DAB	112LMUR	28	82-07-15	975	--	9.0	420	33	110	36	60	23	1.0	8.7	470	0	130	15	.3	28	613	--	220	170	1700
133-060-29AAC	112LMUR	32	82-07-15	1200	--	9.0	380	54	98	33	110	38	3.0	9.4	400	0	140	100	.2	26	708	--	250	80	1500
133-060-29DD1	112LMUR	43	82-07-15	1650	--	10.0	390	140	98	36	160	46	4.0	12	300	0	92	300	.2	30	896	--	160	40	1400
133-060-29DD2	111ALVM	13	82-07-15	1130	a/7.3	13.0	400	110	77	50	70	27	2.0	7.4	347	0	310	26	.2	21	727	--	140	40	830
133-060-32ABA2	112LMUR	100	76-07-15	730	7.3	9.0	360	68	79	40	30	15	.7	4.8	360	0	94	26	.1	32	454	.63	0	120	320
133-060-36ABA	112SPR0	223	82-09-23	1140	a/8.2	10.0	130	0	32	11	220	77	9.0	12	542	0	96	29	.7	28	696	1.7	1100	130	50
133-061-018CD1	112LMUR	28	82-07-16	1700	--	12.0	300	0	78	26	120	45	3.0	11	280	0	110	45	.2	10	484	--	210	90	410
133-061-028AA2	112LMUR	43	82-07-15	2400	--	9.0	820	510	220	65	290	43	5.0	17	380	0	370	530	.3	26	1720	--	210	460	1800
133-061-038BB	112LMUR	41	74-11-13	895	8.0	7.5	350	56	91	30	58	26	1.0	5.3	360	0	130	37	.3	16	571	--	120	80	640
133-061-048BB	112ELDL	72	82-11-03	1170	--	6.0	600	280	150	54	31	10	.6	9.3	380	0	300	15	.3	26	796	--	70	1400	1100
133-061-06AAA3	112ELDL	93	74-11-08	1850	7.8	8.0	630	240	180	44	180	38	3.0	13	480	0	570	44	.3	17	1360	.72	350	60	2600
133-061-10CCC1	112BGFV	253	82-11-03	4000	a/7.8	6.0	620	290	170	48	590	66	11	32	410	0	58	1100	.4	26	2200	--	1700	30	1000
133-061-10CCC2	112ELDL	82	82-11-03	750	a/8.2	6.0	340	62	89	29	19	11	.4	7.3	340	0	61	44	.3	26	475	--	60	150	1200
133-061-11ACC	112BGFV	85	82-																						

LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DEPTH OF TOTAL (FEET)	DATE OF SAMPLE	SPECIFIC CON- DUCT- ANCE ($\mu\text{S}/\text{cm}$ AT 25°C)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS, NONCAR- BONATE (MG/L CACO ₃)	HARD- NESS, CATIONIC BONATE (MG/L CACO ₃)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE FET-FLD (MG/L AS HC03)	CAR- BONATE FET-FLD (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	SOLIDS, RESIDUE AT 180 DEG. C (MG/L AS N)	NITRO- GEN, DIS- SOLVED (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS Mn)	MANGA- NESE, DIS- SOLVED (UG/L AS Mn)	
133-062-24CCB2	112ELDL	114	75-10-10	1880	7.6	7.5	470	140	120	41	240	52	5.0	14	400	0	600	67	0.1	19	1310	--	880	230	1800
134-060-28ADD	112SPRD	181	80-07-22	1800	8.1	8.0	250	0	55	27	190	62	5.0	6.8	480	0	240	29	.4	33	815	0.14	480	410	130
134-060-29AAA	112SPRD	241	80-07-22	1320	7.8	8.0	300	0	68	32	160	53	4.0	5.8	480	0	210	28	.3	31	779	.11	440	150	210
134-060-29BBB2	112SPRD	281	80-07-22	980	8.0	9.0	270	0	73	21	95	43	3.0	6.1	450	0	90	21	.3	33	546	.02	480	1100	160
134-061-04AAA	112SPRD	266	82-09-08	1650	--	13.0	140	0	31	15	340	83	13	11	620	0	120	180	.5	25	1040	--	690	20	70
134-061-04CCC	112SPRD	252	79-09-01	1000	--	15.0	130	0	33	12	200	75	8.0	9.0	520	0	110	22	.3	35	677	--	330	200	140
134-061-05ABA	112LMUR	48	82-09-08	740	--	11.0	250	0	70	19	62	34	2.0	6.9	340	0	86	17	.1	25	453	.05	180	140	460
134-061-06CCB	112SPRD	271	80-07-22	1800	--	9.0	120	0	25	14	330	85	13	8.1	510	0	26	290	.5	34	944	.02	1100	260	30
134-061-08DBA	112LMUR	35	82-09-08	840	--	12.0	310	68	78	27	61	29	2.0	9.0	290	0	180	19	.2	26	541	--	180	850	510
134-061-10CBB	112SPRD	242	83-07-14	1200	7.8	14.0	130	0	31	13	200	75	8.0	11	526	0	120	24	.3	29	660	--	490	40	120
134-061-11AAA	112SPRD	151	79-07-26	830	8.1	15.0	270	0	74	21	80	38	2.0	7.1	415	0	78	19	.4	30	527	--	530	610	960
134-061-14DDD	112SPRD	261	79-07-26	920	--	16.0	220	0	60	17	130	55	4.0	8.1	490	0	100	15	.3	29	602	--	630	630	160
134-061-16AAB	112LMUR	42	83-07-14	880	7.9	12.0	320	46	80	29	54	26	1.0	7.0	334	0	110	5.7	.2	26	470	--	190	880	520
134-061-16BBC	112LMUR	42	83-07-14	950	7.7	13.0	270	6	72	21	79	38	2.0	7.2	318	0	150	34	.2	28	495	--	280	420	400
134-061-16CDC	112LMUR	40	76-08-19	560	7.7	8.5	270	69	74	21	7.0	5	.2	3.1	240	3	63	17	.0	28	393	1.7	80	0	420
134-061-16DD002	112LMUR	53	75-11-20	562	7.9	7.5	270	75	75	20	8.3	6	.2	4.0	240	0	73	17	.0	16	383	--	80	130	480
134-061-20ADD1	112LMUR	48	76-07-13	1400	7.5	--	620	270	160	54	120	29	2.0	7.4	430	0	450	51	.1	28	1110	.45	340	0	240
134-061-20DDA	112LMUR	78	82-09-08	1800	--	12.0	700	310	190	54	180	35	3.0	16	480	0	620	34	.2	25	1360	--	470	280	890
134-061-21DDA	112LMUR	50	75-10-15	1590	7.7	8.0	570	290	140	54	130	33	2.0	9.5	340	0	400	130	.2	20	1120	--	440	830	700
134-061-21DD02	112LMUR	55	76-07-15	1290	7.3	8.5	560	230	140	51	100	28	2.0	7.1	400	0	300	120	.2	30	1010	.88	260	500	560
134-061-22CAC	112LMUR	45	76-07-13	1180	7.2	8.0	500	180	120	49	80	25	2.0	6.6	390	0	260	78	.2	29	830	2.5	300	500	620
134-061-23CCC	112LMUR	53	82-09-08	660	--	12.0	250	0	63	22	39	25	1.0	6.1	320	0	70	6.4	.3	28	406	--	190	30	690
134-061-24DC	112SPRD	231	79-07-26	920	--	13.0	240	0	62	21	130	53	4.0	7.5	490	0	100	15	.3	32	574	--	1100	510	160
134-061-25BBB	112SPRD	63	82-09-08	840	--	13.0	310	0	76	28	78	35	2.0	8.6	420	0	130	9.9	.4	28	594	--	400	220	660
134-061-26CCC	112SPRD	71	76-03-25	940	8.0	8.5	330	48	81	31	84	35	2.0	5.8	340	0	66	110	.1	21	592	.56	400	<10	800
134-061-26DBC	112LMUR	42	83-07-14	1060	8.0	12.0	350	72	86	33	69	29	2.0	7.6	340	0	160	11	.3	27	581	--	230	140	770
134-061-30DDC	112ELDL	96	82-11-04	1900	8.7	5.0	670	310	190	47	180	36	3.0	19	440	0	630	33	.3	29	1350	--	390	670	1600
134-061-34ACA	112LMUR	78	76-07-14	910	7.1	8.5	440	170	110	40	26	11	.5	3.6	330	0	69	120	.3	32	625	.75	0	540	820
134-062-03AAA	112SPRD	254	83-07-14	2650	8.1	12.0	400	30	110	31	420	68	9.0	17	454	0	660	170	.1	27	1670	--	700	30	1800
134-062-03DD002	112SPRD	216	76-03-25	1700	7.9	8.0	320	32	91	23	270	64	7.0	8.8	350	0	420	150	.2	19	1220	.56	120	150	1800
134-062-04CCC	112SPRD	200	83-07-15	2900	7.9	11.0	490	130	130	41	430	65	9.0	17	445	0	770	110	.1	26	1710	--	620	20	2300
134-062-06AAA	112SPRD	191	83-08-03	2900	7.7	11.0	550	140	140	49	350	57	7.0	16	499	0	810	100	.2	24	1760	--	490	330	2000
134-062-09AAA	112SPRD	222	83-07-08	2400	7.7	9.0	510	140	140	40	320	57	6.0	14	456	0	670	120	.2	28	1510	--	220	20	2400
134-062-09DD000	112SPRD	242	83-07-14	2300	7.9	12.0	520	230	140	40	300	55	6.0	13	352	0	640	120	.2	27	1510	--	160	20	2400
134-062-21DDA	112SPRD	248	83-08-03	4800	7.7	11.0	330	0	88	26	770	83	19	18	694	0	27	990	.2	26	2160	--	600	60	1600
134-062-33CCB	112SPRD	158	75-10-15	2580	8.0	7.5	370	0	110	23	450	72	11	13	590	0	510	230	.3	20	1700	1.1	960	100	840
134-062-34BBC	112SPRD	222	83-08-03	3200	7.9	10.0	140	0	38	11	530	88	20	12	380	0	54	670	.4	26	1480	--	660	90	510
135-061-18CCC2	112SPRD	262	83-07-14	4100	7.9	13.0	320	0	82	27	770	83	19	16	475	0	110	990	.3	29	2170	--	460	40	690
135-061-28CCC	112LMUR	40	75-11-20	1070	7.9	7.5	470	48	120	41	60	21	1.0	7.7	510	0	170	11	.2	16	719	.27	120	20	720
135-061-28DD00	112LMUR	127	76-07-30	880	7.4	8.0	380	18	92	36	48	21	1.0	5.2	440	0	110	18	.2	30	539	2.1	40	330	220
135-061-29CCC	112SPRD	40	82-09-08	850	--	12.0	130	0	36	10	130	67	5.0	8.4	310	0	110	43	.5	26	554	.34	990	190	370
135-061-29CDC	112SPRD	147	83-07-15	1850	8.3	11.0	240	0	54	25	280	71	8.0	11	511	0	180	170	.2	29	986	--	580	680	130
135-061-29DCD2	112LMUR	95	76-07-13	800	7.4	8.0	380	62	95	35	40	18	.9	4.2	390	0	140	9.0	.2	31	543	.70	40	420	620
135-061-31ALVH	111ALVM	31	82-09-08	1080	--	12.0	390	29	99	35	92	33	2.0	5.5	440	0	190	41	.2	33	719	--	190	2800	1000
135-061-33CDC1	112SPRD	100	82-09-08	1280	--	11.0	230	0	52	24	200	64	6.0	12	500	0	150	78	.3	30	805	--	620	1200	130
135-061-33CDC2	112LMUR	31	82-09-0																						

LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DATE OF SAMPLE	SPECIFIC CON- DUCT- ANCE (μ S/cm AT 25°C)	(STAND- ARD UNITS)	PH AT 25°C	TEMPER- ATURE (DEG C)	HARD- NESS, NONCAR- BONATE (MG/L CACO ₃)	HARD- NESS, CATIONIC BONATE (MG/L CACO ₃)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE FET-FLD (MG/L AS CO ₃)	CAR- BONATE FET-FLD (MG/L AS SO ₄)	SULFATE DIS- SOLVED (MG/L AS CL)	CHLO- RIDE, DIS- SOLVED (MG/L AS F)	FLUO- RIDE, DIS- SOLVED (MG/L AS SiO ₂)	SILICA, DIS- SOLVED (MG/L AS N)	SOLIDS, RESIDUE AT 180 DEG. C (MG/L AS B)	NITRO- GEN, DIS- SOLVED (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	
135-062-250CB1	112SPRD	131	79-07-26	1900	--	14.0	190	0	52	15	350	79	11	9.3	410	0	390	170	0.4	31	1240	--	1300	690	240
135-062-250CB2	112LMUR	59	79-07-26	1050	--	13.0	310	0	83	25	110	43	3.0	6.0	400	0	140	66	.2	29	663	--	830	340	460
135-062-26ACA	112LMUR	37	83-07-14	2300	7.8	12.0	510	140	140	38	290	55	6.0	15	452	0	560	100	.1	25	1360	--	480	230	2300
135-062-28ABD	112SPRD	268	83-07-14	3800	7.8	11.0	530	86	150	38	380	60	7.0	17	544	0	750	130	.2	29	1670	--	640	630	2200
135-062-28BBB	112SPRD	170	83-07-15	3000	7.9	11.0	510	130	44	410	63	8.0	15	456	0	690	160	.2	26	1650	--	610	360	1400	
135-062-33BBB	112SPRD	182	83-07-08	2780	7.8	10.0	530	120	150	37	360	59	7.0	17	494	0	680	180	.2	27	1630	--	330	150	2200
135-062-35AA0	112SPRD	218	80-07-22	2350	--	8.0	540	80	150	40	300	54	6.0	13	560	0	570	100	.1	29	1450	--	720	120	2000
135-062-36DD0	112SPRD	251	80-07-22	1500	--	8.0	130	0	28	15	260	80	10	7.5	480	0	84	160	.4	32	832	0.05	1500	40	70
135-063-05AAA	112SPRD	130	83-07-27	2250	7.7	11.0	310	0	72	32	330	69	8.0	11	544	0	430	120	.4	26	1260	--	480	670	350
135-063-12BBB	112SPRD	225	83-07-27	2200	8.2	11.0	120	0	34	9.5	380	86	15	9.8	583	0	350	120	.5	25	1160	--	690	0	680
135-063-13AAA	112SPRD	224	76-03-25	1850	7.9	8.5	420	0	120	29	270	58	6.0	12	540	0	430	110	.2	20	1310	.81	400	40	920
135-063-15CCC	112SPRD	157	83-07-27	2650	7.9	11.0	550	190	140	48	310	54	6.0	16	432	0	780	120	.3	24	1610	--	330	140	3100
135-063-23CCC	112NRVL	166	75-05-22	2350	7.9	8.0	550	250	140	49	300	53	6.0	14	370	0	520	290	.3	19	1540	--	240	150	1800
135-063-24DD0	112SPRD	230	83-07-26	3100	8.0	13.0	210	0	56	16	540	84	17	16	441	0	640	280	.3	25	2090	--	590	10	940
135-063-36BBB1	112NRVL	197	76-06-17	3030	8.3	8.0	260	0	71	20	580	82	16	12	490	4	540	440	.3	27	1890	--	260	100	1100
135-063-36RRB2	112SPRD	127	76-06-17	2330	8.1	7.5	480	28	130	38	370	62	8.0	14	550	0	670	130	.3	30	1580	--	260	40	1800
136-062-03CCC	112SPRD	184	75-05-21	1170	7.6	8.0	530	140	130	50	77	24	2.0	9.8	480	0	280	9.5	.2	21	823	.11	710	2900	1500
136-062-06DD0	112SPRD	196	75-05-20	1890	8.1	8.0	150	0	42	11	380	84	14	7.7	530	0	300	170	.1	24	780	.70	430	1000	1300
136-062-07DCC	112SPRD	206	83-07-06	1830	8.2	10.0	290	0	77	23	270	66	7.0	13	425	0	410	32	.3	28	1120	.05	450	30	1200
136-062-09CCC1	112SPRD	230	83-07-07	1640	7.9	10.0	350	0	94	28	220	57	5.0	12	606	0	290	37	.2	30	1020	--	450	190	1400
136-062-15CCC	112SPRD	159	83-07-07	1350	7.8	9.0	280	19	190	21	190	59	5.0	13	314	0	320	100	.4	29	955	--	430	50	2100
136-062-21BBB1	112SPRD	246	83-07-07	1680	8.0	10.0	290	0	81	22	230	62	6.0	13	469	0	270	97	.2	32	1030	--	400	1200	490
136-062-21BBB2	112SPRD	160	83-07-07	1420	7.8	10.0	400	0	110	31	140	42	3.0	12	512	0	290	12	.2	29	923	--	470	60	1400
136-062-30DD02	112SPRD	126	82-08-25	2400	--	9.0	390	0	100	35	140	43	3.0	9.8	550	0	230	32	.3	26	813	.70	300	20	2700
136-062-30DD03	112SPRD	40	82-08-25	1200	--	8.0	390	0	100	35	140	43	3.0	9.8	550	0	230	32	.3	26	813	.70	300	20	2700
136-062-34BBB	112SPRD	271	82-09-09	1140	--	12.0	370	9	100	29	110	39	3.0	10	440	0	190	31	.3	38	713	--	210	220	210
136-063-01CCC	112SPRD	215	75-05-20	1390	7.8	8.0	300	0	79	25	200	58	5.0	8.6	460	0	240	80	.2	22	883	.59	980	1300	220
136-063-02AAA	112SPRD	194	82-08-17	1360	--	15.0	320	0	85	25	190	56	5.0	11	450	0	230	83	.2	33	888	--	350	600	210
136-063-02BA01	112SPRD	33	82-08-18	1020	7.8	12.0	330	0	87	27	100	39	2.0	11	420	0	190	26	.3	32	659	--	370	2900	280
136-063-02BAD2	112SPRD	80	82-08-18	1280	7.9	13.0	310	0	81	25	170	54	4.0	11	460	0	210	71	.2	30	836	--	310	1300	290
136-063-08AAB	112SPRD	191	76-03-31	1850	7.4	--	260	0	57	29	350	74	10	6.9	640	0	340	110	.3	23	1250	.56	600	40	60
136-063-10BBB	112SPRD	182	76-09-30	2000	8.2	8.0	300	0	74	28	310	68	8.0	9.1	590	6	310	99	.1	30	1130	.02	1000	210	460
136-063-11CB01	112SPRD	103	82-08-18	1220	--	12.0	490	60	130	41	80	26	2.0	7.9	530	0	200	40	.2	24	959	.14	400	40	360
136-063-13CB02	112SPRD	38	82-08-18	560	--	14.0	300	6	81	23	6.0	4	.2	1.8	350	0	19	4.0	1	26	348	--	40	3500	1400
136-063-17DD0	112SPRD	176	83-07-07	1810	7.9	10.0	290	0	64	31	260	65	7.0	9.5	529	0	240	140	.3	30	1060	--	450	150	290
136-063-18CCC	112SPRD	193	83-07-27	2050	7.9	10.0	240	0	61	22	320	73	9.0	9.8	581	0	350	92	.3	29	1140	--	440	640	610
136-063-25ADA	112SPRD	102	83-07-07	1480	7.7	9.0	390	0	100	34	140	43	3.0	10	532	0	220	49	.2	29	907	--	320	680	1900
136-063-29AAA	112SPRD	128	83-07-07	2050	8.0	10.0	330	0	85	28	300	66	7.0	12	533	0	420	98	.3	29	1030	--	400	180	780
137-062-01ABB	112GFGV	100	82-05-05	1120	a/7.6	8.0	430	67	120	32	70	26	2.0	11	445	0	170	24	.3	26	657	.12	150	10	1400
137-062-03DD01	112SPRD	223	82-05-05	1750	--	8.0	130	0	36	10	300	82	12	11	390	0	83	290	.4	26	926	1.3	190	10	1000
137-062-03DD02	112GFGV	103	82-05-05	900	a/7.7	8.0	410	110	110	33	32	14	.7	8.5	367	0	150	11	.3	26	556	.44	110	130	1600
137-062-06DDC	112SPRD	232	81-11-07	--	a/8.0	--	440	0	130	32	260	56	6.0	12	672	0	440	28	--	1230	--	1000	460	460	
137-062-07TBC	112SPRD	134	83-07-26	1340	8.3	12.0	270	0	69	23	170	57	5.0	9.4	543	0	170	15	.3	28	735	--	570	450	420
137-062-12ABB	112SPRD	180	80-09-11	3100	8.3	7.0	130	0	31	13	540	89	21	7.8	416	0	19	670	.4	21	1420	1.2	30	60	1300
137-062-19BBB1	112SPRD	234	83-07-06	2040	7.9	10.0	110	0	27	11	390	87	16	7.5	643	0	280	120	.3	30	1210	--	570	320	100
137-062																									

LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DEPTH OF WELL, TOTAL (FEET)	DATE OF SAMPLE	SPE- CIFIC CON- DUCT- ANCE (STAND- ARD UNITS)	PH AT 25°C	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION (MG/L AS K)	POTAS- SIUM, DIS- SOLVED (MG/L AS CO3)	BICAR- BONATE FET-FLD (MG/L AS CO3)	CAR- BONATE FET-FLD (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C (MG/L AS B)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	BORON, DIS- SOLVED (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)			
138-062-18BC2	112YPSL	42	83-07-06	1270	8.1	9.0	240	0	64	19	180	61	5.0	8.2	466	0	210	41	0.3	27	802	0.03	260	480	550	
138-062-19BC	211PIRR	37	82-08-12	1500	--	13.0	58	0	16	4.5	370	92	22	7.4	680	0	250	28	.5	26	1010	--	2400	30	130	
138-062-20BB	112SPRD	163	82-08-17	1260	--	15.0	270	0	71	23	170	56	5.0	13	480	0	200	40	.3	23	750	--	380	20	590	
138-062-31AA	112SPRD	148	82-05-05	1340	--	8.0	290	0	75	26	170	54	4.0	12	440	0	240	47	.3	26	808	.09	330	30	1200	
138-062-34BBB	112SPRD	231	80-09-10	1500	--	8.0	150	0	44	9.7	250	78	9.0	5.7	440	0	150	130	.4	31	832	.27	490	50	1400	
138-062-35AAA	112SPRD	263	80-09-10	3030	--	7.0	190	0	54	14	540	85	18	10	440	0	24	690	.4	29	1600	.29	1100	60	1200	
138-063-01DCC	112BGFV	74	82-08-11	1550	--	13.0	270	0	72	22	270	67	7.0	11	500	0	360	45	.3	26	1050	--	620	30	1200	
138-063-12BBB	112BGFV	192	82-08-11	1700	--	12.0	270	0	75	21	290	69	8.0	11	520	0	270	120	.3	26	1030	--	570	100	1000	
138-063-25CBC	112BGFV	96	82-08-18	1100	--	13.0	530	170	140	44	36	13	.7	8.8	440	0	220	8.1	.3	25	588	.02	110	60	730	
139-062-02CCC	112SPRD	210	67-05-04	1220	a/7.9	7.0	250	0	69	18	190	61	5.0	7.8	516	0	180	48	.2	27	793	--	200	170	--	
139-062-11DCC	112SPRD	210	70-08-27	--	a/8.0	7.0	210	0	56	17	200	66	6.0	7.4	474	0	180	45	.5	20	766	--	160	--	--	
139-062-11DCC	112SPRD	210	74-06-03	1200	8.1	8.0	240	0	61	21	200	64	6.0	6.8	515	0	180	56	.2	24	798	--	--	--	980	
139-062-11DCC	112SPRD	210	80-08-25	1250	8.3	8.0	230	0	57	21	200	65	6.0	6.1	519	0	180	49	.3	23	788	.05	270	360	1200	
139-062-11DCC	112SPRD	211	80-09-09	1260	8.0	8.0	290	0	84	19	150	52	4.0	6.5	514	0	160	36	.2	32	762	.18	310	70	1200	
139-062-12AAD	112SPRD	116	76-05-18	--	7.8	--	280	0	70	26	50	27	1.0	7.0	386	0	71	3.1	.4	32	462	--	160	730	440	
139-062-13AAA2	112SPRD	201	76-05-19	765	7.7	--	340	8	89	29	36	18	.9	4.7	410	0	85	7.0	.2	31	507	.05	160	120	320	
139-062-14CCC	112SPRD	156	80-09-10	950	8.1	7.0	310	0	83	25	79	35	2.0	4.1	498	0	72	8.3	.2	30	543	.14	370	30	1500	
139-062-15ABB	112SPRD	211	80-09-09	1340	8.0	7.0	200	0	55	15	210	69	7.0	6.7	514	0	160	49	.4	30	769	.25	340	240	1000	
139-063-06ABC1	112MSN	55	82-08-11	1600	--	13.0	710	280	210	46	140	29	2.0	12	530	0	430	30	.2	19	1190	--	290	5000	1100	
139-063-06ABC2	112MSN	27	82-08-11	1340	--	11.0	460	23	120	38	130	38	3.0	10	530	0	280	19	.2	27	1080	--	310	4400	1400	
139-063-08ACC	112JMSN	69	82-08-11	690	--	12.0	300	38	74	28	43	23	1.0	5.7	320	0	130	5.3	.1	24	491	--	150	40	460	
139-063-10B8A	112JMSN	35	82-08-11	1340	--	10.0	580	150	140	57	70	20	1.0	9.6	530	0	200	79	.2	25	855	--	200	1700	950	
139-063-12DAB	112JMSN	22	83-07-07	1030	8.0	9.0	410	150	100	38	50	21	1.0	5.4	310	0	220	18	.2	28	676	6.0	790	10	50	
139-064-24AAA	112HOMR	123	82-08-11	1060	--	13.0	530	180	140	43	37	13	.7	9.2	420	0	260	7.2	.3	25	753	--	160	1500	2100	
140-062-01BBC2	112SPRD	265	82-05-06	1120	a/7.5	8.0	520	150	130	47	45	16	.9	11	454	0	250	9.8	.3	23	746	--	230	110	640	
140-062-02BAA	112SPRD	230	82-05-06	1060	a/7.6	8.0	510	170	140	40	28	10	.6	8.1	421	0	200	7.9	.2	34	725	--	120	3300	110	
140-062-02CCC1	112SPRD	161	75-06-11	--	8.0	--	340	0	70	40	150	48	4.0	8.8	493	0	210	52	.6	23	786	--	240	490	180	
140-062-02CCC2	112SPRD	250	82-05-06	1160	a/7.8	8.0	410	37	110	33	80	29	2.0	9.5	456	0	190	13	.2	28	663	--	210	1600	90	
140-062-09DD02	112SPRD	215	82-05-06	1550	a/8.4	8.0	250	0	54	29	270	68	8.0	14	515	7	200	130	.3	23	975	--	390	560	90	
140-062-16DD01	112SPRD	216	75-06-12	1690	8.0	--	160	0	26	23	340	81	12	8.0	600	0	240	110	.5	23	1060	--	790	130	20	
140-062-22AAA2	112SPRD	234	73-09-21	--	7.5	--	300	0	76	27	130	48	3.0	7.5	449	0	170	25	.5	29	701	.05	170	2300	20	
140-062-23AAB	112SPRD	258	75-06-05	1110	7.8	--	260	0	65	24	150	55	4.0	7.3	480	0	160	41	.2	22	709	.09	40	20	120	
140-062-23ABB	112SPRD	261	75-06-04	--	8.0	--	260	0	63	25	150	55	4.0	7.3	468	0	160	44	.2	23	704	.14	280	140	60	
140-062-27CCC1	112SPRD	264	75-06-04	--	8.0	--	100	0	24	9.7	300	86	13	7.0	519	0	210	76	.3	21	899	.28	40	1400	160	
140-062-27CCC2	112BGFV	46	75-06-04	--	7.6	--	540	210	140	46	28	10	.5	6.9	406	0	250	13	.2	19	732	.14	--	--	10	
140-062-29CCC2	112MDWY	160	82-08-11	1480	--	12.0	100	0	23	11	300	85	13	9.3	570	0	190	75	.4	28	937	.07	460	700	30	
140-062-29CCC3	112SWC	50	82-08-11	960	--	10.0	360	49	80	39	69	29	2.0	6.8	380	0	170	25	.2	25	626	--	170	1700	720	
140-062-30AAA	112SWC	57	83-07-05	1750	7.9	9.0	390	37	37	99	35	180	49	4.0	10	433	0	220	160	.2	31	913	--	250	1500	640
140-062-31BBA	112MDWY	50	82-08-11	970	--	10.0	380	55	89	38	63	26	1.0	10	390	0	170	21	.3	27	625	--	230	960	390	
140-062-32AAA	112SPRD	216	83-07-05	1420	7.8	10.0	140	0	31	15	270	79	10	11	536	0	210	58	.3	31	861	--	330	260	60	
140-062-34AAA	112SPRD	225	80-09-09	1220	8.3	8.0	230	0	56	22	210	66	6.0	7.5	509	0	190	54	.3	24	782	1.6	120	350	220	
140-062-35AAA	112MDWY	163	82-08-11	1080	--	14.0	430	81	100	43	95	32	2.0	11	420	0	250	19	.3	25	732	--	210	10	390	

a/Value shown is the laboratory pH.

TABLE 5.--Chemical analyses of surface water

[Specific conductance.--Value shown is the field specific conductance measured at the time of sampling.
pH.--Value shown is the field pH measured at the time of sampling unless otherwise indicated]

STATION NUMBER	STATION NAME	DATE OF SAMPLE	SPE-CIFIC CON-DUCT-ANCE (µS/CM AT 25°C)	PH (STAND-ARDS UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO ₃)	CALCIUM (MG/L AS CACO ₃)	MAGNE-SIUM, DIS-SOLVED (MG/L AS CA)	SODIUM, DIS-SOLVED (MG/L AS MG)	SODIUM AD-SORP-TION PERCENT SODIUM	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE FET-FLD (MG/L AS HC03)	CAR-BONATE FET-FLD (MG/L AS CO ₃)	ALKA-LINITY, TOTAL (MG/L AS CACO ₃)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO ₂)	SOLID-S, RESIDUE AT 180 DEG. C (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS Mn)				
465532098422500	JAMES R BL JAMESTOWN RES., MD	140-064-24CAC	81-10-26	870	8.5	--	240	0	43	32	67	36	2	15	320	0	--	34	0.2	9.1	409	0.23	130	60	340	
465137098340200	JAMES R NR JAMESTOWN, MD	139-063-13AAD	81-10-26	820	8.3	--	280	0	64	29	83	38	2	13	330	0	--	41	.2	12	568	.23	170	30	260	
	JAMES R NR JAMESTOWN, MD	139-063-13AAD	82-10-27	1000	8.0	9.5	350	33	79	36	74	31	2	13	380	0	--	29	.2	16	634	.23	190	30	900	
	JAMES R NR JAMESTOWN, MD	139-063-13AAD	83-02-07	1300	8.0	0	460	49	110	44	110	34	2	12	500	0	--	44	.2	21	820	.23	250	20	1100	
06470000	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	80-10-08	640	--	13.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	80-11-12	650	--	4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	80-12-11	430	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	81-01-20	1090	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	81-03-03	790	--	2.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	81-04-15	780	8.5	8.0	310	57	64	36	63	30	2	9.0	310	0	--	250	15	.2	4.3	506	.23	320	60	700
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	81-06-02	850	--	17.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	81-09-01	710	8.4	20.0	240	0	49	29	87	42	2	14	310	0	--	250	32	.2	14	514	.23	550	30	300
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	81-10-20	1120	--	6.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	81-10-27	790	8.4	4.5	270	0	53	33	75	36	2	15	330	0	--	41	.2	9.0	467	.23	0	10	240	
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	81-12-01	810	--	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	82-02-11	750	--	0	--	--	--	--	--	--	--	--	--	--	--	--	.1	8.3	237	.54	40	140	200	
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	82-04-14	445	7.7	4.5	140	20	32	15	25	25	.9	14	150	0	--	7.9	.1	8.3	237	.54	40	140	200	
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	82-05-27	600	--	15.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	82-08-12	610	7.9	18.0	210	0	41	25	47	31	1	15	250	0	--	12	.2	7.1	396	.23	110	20	140	
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	82-10-21	770	--	4.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	82-10-27	890	7.6	9.5	300	13	66	33	75	34	2	15	350	0	--	290	25	.2	13	592	.23	190	40	810
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	83-01-24	1320	--	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	83-02-07	1200	7.7	.5	410	32	100	39	100	34	2	12	460	0	--	37	.2	21	771	.23	240	50	1400	
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	83-03-15	420	7.7	2.0	130	3	29	15	20	22	.8	16	160	0	--	130	7.8	.1	12	262	.66	0	26	370
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	83-04-29	520	--	7.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	83-06-02	510	--	14.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	83-08-25	560	g/7.8	23.0	200	0	42	22	35	26	1	18	240	0	--	200	11	.2	9.4	307	.23	100	10	170
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	83-11-17	770	--	2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	83-12-19	1240	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	84-02-01	1240	--	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	84-03-13	930	--	.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	84-03-27	470	--	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	84-04-24	520	--	9.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	84-06-05	580	--	16.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	84-07-18	630	--	22.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	84-08-29	720	8.1	20.0	270	88	57	30	53	29	1	15	200	11	160	11	.3	10	461	--	80	0	540	
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	84-11-27	1000	8.2	1.0	330	35	76	26	82	34	2	10	300	27	14	596	--	260	40	590	--	--		
	JAMES RIVER AT JAMESTOWN, MD	139-063-06ABC	85-01-09	1220	7.5	.5	440	43	110	41	110	34	2	9.0	--	400	38	28	802	--	400	110	1500	--	--	
	JAMES R NR YPSILANTI, MD	138-062-18CCD	81-10-27	990	8.4	--	360	53	80	39	99	36	2	15	380	0	--	46	.2	2	7.8	569	.23	0	50	190
	JAMES R NR YPSILANTI, MD	138-062-18CCD	82-10-27	860	8.3	8.0	300	20	66	32	76	34	2	14	340	0	--	280	28	.2	10	591	.23	180	20	560
	JAMES R NR YPSILANTI, MD	138-062-18CCD	83-02-07	1250	7.6	.0	460	64	110	46	110	33	2	13	490	0	--	48	.2	15	860	.41	230	20	730	
	JAMES R NR MONTPELIER, MD	138-062-31BBC	82-10-27	900	8.3	9.5	320	22	71	34	80	34	2	14	360	0	--	31	.3	12	613	.23	190	30	580	
	JAMES R NR MONTPELIER, MD	138-062-31BBC	81-10-26	890	8.7	--	320	11	64	39	90	37	2	15	380	0	--	46	.2	7.8	569	.23	0	50	190	
	JAMES R NR MONTPELIER, MD	138-062-31BBC	81-10-26	860	8.7	--	300	0	64	34	84	36	2	15	380	0	--	42	.2	8.3	545	.23	170	30	130	
	JAMES R NR MONTPELIER, MD	138-062-31BBC	82-10-27	960	8.2	9.5	310	26	69	34	85	36	2	15	350	0	--	40	.3	12	625	.23	180	10	480	
	JAMES R NR STUTTSMAN-LAMOUR CO LINE	136-063-02BAC	83-02-08	1320	7.6	.0	510	69	120	50	110	31	2	13	530	0	--	48	.2	16	906	.38	260	40	570	
	JAMES R NR STUTTSMAN-LAMOUR CO LINE	136-063-02BAC	81-10-27	650	5.5	3.0	300	0	60	35	82	36	2	15	370	0	--	40	.2	16	7.1	.54	230	0	150	
	JAMES R NR STUTTSMAN-LAMOUR CO LINE	136-063-02BAC	82-10-27	950	7.9	10.0	320	22	71	34	80	34	2	15	360	0	--	33	.3	13	625	.23	170	20	530	
	JAMES R NR DICKEY, MD	136-062-33DD0	81-10-27	820	8.5	4.0	290	0	61	33	82	37	2	13	370	--	--	31	.2	16	9.0	.547	.23	0	20	140
	JAMES R NR DICKEY, MD	136-062-33DD0	81-10-27	920	8.0	10.5	310	21	69	34	70	31	2	15	360	--	--	28	.2	12	590	.23	130	10	460	
	JAMES R NR DICKEY, MD	136-062-038BD	83-02-08	1320	7.4	.5	530	84	130	50	110	30	2	13	550	0	--	46	.2	17	925	.52	250	50	560	
	JAMES R NR GRAND RAPIDS, MD	135-062-26ACD	81-10-27	850	8.4	4.0	300	0	62	35	85	37	2	13	380	0	--	32	.2	9.6	555	.2				

STATION NUMBER	STATION NAME	DATE OF SAMPLE	SPECIFIC CONDUCTANCE (µS/cm AT 25°C)		PH	TEMPERATURE (DEG C)	HARDNESS (mg/L AS CACO3)	HARDNESS, MONOGAR-BONATE (mg/L AS CACO3)	CALCIUM DIS-SOLVED (mg/L AS CA)	MAGNE-SIUM, DIS-SOLVED (mg/L AS Mg)	SODIUM, DIS-SOLVED (mg/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTAS-SIUM, DIS-SOLVED (mg/L AS K)	BICAR-BONATE FET-FLD (mg/L AS CO3)	CAR-BONATE FET-FLD (mg/L AS CO3)	ALKALINITY, TOTAL (mg/L AS CL)	CHLO-RISE, DIS-SOLVED (mg/L AS Cl)	FLUO-RISE, DIS-SOLVED (mg/L AS SiO2)	SILICA, DIS-SOLVED (mg/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C (mg/L AS N)	NITRO-GEN, DIS-NITRATE (mg/L AS N)	BORON, DIS-SOLVED (mg/L AS B)	IRON, DIS-SOLVED (mg/L AS Fe)	MANGANESE, DIS-SOLVED (mg/L AS Mn)
			STAND-ARD UNITS)	TEMPERATURE (DEG C)																					
06470500	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	80-10-07	740	8.4	16.0	260	16	58	27	64	34	2	13	--	--	--	23	0.3	16	492	--	170	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	80-11-11	760	8.7	15.5	280	24	63	29	60	31	2	12	310	--	--	21	.2	11	502	--	170	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	80-12-09	890	8.8	.0	340	23	78	36	77	32	2	14	--	--	--	320	.2	6.9	625	--	200	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	81-01-20	1210	8.1	.0	470	100	94	55	120	35	2	17	450	--	--	370	.3	5.7	572	--	180	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	81-03-03	730	8.3	.5	250	39	60	24	66	36	2	7.7	--	--	--	210	.1	7.1	468	--	180	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	81-04-14	810	8.4	14.0	300	46	69	30	64	31	2	10	--	--	--	250	24	.2	4.8	530	--	160	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	81-06-02	920	8.4	18.0	330	13	74	36	84	35	2	11	--	--	--	320	33	.2	11	603	--	230	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	81-07-14	900	8.4	21.0	260	12	57	29	91	42	3	9.8	--	--	--	250	49	.2	18	577	0.13	310	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	81-09-01	1050	8.6	18.0	310	0	70	32	120	45	2	12	--	--	--	250	72	.3	24	709	--	370	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	81-10-21	800	6.7	6.5	250	3	55	28	64	34	2	12	--	--	--	250	21	.2	12	499	--	180	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	81-12-01	1070	8.3	.5	300	9	67	32	95	40	2	12	--	--	--	290	40	.3	12	630	--	280	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-01-14	1580	7.3	.0	500	2	120	52	130	35	3	16	--	--	--	500	57	.4	24	923	--	350	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-02-09	1500	7.4	.0	490	30	120	48	120	34	2	12	--	--	--	460	64	.3	27	916	--	400	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-03-23	890	7.6	.0	280	16	66	27	73	35	2	11	--	--	--	260	38	.2	18	537	--	220	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-04-21	670	--	8.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-05-26	670	8.0	17.5	230	9	49	27	52	31	2	12	--	--	--	220	15	.2	5.4	433	--	130	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-07-01	615	8.0	19.5	200	5	43	23	47	32	1	14	--	--	--	200	14	.2	8.2	390	--	100	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-07-13	600	8.0	25.0	200	2	43	22	46	32	1	13	--	--	--	200	12	.2	9.6	376	--	100	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-08-02	620	8.2	26.0	210	0	44	24	53	34	2	13	--	--	--	210	13	.2	9.6	397	--	120	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-09-16	665	8.4	13.0	240	10	50	27	56	32	2	14	--	--	--	230	15	.2	12	487	--	200	--	--
06470500	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-10-21	730	8.6	5.5	240	1	52	27	62	34	2	13	--	--	--	240	16	.2	6.1	454	--	130	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-11-17	830	--	.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-12-15	1080	8.2	.5	380	34	85	40	85	32	2	14	--	--	--	340	34	.2	3.7	648	--	220	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	82-12-15	1080	8.2	.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-01-06	1120	--	.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-01-25	1240	8.5	1.0	430	120	100	44	100	33	2	12	--	--	--	320	47	.3	2.7	779	--	290	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-02-08	1450	7.8	.0	480	32	110	49	120	35	2	13	540	0	--	65	.3	3.3	890	.23	250	10	580	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-02-17	1200	--	.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-03-11	290	7.4	.5	94	3	22	9.5	11	18	.5	10	--	--	--	91	6.7	.1	1.1	171	.1	191	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-04-21	590	8.3	9.0	200	0	41	24	48	32	2	14	--	--	--	210	13	.1	11	362	.1	90	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-05-25	610	--	14.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-05-31	600	7.9	15.5	200	0	42	22	39	28	1	16	--	--	--	200	11	.1	12	362	--	100	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-06-22	600	--	24.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-07-14	570	7.9	25.5	210	0	46	22	37	26	1	16	--	--	--	200	13	.2	17	363	--	120	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-08-02	600	7.4	26.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-08-23	600	8.3	22.0	200	0	42	22	40	29	1	16	--	--	--	210	10	.2	14	363	--	100	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-09-14	640	7.6	16.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-09-26	620	8.4	16.0	210	0	46	23	43	29	1	17	--	--	--	220	13	.1	13	402	--	110	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-11-14	740	--	2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-11-14	740	8.7	2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	83-12-20	1210	7.6	.0	460	44	110	45	97	31	2	14	--	--	--	420	43	.3	7.3	708	--	280	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-01-30	1350	7.8	.0	520	61	130	48	120	33	2	11	--	--	--	460	57	.3	23	981	--	360	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-04-26	580	8.3	9.0	200	0	43	23	39	28	1	13	--	--	--	210	11	.2	4.1	366	.90	90	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-04-26	580	--	9.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-05-06	600	--	18.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-06-06	600	7.6	18.0	200	3	41	23	43	31	1	12	--	--	--	13	.1	5.0	347	--	90	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-06-25	630	--	23.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-06-25	630	--	23.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-06-25	630	--	23.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-08-06	710	8.1	26.0	240	22	50	27	57	33	2	14	--	--	--	210	15	.2	14	454	--	120	--	--
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-09-24	835	8.6	8.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES RIVER AT LAMOUR, ND 133-061-11AAA	84-11-28	930	8.4	.5	310	40	67	35	82	36	2													

STATION NUMBER	STATION NAME	SAMPLE	SPE-CIFIC CON-	PH (STAND-ARD UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS, INCAR-BONATE (MG/L AS CACO ₃)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE FET-FLD (MG/L AS HCO ₃)	CAR-BONATE FET-FLD (MG/L AS CO ₃)	ALKALI-UNITY, TOTAL (MG/L AS CACO ₃)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS SiO ₂)	SILICA, DIS-SOLVED (MG/L AS SiO ₂)	SOLIDS, RESIDUE AT 180 DEG. C	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	BORON, DIS-SOLVED (MG/L AS B)	IRON, DIS-SOLVED (MG/L AS FE)	MANGA-NESE, DIS-SOLVED (MG/L AS Mn)			
			DATE OF TAKING (μS/CM AT 25°C)					HARD-NESS, INCAR-BONATE (MG/L AS CACO ₃)	PERCENT SODIUM	2	14	--	--	230	21	0.2	10	--	--	220	4	58			
06470830	JAMES RIVER AT DAKES, MD 131-059-30AAB	82-09-15	695	8.7	11.5	240	14	50	28	59	33	2	14	--	--	230	21	0.2	10	--	--	220	4	58	
06470875	JAMES RIVER AT DAKES, MD 131-059-30AAB	82-10-27	780	8.3	9.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES R NR LUDDEN, MD 129-060-34AAD	82-04-22	415	--	8.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES R NR LUDDEN, MD 129-060-34AAD	82-07-12	660	--	25.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES R NR LUDDEN, MD 129-060-34AAD	82-07-29	625	--	25.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES R NR LUDDEN, MD 129-060-34AAD	82-09-15	765	8.5	11.0	260	16	55	30	63	33	2	15	--	--	240	18	.2	9.2	--	--	220	4	4	
	JAMES R NR LUDDEN, MD 129-060-34AAD	82-10-22	720	8.2	9.0	240	13	52	27	56	32	2	13	--	--	230	17	.2	9.0	--	--	130	8	6	
	JAMES R NR LUDDEN, MD 129-060-34AAD	82-12-14	900	8.3	2.5	330	17	68	38	87	35	2	16	--	--	310	32	.3	6.2	--	--	200	20	37	
	JAMES R NR LUDDEN, MD 129-060-34AAD	83-01-26	1270	8.1	3.5	440	47	91	52	110	34	2	16	--	--	400	47	.2	7.2	--	--	260	20	22	
	JAMES R NR LUDDEN, NJ 129-060-34AAD	83-02-09	1420	8.2	3.0	490	59	100	58	130	36	3	20	520	0	--	57	.2	2.1	927	0.23	210	10	30	
	JAMES R NR LUDDEN, MD 129-060-34AAD	83-03-10	650	8.2	.5	210	31	47	23	60	37	2	7.5	--	--	180	33	.2	10.9	--	--	170	9	18	
	JAMES R NR LUDDEN, MD 129-060-34AAD	83-04-20	590	8.6	8.5	210	0	43	24	49	32	2	14	--	--	220	14	.1	10	--	--	90	20	14	
	JAMES R NR LUDDEN, MD 129-060-34AAD	83-06-01	630	8.1	14.0	210	0	45	24	48	31	1	15	--	--	220	15	.2	9.2	--	--	120	10	82	
	JAMES R NR LUDDEN, MD 129-060-34AAD	83-07-13	--	--	23.0	140	0	33	15	23	24	.9	12	--	--	150	7.9	.2	17	--	.25	80	30	5	
	JAMES R NR LUDDEN, MD 129-060-34AAD	83-08-24	580	8.2	23.0	200	0	43	22	44	30	1	16	--	--	200	13	.2	15	--	--	130	9	85	
	JAMES R NR LUDDEN, MD 129-060-34AAD	83-09-28	620	8.9	16.0	220	0	47	25	45	29	1	17	--	--	230	14	.2	7.5	--	--	120	10	17	
	JAMES R NR LUDDEN, MD 129-060-34AAD	83-11-15	660	9.7	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES R NR LUDDEN, MD 129-060-34AAD	83-12-21	1190	7.9	2.0	450	21	100	49	95	30	2	20	--	--	430	35	.3	5.0	--	--	220	9	110	
	JAMES R NR LUDDEN, MD 129-060-34AAD	84-01-31	2300	7.8	1.0	890	65	190	100	210	33	3	32	--	--	820	100	.5	5.1	--	--	520	30	130	
	JAMES R NR LUDDEN, MD 129-060-34AAD	84-03-15	600	7.8	.0	200	8	50	19	42	30	1	11	--	--	200	24	.2	11	--	.47	120	80	240	
	JAMES R NR LUDDEN, MD 129-060-34AAD	84-04-15	630	8.3	12.0	220	10	49	24	42	28	1	12	--	--	210	16	.2	6.0	--	--	100	40	110	
	JAMES R NR LUDDEN, MD 129-060-34AAD	84-06-13	620	8.2	21.0	200	0	44	23	46	31	1	13	--	--	200	14	.2	3.0	--	--	110	40	23	
	JAMES R NR LUDDEN, MD 129-060-34AAD	84-07-16	650	8.4	23.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
	JAMES R NR LUDDEN, MD 129-060-34AAD	84-08-27	810	8.6	25.0	250	22	54	29	65	34	2	16	--	--	230	17	.2	1.0	--	--	140	32	20	
	JAMES R NR LUDDEN, MD 129-060-34AAD	84-10-24	830	8.9	5.5	290	49	60	34	57	32	2	11	--	--	240	24	.2	7.8	--	--	140	10	5	
	JAMES R NR LUDDEN, MD 129-060-34AAD	84-11-29	790	9.1	1.0	250	32	45	34	71	37	2	11	--	--	220	28	.2	18	469	--	170	<3	<1	
465723098450800	PIPESTEM CR NR JAMESTOWN, MD 140-064-10CB	85-01-08	1240	7.9	1.5	450	48	90	54	110	34	2	16	--	--	400	44	.3	16	806	--	270	5	43	
465223098341100	SEVEN MI COUL NR JAMESTOWN, MD 139-063-12AB	81-10-25	1350	8.5	--	280	13	52	36	75	35	2	16	--	--	320	0	--	39	.1	6.7	481	0	10	590
464359098334800	STREAM COUL NR MONTPELIER, MD 138-062-30CC	81-10-27	1490	7.9	--	360	45	80	39	80	32	2	7.9	390	0	--	49	.1	16	554	.23	100	30	40	
464326098342601	BEAVER CR NR MONTPELIER, MD 137-063-10BAB	82-10-27	945	8.0	8.5	390	170	95	36	65	26	1	6.6	270	0	--	21	.3	30	627	.23	140	30	120	

TABLE 6.--Surface-water elevations of the James River at selected sites

139-063-06DAA Elevation is 1,389.76 ft NGVD.

Date	Elevation	Date	Elevation	Date	Elevation
Oct. 18, 1982..	1,375.37	June 1.....	1,376.52	Sept. 19.....	1,375.72
Mar. 1, 1983..	1,375.53	June 28.....	1,376.56	Oct. 17.....	1,376.16
Apr. 5.....	1,377.71	July 25.....	1,376.45		
May 10.....	1,376.56	Aug. 22.....	1,375.81		

139-063-12DDC Elevation is 1,376.68 ft NGVD.

Oct. 18, 1982..	1,361.48	June 1.....	1,362.68	Sept. 19.....	1,362.15
Mar. 1, 1983..	1,362.08	June 28.....	1,362.83	Oct. 17.....	1,362.38
Apr. 5.....	1,363.99	July 25.....	1,362.63		
May 10.....	1,362.80	Aug. 22.....	1,362.18		

138-063-01DCD Elevation is 1,373.09 ft NGVD.

Oct. 18, 1982..	1,359.11	June 1.....	1,358.98	Aug. 23.....	1,358.69
Apr. 5, 1983..	1,359.54	June 28.....	1,358.99	Sept. 19.....	1,358.64
May 10.....	1,358.99	July 25.....	1,358.99	Oct. 17.....	1,358.81

138-062-18CBB Elevation is 1,371.50 ft NGVD.

June 28, 1983..	1,348.92	Aug. 23.....	1,348.15	Oct. 17.....	1,348.42
July 26.....	1,348.70	Sept. 19.....	1,348.04		

137-063-11ABC Elevation is 1,357.02 ft NGVD.

Oct. 18, 1982..	1,337.62	June 1.....	1,339.47	Sept. 19.....	1,338.46
Mar. 2, 1983..	1,339.09	June 28.....	1,339.70	Oct. 17.....	1,338.93
Apr. 6.....	1,341.04	July 25.....	1,339.35		
May 10.....	1,339.65	Aug. 23.....	1,338.64		

136-063-02BAB Elevation is 1,350.40 ft NGVD.

Date	Elevation	Date	Elevation	Date	Elevation
Oct. 19, 1982..	1,329.60	June 2.....	1,330.20	Sept. 19.....	1,329.10
Mar. 2, 1983..	1,329.60	June 29.....	1,330.63	Oct. 17.....	1,329.71
Apr. 6.....	1,332.10	July 26.....	1,330.07		
May 11.....	1,330.50	Aug. 23.....	1,329.27		

136-063-13CBD Elevation is 1,339.02 ft NGVD.

Oct. 19, 1982..	1,324.98	June 2.....	1,325.89	Aug. 23.....	1,324.89
Apr. 6, 1983..	1,327.67	June 29.....	1,326.22	Sept. 19.....	1,324.71
May 11.....	1,326.10	July 26.....	1,325.67	Oct. 17.....	1,325.33

136-062-30BCC Elevation is 1,342.31 ft NGVD.

June 29, 1983..	1,323.56	Aug. 22.....	1,322.16	Oct. 17.....	1,361.95
July 26.....	1,323.01				

136-062-31AAD Elevation is 1,305.32 ft NGVD.

Oct. 19, 1982..	1,290.90	June 2.....	1,292.10	Sept. 22.....	1,290.92
Mar. 2, 1983..	1,291.75	June 29.....	1,292.59	Oct. 17.....	1,291.60
Apr. 6.....	1,294.02	July 26.....	1,292.97		
May 11.....	1,292.34	Aug. 23.....	1,291.11		

135-062-04AAA Elevation is 1,334.43 ft NGVD.

June 29, 1983..	1,316.68	Aug. 24.....	1,315.60	Oct. 19.....	1,315.80
July 26.....	1,316.33	Sept. 22.....	1,315.53		

135-062-14ABA Elevation is 1,329.06 ft NGVD.

Oct. 19, 1982..	1,309.77	June 2.....	1,311.93	Aug. 24.....	1,310.80
Apr. 6, 1983..	1,313.99	June 29.....	1,312.48	Sept. 22.....	1,310.66
May 11.....	1,312.19	July 26.....	1,311.71	Oct. 19.....	1,311.34

134-061-04BBB Elevation is 1,391.84 ft NGVD.

Date	Elevation	Date	Elevation	Date	Elevation
Oct. 19, 1982..	1,298.49	June 2.....	1,300.24	Aug. 24.....	1,299.34
Apr. 6, 1983..	1,301.81	June 30.....	1,300.66	Sept. 22.....	1,299.21
May 11.....	1,300.39	July 27.....	1,300.12	Oct. 19.....	1,299.73

134-061-35DCD Elevation is 1,311.07 ft NGVD.

Oct. 20, 1982..	1,297.25	June 2.....	1,297.94	Aug. 24.....	1,297.55
Apr. 6, 1983..	1,298.47	June 30.....	1,298.02	Sept. 21.....	1,297.54
May 12.....	1,297.96	July 27.....	1,297.87	Oct. 18.....	1,297.72

133-060-19ADD Elevation is 1,310.18 ft NGVD.

Oct. 20, 1982..	1,292.23	June 3.....	1,293.78	Aug. 25.....	1,292.93
Apr. 6, 1983..	1,295.58	June 30.....	1,294.34	Sept. 21.....	1,292.68
May 12.....	1,294.08	July 27.....	1,293.63	Oct. 18.....	1,293.23

133-060-33CCC Elevation is 1,305.92 ft NGVD.

Oct. 20, 1982..	1,291.78	June 3.....	1,293.02	Aug. 25.....	1,292.27
Apr. 7, 1983..	1,294.77	June 30.....	1,293.65	Sept. 21.....	1,292.02
May 12.....	1,293.47	July 27.....	1,292.92	Oct. 18.....	1,292.57

132-061-24BBA Elevation is 1,306.80 ft NGVD.

Oct. 20, 1982..	1,290.72	June 3.....	1,291.80	Aug. 25.....	1,290.64
Apr. 7, 1983..	1,293.40	July 1.....	1,292.30	Sept. 23.....	1,290.90
May 12.....	1,292.25	July 28.....	1,291.65	Oct. 18.....	1,291.45

132-059-31CCC Elevation is 1,300.92 ft NGVD.

Oct. 21, 1982..	1,290.07	June 3.....	1,290.71	Sept. 28.....	1,290.32
Apr. 7, 1983..	1,291.87	July 1.....	1,291.27	Oct. 18.....	1,290.22
May 12.....	1,291.20	July 28.....	1,290.81		

131-059-30AAB Elevation is 1,302.96 ft NGVD.

Date	Elevation	Date	Elevation	Date	Elevation
Oct. 21, 1982..	1,289.88	June 3.....	1,290.28	Aug. 25.....	1,290.06
Apr. 7, 1983..	1,292.88	July 1.....	1,290.86	Sept. 28.....	1,289.76
May 12.....	1,290.76	July 28.....	1,290.44	Oct. 18.....	1,289.73

TABLE 7.--Surface-water discharge measurements at selected sites

Stream	Site location	Measurements	
		Date	Discharge (ft ³ /s)
James River	140-064-24CAC	10-26-81	20
	139-063-06ABC	10-26-81	24
		10-27-82	6.7
		2-07-83	5.4
		2-08-84	5.8
	139-063-13AAB	10-26-81	27
		10-27-82	19
		10-28-82	12
		2-08-83	6.3
		2-08-84	5.6
	138-062-18CCB	10-27-81	32
		10-27-82	14
		10-28-82	15
		2-07-83	5.8
		2-08-84	7.3
	138-062-30CCC	10-27-82	16
	137-063-01BCC	10-27-81	30
	137-063-02DCA	10-26-81	23
	137-063-14DDD	10-26-81	26
		10-27-82	16
		10-28-82	19
		2-08-84	7.4
	136-063-02BBB	2-08-83	6.4
		2-09-84	8.4
	136-063-11DCB	10-27-81	28
		10-27-82	20
	136-062-33DDD	10-27-81	31
		10-27-82	23
	135-062-03CAA	2-08-83	8.4
		2-09-84	12

Stream	Site location	Measurements	
		Date	Discharge (ft ³ /s)
James River-- Continued	135-062-26ACD	10-27-81	32
		10-27-82	27
		2-08-83	10
		2-09-84	13
	135-061-33CCC	2-09-84	14
	134-061-04BBD	10-27-81	32
		2-09-83	10
	134-061-09ACC	10-27-81	33
		10-27-82	38
		10-28-82	30
		2-08-83	9.8
133-061-11AAA		10-27-81	a/21
		10-27-82	a/24
		10-28-82	a/23
		2-08-83	11
		2-09-84	11
133-060-20BCC		10-27-81	29
132-060-06BAD		10-28-81	22
		2-09-83	11
		2-09-84	12
		2-10-84	11
129-060-34DDD		10-28-81	1.6
		10-28-82	11
		2-08-83	11
		2-10-84	13
Pipestem Creek	140-064-09DDD	10-26-81	3.0
Seven Mile Coulee	139-063-12ADB	10-26-81	.65
		10-27-82	.80
		2-08-83	.16
Streaman Coulee	138-062-30ADD	10-27-81	b/.10
		10-27-82	b/.15
		2-08-83	0
		2-09-84	0

a/ Daily mean.

b/ Estimated value.

Stream	Site location	Measurements		
		Date	Discharge (ft ³ /s)	
Beaver Creek	137-063-10BAB	10-27-81	b/.05	
		10-27-82	.09	
		2-08-84	.01	
Bone Hill Creek	135-062-16CDB	10-27-81	0	
		2-08-83	0	
		2-09-84	0	
Cottonwood Creek	133-060-32BBC	10-28-82	1.4	
	132-061-01BAA	10-28-81	0	
		2-09-84	0	
Bear Creek	132-061-12ABA	10-28-82	.70	
	131-059-08AAA	2-10-84	0	
		10-28-81	0	
Unnamed tributary	131-059-08DCC	11-17-81	b/<.01	
	138-063-35DDA	11-18-81	.05	
	138-063-36ADD	11-17-81	b/<.01	
Unnamed tributary	138-063-36DAA	11-17-81	b/.01	
	138-063-36DBB	11-17-81	b/<.01	
	138-063-36DBC	11-18-81	b/.50	
Unnamed tributary		10-28-82	.40	
		2-08-83	0	
		2-09-84	0	
Unnamed tributary	138-063-36DCA	11-17-81	b/<.01	
	136-062-33ABC	10-27-81	b/<.01	
Unnamed tributary		2-08-83	0	

b/ Estimated value.