

GEOLOGY AND WATER RESOURCES OF CAMPBELL COUNTY SOUTH DAKOTA

Part III - Basic Data

*by Lynn S. Hedges,
South Dakota Geological Survey*

*and Neil C. Koch,
United States Geological Survey*

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STATE OF SOUTH DAKOTA
Frank Farrar, Governor

SOUTH DAKOTA GEOLOGICAL SURVEY
Duncan J. McGregor, State Geologist

Bulletin 20

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CAMPBELL COUNTY, SOUTH DAKOTA**

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and

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Prepared in cooperation with the United States
Geological Survey, Campbell County, and the Oahe
Conservancy Sub-District

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CONTENTS

| | Page |
|---|------|
| Introduction | 1 |
| Data point location system | 1 |
| Use of this report | 1 |
| Tables | |
| 1. Water levels in observation wells in Campbell County, South Dakota | 5 |
| 2. Records of selected wells in Campbell County, South Dakota | 13 |
| 3. Chemical analyses of water from selected wells in Campbell County, South Dakota | 31 |
| 4. Logs of test holes and wells in Campbell County, South Dakota | 38 |
| 5. Logs of test holes in Walworth and McPherson Counties, South Dakota | 169 |
| References cited | 172 |

ILLUSTRATIONS

Figure

| | |
|---|---|
| 1. Index map of South Dakota showing location of county ground-water studies | 2 |
| 2. Location of test holes and well logs in Campbell County, South Dakota | 3 |
| 3. Location of observation wells used in table 1 | 4 |

INTRODUCTION

The study of the geology and water resources of Campbell County, South Dakota (fig. 1) was a cooperative investigation made by the South Dakota Geological Survey and the United States Geological Survey at the request of the Campbell County Commissioners. Funds for the study were provided by both agencies mentioned above, by Campbell County, and by the Oahe Conservancy Sub-District. The results of the study are to be published in three parts as South Dakota Geological Survey Bulletin 20, Parts I, II, and III. Part I is an interpretive report describing the geology of Campbell County, with particular emphasis on the surficial glacial deposits which contain the most important mineral resources, including ground water. Part II is an interpretive report describing the water resources of Campbell County. Part III, this report, contains all the basic data collected during the course of the investigation and provides the framework upon which the interpretive reports, Parts I and II, are based.

Most of the data for this report were compiled during 1965, 1966, and 1967 and consist of four basic types of information: (1) well inventory data, (2) water-level measurements from observation wells, (3) chemical analyses of water samples from selected wells, and (4) lithologic logs of wells and test holes. A compilation of this data is contained in the five tables of this report.

Data Point Location System

All data points in this report are located according to the legal land description method. An example of such a location description is: NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T. 125 N., R. 74 W. If all four quarter section subdivisions are used (as in the example) in a location designation, the smallest land subdivision is a 2 $\frac{1}{2}$ -acre tract. Thus there may be more than one data point on the same tract of land which have the same legal description, but do not necessarily refer to the identical location within that tract of land.

The data listed in the following tables are grouped into townships; within each township the data are arranged in order according to section number, lowest to highest. The townships are arranged in order from lower to higher numbers and from east to west starting at the southeast corner of the County in Township 125 North, Range 74 West. The next group of data is in Township 125 North, Range 75 West and so on.

Use of This Report

The data in this report should be used in conjunction with the interpretive reports, Parts I and II, to help locate possible water supplies or mineral resources and to aid in planning and management of the county's natural resources.

In Part I, Geology, the general physical land characteristics and the geologic units are described. The distribution of these units at the land surface and in the subsurface are based primarily on test hole data. Thus, if information is desired at a specific location, reference should be made to figure 2 of this report to find the test holes closest to the location in question. Then look in table 4 to find the detailed descriptions of the various geologic units in that test hole. Information about sand and gravel in Campbell County is contained in another separate publication, South Dakota Geological Survey Circular 38, Sand and Gravel Deposits in Campbell County, South Dakota.

To determine the water potential at a certain site or in a general area the reader should first consult Part II, Water Resources, of this report. Tables and figures in that report give a general indication of where and in what quantity and quality ground water can be found. Using the tables in Part III, this report, the formation characteristics, water levels, and quality of water in wells or test holes nearest the desired location can be obtained. Figure 3 shows the location of observation wells in Campbell County.

Figure 3. Location of observation wells used in Table 1.

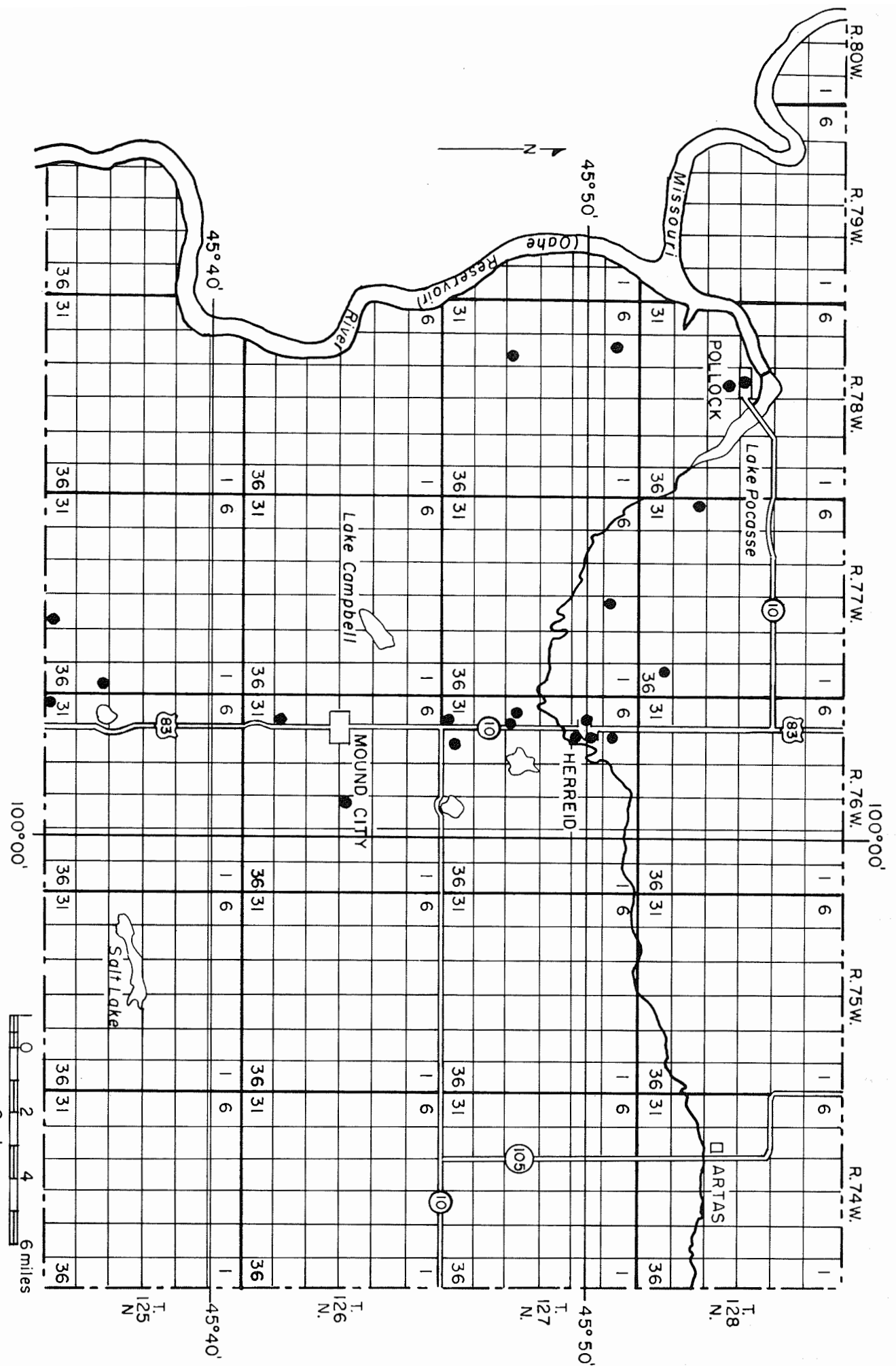


Table 1.—Water levels in observation wells in
Campbell County, South Dakota

(Measurements in feet below land surface except as indicated)

As part of this investigation periodic measurements were made in 20 observation wells throughout Campbell County. Locations of the observation wells are shown in figure 3.

SW $\frac{1}{4}$ sec. 31, T. 125 N., R. 76 W.
Water Resources Commission Well CA-3, depth 18 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|----------|-------------|----------|-------------|
| 11-15-57 | 14.0 | 3-19-64 | 14.8 | 7-20-66 | 14.25 |
| 3-17-58 | 14.2 | 6- -64 | 13.9 | 8-23-66 | 14.36 |
| 6-24-58 | 13.9 | 11- -64 | 13.6 | 9-22-66 | 14.48 |
| 12- 5-58 | 14.1 | 2- 9-65 | 14.56 | 10-24-66 | 14.51 |
| 3-11-59 | 14.1 | 4- 7-65 | 14.54 | 11-29-66 | 14.51 |
| 7-21-59 | 14.2 | 5- 5-65 | 14.29 | 12-20-66 | 14.49 |
| 11- 6-59 | 14.4 | 6-10-65 | 14.13 | 1-25-67 | 14.62 |
| 5-11-60 | 13.9 | 7- 7-65 | 14.02 | 2-27-67 | 14.66 |
| 7-15-60 | 14.2 | 8-12-65 | 14.29 | 3-23-67 | 14.52 |
| 11-30-60 | 14.1 | 9-15-65 | 14.48 | 4-26-67 | 16.18 |
| 3- 1-61 | 14.1 | 10-21-65 | 14.48 | 5-25-67 | 16.10 |
| 7- 6-61 | 14.0 | 11-23-65 | 14.47 | 7-20-67 | 16.20 |
| 10-26-61 | 14.6 | 12-15-65 | 14.49 | 8-22-67 | 14.66 |
| 3- -62 | 14.7 | 1-18-66 | 14.60 | 10- 4-67 | 14.81 |
| 7- -62 | 13.9 | 2-23-66 | 14.66 | 3-28-68 | 14.7 |
| 11- -62 | 14.4 | 3-29-66 | 14.10 | 7- 2-68 | 14.1 |
| 3- -63 | 14.4 | 4-27-66 | 13.98 | 10-23-68 | 14.6 |
| 7- -63 | 14.3 | 5-24-66 | 13.94 | | |
| 11- -63 | 14.6 | 6-20-66 | 14.09 | | |

NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 125 N., R. 77 W.
depth 260 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|----------|-------------|---------|-------------|
| 6-21-66 | 31.13 | 11-29-66 | 30.97 | 5-26-67 | 30.49 |
| 7-20-66 | 31.19 | 12-20-66 | 30.79 | 7-20-67 | 30.58 |
| 8-11-66 | 31.12 | 1-25-67 | 30.77 | 8-22-67 | 30.60 |
| 8-24-66 | 31.01 | 2-27-67 | 30.70 | 10-4-67 | 30.66 |
| 9-22-66 | 31.05 | 3-23-67 | 30.62 | | |
| 10-25-66 | 31.00 | 4-26-67 | 30.67 | | |

NW¼SE¼SE¼ sec. 34, T. 125 N., R. 77 W.
depth 24 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|----------|-------------|----------|-------------|
| 5- 9-56 | 20.29 | 6-22-60 | 20.89 | 1-20-65 | 19.16 |
| 5-29-56 | 20.36 | 7-27-60 | 20.89 | 2-20-65 | 19.23 |
| 7- 4-56 | 20.57 | 8-24-60 | 21.20 | 3-20-65 | 19.21 |
| 7-30-56 | 20.63 | 9-20-60 | 21.20 | 4-20-65 | 19.02 |
| 8-30-56 | 20.67 | 10-23-60 | 21.10 | 5-20-65 | 19.15 |
| 10- 3-56 | 20.71 | 11-30-60 | 20.88 | 7-20-65 | 19.80 |
| 10-31-56 | 20.55 | 12-20-60 | 20.93 | 8-20-65 | 19.10 |
| 11-27-56 | 20.45 | 1-24-61 | 21.05 | 9-20-65 | 18.75 |
| 12-27-56 | 20.38 | 3-20-61 | 20.58 | 10-20-65 | 18.80 |
| 1-25-57 | 20.42 | 4-20-61 | 20.50 | 11-20-65 | 18.73 |
| 2-24-57 | 20.32 | 6- 2-61 | 20.76 | 12-20-65 | 18.63 |
| 3-23-57 | 20.38 | 7-21-61 | 21.12 | 1-21-66 | 18.86 |
| 4-23-57 | 20.26 | 8-20-61 | 21.34 | 2-20-66 | 18.80 |
| 5- 2-57 | 20.26 | 10-24-61 | 21.17 | 3-21-66 | 18.10 |
| 5-22-57 | 20.29 | 11-21-61 | 20.97 | 4-20-66 | 17.34 |
| 6-22-57 | 19.90 | 12-22-61 | 21.11 | 5-20-66 | 17.29 |
| 7-24-57 | 19.74 | 1-28-62 | 21.11 | 7-20-66 | 17.94 |
| 8-27-57 | 19.97 | 3- 3-62 | 21.05 | 8-20-66 | 17.70 |
| 9-22-57 | 19.90 | 3-28-62 | 20.80 | 9-20-66 | 18.38 |
| 10-19-57 | 19.71 | 4-23-62 | 20.75 | 10-20-66 | 18.26 |
| 1-22-58 | 20.45 | 5-20-62 | 20.69 | 11-20-66 | 18.82 |
| 2-20-58 | 20.36 | 6-21-62 | 20.49 | 12-21-66 | 18.46 |
| 3-22-58 | 20.36 | 7-20-62 | 20.34 | 1-20-67 | 18.35 |
| 4-23-58 | 20.28 | 8-23-62 | 20.23 | 2-20-67 | 18.55 |
| 5-26-58 | 20.18 | 10- 7-62 | 20.03 | 3-20-67 | 19.09 |
| 6-20-58 | 20.21 | 10-23-62 | 20.33 | 4-20-67 | 18.47 |
| 7-19-58 | 20.00 | 11-20-62 | 20.73 | 5-20-67 | 18.60 |
| 8-21-58 | 20.76 | 12-22-62 | 20.70 | 6-20-67 | 18.57 |
| 9-20-58 | 20.86 | 1-21-63 | 20.63 | 7-20-67 | 18.67 |
| 10-25-58 | 20.74 | 2-20-63 | 20.56 | 8-20-67 | 18.86 |
| 11-28-58 | 20.64 | 3-20-63 | 21.14 | 9-23-67 | 18.90 |
| 12-21-58 | 20.62 | 4-23-63 | 19.90 | 10-20-67 | 18.98 |
| 1-20-59 | 20.61 | 5-24-63 | 19.58 | 11-20-67 | 18.90 |
| 2-25-59 | 20.98 | 6-22-63 | 19.64 | 12-20-67 | 18.87 |
| 3-21-59 | 20.51 | 7-20-63 | 20.04 | 1-20-68 | 18.97 |
| 4-25-59 | 20.43 | 9-20-63 | 20.00 | 2-20-68 | 18.90 |
| 5-20-59 | 20.45 | 10-22-63 | 19.88 | 3-20-68 | 19.29 |
| 6-20-59 | 20.77 | 11-22-63 | 19.82 | 4-20-68 | 20.10 |
| 7-13-59 | 20.98 | 12-20-63 | 19.82 | 5-20-68 | 18.87 |
| 8-26-59 | 21.52 | 1-20-64 | 19.74 | 6-20-68 | 18.58 |
| 9-22-59 | 21.48 | 2-24-64 | 19.69 | 7-20-68 | 18.30 |
| 10-24-59 | 21.39 | 3-20-64 | 20.10 | 8-20-68 | 18.03 |
| 11-20-59 | 21.11 | 4-20-64 | 19.90 | 9-20-68 | 18.43 |
| 12-21-59 | 21.14 | 6-20-64 | 19.78 | 11-20-68 | 18.12 |
| 1-23-60 | 21.08 | 7-27-64 | 19.49 | 12-20-68 | 18.57 |
| 2-22-60 | 20.99 | 8-25-64 | 19.52 | | |
| 3-21-60 | 20.98 | 10-20-64 | 19.44 | | |
| 4-23-60 | 20.70 | 11-23-64 | 19.39 | | |
| 5-23-60 | 20.65 | 12-21-64 | 19.22 | | |

SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 126 N., R. 76 W.
depth 237 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|---------|-------------|----------|-------------|
| 5-23-67 | 21.59 | 1-24-68 | 20.30 | 7-30-68 | 18.98 |
| 7-20-67 | 21.40 | 2-14-68 | 20.07 | 9- 5-68 | 19.57 |
| 8-22-67 | 21.50 | 3- 6-68 | 19.68 | 10-16-68 | 19.65 |
| 10- 4-67 | 21.61 | 4- 9-68 | 19.39 | 11- 6-68 | 19.65 |
| 11-22-67 | 21.13 | 5- 8-68 | 18.95 | 12-18-68 | 19.38 |
| 12-13-67 | 21.05 | 6- 4-68 | 18.94 | | |
| 1- 4-68 | 20.60 | 7- 2-68 | 18.83 | | |

NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 126 N., R. 76 W.
Water Resources Commission Well CA-2, depth 36 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|----------|-------------|----------|-------------|
| 11-15-57 | 6.6 | 11- -63 | 7.6 | 5-24-66 | 4.25 |
| 3-17-58 | 6.4 | 3-19-64 | 7.7 | 6-20-66 | 5.00 |
| 6-24-58 | 5.7 | 6-23-64 | 3.8 | 7-20-66 | 5.68 |
| 12- 5-58 | 6.7 | 11-13-64 | 6.3 | 8-23-66 | 5.62 |
| 3-11-59 | 7.2 | 2- 9-65 | 6.39 | 9-22-66 | 6.35 |
| 7-21-59 | 7.4 | 4- 7-65 | 6.00 | 10-24-66 | 6.28 |
| 11- 6-59 | 8.0 | 5- 5-65 | 5.03 | 11-29-66 | 6.19 |
| 5-11-60 | 6.7 | 6-10-65 | 5.02 | 12-20-66 | 6.28 |
| 7-15-60 | 6.9 | 7- 7-65 | 4.23 | 1-25-67 | 5.89 |
| 11-30-60 | 7.9 | 8-12-65 | 5.35 | 2-27-67 | 6.60 |
| 3- 1-61 | 7.7 | 9-15-65 | 5.80 | 3-23-67 | 6.29 |
| 7- 6-61 | 7.3 | 10-21-65 | 5.32 | 4-26-67 | 5.46 |
| 10-26-61 | 8.3 | 11-23-65 | 5.33 | 5-25-67 | 5.45 |
| 3- -62 | 8.6 | 12-15-65 | 5.35 | 7-20-67 | 6.14 |
| 7- -62 | 7.3 | 1-18-66 | 5.85 | 8-22-67 | 6.97 |
| 11- -62 | 7.3 | 2-23-66 | 5.94 | 10- 4-67 | 7.47 |
| 3- -63 | 7.1 | 3-29-66 | 4.88 | 3-28-68 | 7.1 |
| 7- -63 | 6.4 | 4-27-66 | 3.86 | 7- 2-68 | 5.5 |
| | | | | 10-23-68 | 7.2 |

SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T. 127 N., R. 76 W.
depth 20 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------------|----------|--------------------|----------|--------------------|
| 10-23-65 | 9.78 | 5-31-66 | ¹ 7.86 | 11-30-66 | 8.17 |
| 12-15-65 | 9.51 | 6-23-66 | ¹ 8.23 | 12-20-66 | 8.32 |
| 1-18-66 | 10.21 | 7-31-66 | ² 13.23 | 3-23-67 | 8.48 |
| 2-23-66 | 10.10 | 8- 3-66 | ² 17.71 | 4-26-67 | 8.15 |
| 3-29-66 | 7.68 | 9-30-66 | ¹ 8.02 | 5-25-67 | 13.31 |
| 4-12-66 | ¹ 7.78 | 10-10-66 | ¹ 8.02 | 7-20-67 | ² 17.57 |

NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T. 127 N., R. 76 W.
depth 20 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------------|----------|-------------------|---------|-------------------|
| 5- 6-65 | 6.32 | 4- 3-66 | ¹ 5.78 | 1-17-67 | ¹ 7.00 |
| 6-10-65 | 6.17 | 5-30-66 | ¹ 5.87 | 2-20-67 | ¹ 7.09 |
| 7- 7-65 | 4.79 | 6-30-66 | ¹ 6.73 | 3-31-67 | ¹ 7.19 |
| 8-12-65 | 6.51 | 7-21-66 | ¹ 7.28 | 4- 9-67 | ¹ 7.20 |
| 9-15-65 | 7.20 | 8-31-66 | ¹ 6.73 | 7-31-67 | ¹ 7.57 |
| 10- 2-65 | ¹ 6.70 | 9-24-66 | ¹ 7.44 | 8-31-67 | ¹ 8.30 |
| 11- 3-65 | ¹ 6.61 | 10- 1-66 | ¹ 7.30 | 9-13-67 | 8.56 |
| 12- 5-65 | ¹ 6.50 | 11- 1-66 | ¹ 7.07 | | |
| 1- 7-66 | ¹ 6.54 | 12- 9-66 | ¹ 6.95 | | |

SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 127 N., R. 76 W.
depth 27 feet (Herreid City well)

| Date | Water level | Date | Water level | Date | Water level |
|----------|--------------------|----------|--------------------|----------|--------------------|
| 5- 6-65 | ² 12.18 | 11-23-65 | 8.58 | 8-19-66 | ² 14.85 |
| 6-10-65 | ² 20.14 | 12-15-65 | 8.38 | 9- 7-66 | ² 18.90 |
| 7- 7-65 | ² 17.14 | 1- 8-66 | 8.58 | 10-10-66 | 9.83 |
| 8-12-65 | ² 20.15 | 3-29-66 | ² 14.96 | 11- 2-66 | ² 16.50 |
| 9-15-65 | 12.23 | 6-20-66 | ² 24.13 | 12-20-66 | 9.00 |
| 10-21-65 | 8.96 | 7-20-66 | ² 19.52 | 7-20-67 | ² 23.48 |

SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 127 N., R. 76 W.
depth 26 feet (Herreid City well)

| Date | Water level | Date | Water level | Date | Water level |
|----------|--------------------|----------|--------------------|----------|--------------------|
| 5- 6-65 | ³ 8.28 | 2-23-66 | ² 16.47 | 1-25-67 | ² 13.87 |
| 6-10-65 | ² 9.08 | 3-29-66 | ² 12.83 | 2-27-67 | ² 15.64 |
| 7- 7-65 | ³ 7.55 | 4-27-66 | ² 12.70 | 4-27-67 | ² 15.63 |
| 8-12-65 | ² 14.30 | 5-24-66 | ² 12.28 | 5-25-67 | ² 14.91 |
| 9-15-65 | ² 14.54 | 6-20-66 | ² 11.77 | 7-20-67 | ² 11.80 |
| 10-21-65 | ² 14.57 | 7-20-66 | ² 17.82 | 8-22-67 | ² 11.49 |
| 11-23-65 | ² 14.52 | 8-23-66 | ² 11.80 | 10- 4-67 | 9.36 |
| 12-15-65 | ² 14.49 | 9-23-66 | ² 17.76 | | |
| 1-18-66 | ² 15.72 | 12-20-66 | ² 16.40 | | |

SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 127 N., R. 76 W.
depth 237 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|---------|-------------|----------|-------------|
| 8-10-66 | 23.96 | 2-27-67 | 23.44 | 5-25-67 | 22.33 |
| 10-24-66 | 24.15 | 3-23-67 | 23.26 | 8-22-67 | 22.53 |
| 12-20-66 | 23.93 | 4-26-67 | 22.80 | 10- 4-67 | 22.57 |

SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 127 N., R. 76 W.
depth 240 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|----------|-------------|----------|-------------|
| 9-30-65 | 36.70 | 10-24-66 | 20.47 | 1-24-68 | 16.40 |
| 10-21-65 | 36.00 | 11-29-66 | 19.84 | 2-14-68 | 16.30 |
| 11-23-65 | 34.58 | 12-20-66 | 19.53 | 3- 6-68 | 16.20 |
| 12-15-65 | 33.61 | 1-25-67 | 19.09 | 4- 9-68 | 16.00 |
| 1-18-66 | 32.03 | 2-27-67 | 18.77 | 5- 8-68 | 15.75 |
| 2-23-66 | 30.32 | 3-23-67 | 18.57 | 6- 4-68 | 15.56 |
| 3-29-66 | 28.70 | 4-26-67 | 18.27 | 7- 2-68 | 15.27 |
| 4-27-66 | 27.32 | 5-25-67 | 17.83 | 7-30-68 | 15.07 |
| 5-24-66 | 25.98 | 7-20-67 | 18.23 | 9- 5-68 | 14.89 |
| 6-20-66 | 24.66 | 8-22-67 | 17.05 | 10-16-68 | 15.38 |
| 7-20-66 | 23.34 | 10- 4-67 | 16.85 | 11- 6-68 | 14.83 |
| 8-23-66 | 22.03 | 11-22-67 | 16.59 | 12-18-68 | 14.64 |
| 9-23-66 | 21.18 | 12-13-67 | 16.56 | | |

SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 127 N., R. 76 W.
depth 247 feet

| Date | Water level | Date | Water level | Date | Water level |
|---------|-------------|---------|-------------|---------|-------------|
| 1-18-66 | 50.10 | 3-29-66 | 43.96 | 4-27-66 | 45.03 |
| 2-23-66 | 47.00 | | | | |

SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 127 N., R. 76 W.
depth 235 feet

| Date | Water level | Date | Water level | Date | Water level |
|---------|-------------|----------|-------------|---------|-------------|
| 8-10-66 | 47.34 | 10-25-66 | 47.41 | 5-25-67 | 45.99 |
| 8-24-66 | 47.28 | 11-29-66 | 47.43 | | |
| 9-28-66 | 47.27 | 1-25-67 | 47.25 | | |

SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 127 N., R. 77 W.
depth 210 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|----------|-------------|----------|-------------|
| 10-21-65 | 31.39 | 7-20-66 | 27.00 | 4-26-67 | 25.24 |
| 11-23-65 | 30.82 | 8-23-66 | 27.13 | 5-25-67 | 24.73 |
| 12-15-65 | 30.24 | 9-23-66 | 27.48 | 7-20-67 | 25.36 |
| 1-18-66 | 29.50 | 10-24-66 | 27.93 | 8-22-67 | 25.92 |
| 2-23-66 | 28.95 | 11-29-66 | 27.35 | 10- 4-67 | 25.27 |
| 3-29-66 | 28.06 | 12-20-66 | 27.26 | 11-22-67 | 24.55 |
| 4-27-66 | 27.15 | 1-25-67 | 27.02 | 12-13-67 | 23.11 |
| 5-24-66 | 26.65 | 2-27-67 | 26.62 | 1- 4-68 | 22.35 |
| 6-20-66 | 26.58 | 3-23-67 | 26.09 | 1-24-68 | 21.77 |

SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 127 N., R. 77 W. (continued)

| Date | Water level | Date | Water level | Date | Water level |
|---------|-------------|---------|-------------|----------|-------------|
| 2-14-68 | 21.39 | 6- 4-68 | 20.13 | 10-16-68 | 22.52 |
| 3- 6-68 | 20.90 | 7- 2-68 | 20.20 | 11- 6-68 | 21.23 |
| 4- 9-68 | 20.49 | 7-30-68 | 20.98 | 12-18-68 | 21.49 |
| 5- 8-68 | 19.95 | 9- 5-68 | 22.18 | | |

NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T. 127 N., R. 78 W.
depth 2,362 feet

| Date | Water level | Date | Water level |
|---------|------------------------|----------|------------------------|
| 5-24-67 | 429 above land surface | 10- 1-68 | 420 above land surface |

SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T. 127 N., R. 78 W.
depth 2,492 feet

| Date | Water level | Date | Water level |
|---------|------------------------|----------|------------------------|
| 8-14-62 | 104 above land surface | 9-15-66 | 125 above land surface |
| 4-16-63 | 104 above land surface | 5-24-67 | 125 above land surface |
| 5- 1-64 | 125 above land surface | 10- 1-68 | 125 above land surface |
| 4- 7-65 | 132 above land surface | | |

NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30, T. 128 N., R. 77 W.
Water Resources Commission Well 4, depth 148 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|----------|-------------|----------|-------------|
| 12- 5-58 | 20.2 | 11-13-64 | 19.9 | 7-20-66 | 19.66 |
| 3-11-59 | 20.6 | 2- 9-65 | 19.57 | 8-23-66 | 19.52 |
| 7-21-59 | 21.0 | 3- 8-65 | 19.8 | 9-22-66 | 19.65 |
| 11- 6-59 | 20.7 | 4- 7-65 | 19.69 | 10-24-66 | 19.65 |
| 5-11-60 | 21.0 | 5- 5-65 | 19.67 | 11-29-66 | 19.68 |
| 7-15-60 | 21.2 | 6-10-65 | 19.61 | 12-20-66 | 19.67 |
| 11-30-60 | 21.5 | 7- 7-65 | 19.52 | 1-25-67 | 19.67 |
| 3- 1-61 | 21.1 | 8-12-65 | 19.55 | 2-27-67 | 19.67 |
| 7- 6-61 | 21.0 | 9-15-65 | 19.50 | 3-23-67 | 19.79 |
| 10-26-61 | 21.2 | 10-21-65 | 19.38 | 4-26-67 | 19.72 |
| 3- -62 | 21.3 | 11-23-65 | 19.43 | 5-25-67 | 19.78 |
| 7- -62 | 21.4 | 12-15-65 | 19.38 | 7-20-67 | 19.94 |
| 11- -62 | 20.8 | 1-18-66 | 19.44 | 8-22-67 | 19.85 |
| 3- -63 | 21.0 | 2-23-66 | 19.46 | 10- 4-67 | 19.84 |
| 7- -63 | 20.7 | 3-29-66 | 19.52 | 3-28-68 | 20.0 |
| 11- -63 | 20.7 | 4-27-66 | 19.49 | 7- 2-68 | 19.7 |
| 3-19-64 | 20.9 | 5-24-66 | 19.52 | 10-23-68 | 19.0 |
| 6-23-64 | 19.0 | 6-20-66 | 19.62 | | |

NW¼NW¼NW¼ sec. 36, T. 128 N., R. 77 W.
Water Resources Commission Well CA-1, depth 18 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|-------------|----------|-------------|----------|-------------|
| 11-15-57 | 8.5 | 3-19-64 | 7.9 | 6-20-66 | 4.30 |
| 3-17-58 | 8.3 | 6-23-64 | 3.5 | 7-20-66 | 4.67 |
| 6-24-58 | 7.0 | 11-13-64 | 5.4 | 8-23-66 | 5.03 |
| 12- 5-58 | 7.6 | 2- 9-65 | 5.79 | 9-22-66 | 5.36 |
| 3-11-59 | 8.1 | 3- 8-65 | 6.0 | 10-24-66 | 5.86 |
| 7-21-59 | 7.8 | 4- 7-65 | 5.8 | 11-29-66 | 6.03 |
| 11- 6-59 | 8.6 | 5- 5-65 | 5.10 | 12-20-66 | 6.11 |
| 5-11-60 | 7.8 | 6-10-65 | 4.51 | 1-25-67 | 6.33 |
| 7-15-60 | 7.6 | 7- 7-65 | 2.80 | 2-27-67 | 6.50 |
| 11-30-60 | 8.2 | 8-12-65 | 3.98 | 3-23-67 | 6.34 |
| 3- 1-61 | 8.4 | 9-15-65 | 4.67 | 4-26-67 | 6.31 |
| 7- 6-61 | 8.0 | 10-21-65 | 4.78 | 5-25-67 | 5.90 |
| 10-26-61 | 8.8 | 11-23-65 | 4.90 | 7-20-67 | 6.01 |
| 3- -62 | 9.1 | 12-15-65 | 5.03 | 8-22-67 | 6.41 |
| 7- -62 | 7.2 | 1-18-66 | 5.34 | 10- 4-67 | 6.83 |
| 11- -62 | 6.6 | 2-23-66 | 5.67 | 3-28-68 | 7.6 |
| 3- -63 | 7.0 | 3-29-66 | 5.20 | 7- 2-68 | 4.5 |
| 7- -63 | 6.5 | 4-27-66 | 4.78 | 10-23-68 | 5.6 |
| 11- -63 | 6.3 | 5-24-66 | 4.25 | | |

SE¼SE¼SW¼ sec. 16, T. 128 N., R. 78 W.
depth 198 feet

| Date | Water level | Date | Water level | Date | Water level |
|----------|--------------------|----------|-------------|---------|--------------------|
| 6- -55 | ⁴ 77.4 | 12-16-65 | 58.65 | 6-20-66 | ² 61.50 |
| 4- 7-65 | 68.58 | 1-18-66 | 59.44 | 7-27-66 | 58.71 |
| 5- 5-65 | 65.58 | 1-19-66 | 59.20 | 8-15-66 | ² 63.55 |
| 6-10-65 | ² 68.58 | 2-24-66 | 57.40 | 8-16-66 | 57.60 |
| 7- 7-65 | ² 68.58 | 3-29-66 | 54.51 | 3-22-67 | 53.34 |
| 10-21-65 | 61.58 | 4-27-66 | 53.07 | 4-27-67 | 51.92 |
| 12-15-65 | ² 64.13 | 5-18-66 | 52.92 | | |

NW¼NW¼SE¼NE¼ sec. 21, T. 128 N., R. 78 W.
depth 179 feet

| Date | Water level | Date | Water level | Date | Water level |
|---------|-------------|----------|--------------------|----------|--------------------|
| 5-18-66 | 42.22 | 10-24-66 | 48.56 | 8-22-67 | ⁵ 48.90 |
| 5-19-66 | 42.01 | 11-29-66 | 46.88 | 10- 4-67 | 40.06 |
| 5-24-66 | 42.38 | 12-20-66 | 46.55 | 11-22-67 | 36.31 |
| 6-16-66 | 43.91 | 1-25-67 | 45.96 | 12-13-67 | 35.12 |
| 6-21-66 | 44.58 | 2-27-67 | 44.65 | 1- 4-68 | 35.81 |
| 7-20-66 | 47.17 | 3-22-67 | 43.51 | 1-24-68 | 33.90 |
| 7-26-66 | 46.59 | 4-27-67 | 40.93 | 2-14-68 | 33.26 |
| 8-16-66 | 46.45 | 5-25-67 | 42.95 | 3- 6-68 | 32.58 |
| 9-23-66 | 47.96 | 7-20-67 | ⁵ 46.47 | 4- 9-68 | 31.94 |

NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W. (continued)

| Date | Water level | Date | Water level | Date | Water level |
|---------|--------------------|----------|--------------------|----------|-------------|
| 5- 8-68 | 31.62 | 7- 3-68 | 35.46 | 11- 6-68 | 37.81 |
| 6- 4-68 | ⁵ 37.28 | 9- 5-68 | 37.86 | 12-18-68 | 37.90 |
| 7- 2-68 | 33.00 | 10-16-68 | ⁵ 37.90 | | |

¹ Monthly lowest water level

² Well pumping

³ Nearby well pumping

⁴ Reported

⁵ Nearby irrigation well pumping at time of measurement

Table 2.—Records of selected wells in Campbell County, South Dakota

Explanation of symbols used in table of wells

Column (1): See text for explanation of well-numbering system. Column (6): D, domestic; Irr, irrigation; Ob, observation well; PS, public supply; S, stock.

Column (2): USGS, United States Geological Survey. Column (15): Abd, abandoned; C, complete chemical analysis in table 3; Log, well log in table 4.

| Location (1) | Owner (2) | Year drilled (3) | Depth of well (feet) (4) | Casing diameter (inches) (5) | Use (6) | Water level | | Date (9) | Chemical analysis (field) | | | | | Remarks (15) | | |
|--|-----------------|---------------------|-----------------------------|---------------------------------|------------|---|--|-------------------|---|------------------------|------------------------|------------|--------------------------|-----------------|-----|----------------|
| | | | | | | "R" if reported or Date of Measurement (7) | Depth below land surface (feet) (8) | | Specific conductance (micromhos at 25° C) (10) | Hardness (ppm) (11) | Chloride (ppm) (12) | pH (13) | Temperature (°F) (14) | | | |
| T. 125 N., R. 74 W. | | | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3 | R. Fischer | 1945 | 12 | 3 | S | ... | ... | 6-23-65 | 968 | 171 | 38 | 6.7 | 47 | C | | |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3 | R. Fischer | 1955 | 8 | ... | D | ... | ... | 6-23-65 | 965 | 274 | 38 | ... | ... | ... | ... | |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | Albert Metzger | 1962 | 53 | 24 | D,S | R | 37 | 9-3-64 | 1,410 | 719 | 38 | ... | 44 | C | | |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8 | S. Rau | 1961 | 30 | 30 | D,S | ... | ... | 6-17-65 | 1,000 | 531 | 100 | ... | ... | ... | ... | |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9 | W. Eberhart | .... | 12 | 24 | S | 6-17-65 | 6.4 | 6-17-65 | 855 | 411 | 75 | ... | ... | ... | ... | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10 | Fred F. Balliet | 1958 | 14 | 24 | S | R | 0.4 | 11-3-64 | 9,000 | 2,530 | 550 | 7.8 | ... | ... | ... | |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11 | John Kunz | .... | 400 | 4 | S | R | 55 | 9-3-64 6-17-65 | 1,680 | 308 | 250 | 6.7 6.7 | 51 ... | C ... | ... | |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11 | John Kunz | .... | 26 | 24 | D | R | 21 | 9-3-64 6-17-65 | 1,310 | 565 | 113 ... | 7.2 ... | 47 ... | C ... | ... | |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12 | Arthur Lutz | .... | 408 | 4 | D,S | 8-25-66 | 54.5 | 9-3-64 | 1,680 | 205 | 300 | ... | ... | C | | |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13 | Emil Rohrback | 1961 | 360 | 4 | D,S | 8-25-66 | 31.1 | 9-3-64 6-17-65 | 1,800 | 394 | 550 ... | 6.7 ... | 50 ... | C ... | ... | |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17 | Albert Eberhart | | 7-8 | ... | D,S | ... | ... | 9-3-64 | 974 | 360 | 38 | ... | ... | ... | ... | ... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19 | Victor Hirsch | 1960 | 10-15 | 24 | D,S | ... | ... | 9-1-64 | 960 | 274 | 12 | ... | ... | ... | ... | ... |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19 | Victor Hirsch | .... | 300 | 4 | ... | 9-1-64 | 29.21 | ... | .... | .... | .... | ... | ... | Abd. | | |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19 | Glen Hirsch | 1957 | 14 | 30 | S | R | 12 | 9-1-64 | 1,600 | 804 | 100 | ... | ... | ... | ... | ... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20 | Mrs. L. Naase | .... | 25 | 24 | S | R | 15 | 9-1-64 6-17-65 | 980 | 411 | 50 ... | 7.1 ... | 52 ... | C ... | ... | |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21 | Andrew Munsch | | 18 | 24 | D,S | R | 8 | 9-1-64 | 1,015 | 548 | 75 | ... | ... | ... | ... | ... |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22 | Fred Seif | 1956 | 100 | 3 | D | R | 9 | 9-3-64 | 1,750 | 291 | 113 | ... | ... | ... | ... | Yield 5 gpm, C |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--|---------------------|------|-----|-----|-----|---------|-------|-------------------|-------|-------|------|------|------|-----------------|
| T. 125 N., R. 74 W. (continued) | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22 | Fred Seif | 1957 | 300 | 4 | S | 8-25-66 | 63.76 | 9-3-64 | 3,000 | 462 | 350 | ... | ... | Yield 8 gpm, C |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23 | Alfred Bauer | 1930 | 360 | 4 | D,S | 8-25-66 | 1.67 | 9-3-64 | 2,300 | 137 | 625 | ... | ... | C |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24 | Oliver Oswald | 1927 | 400 | 3 | D,S | R | 60 | 9-3-64 6-17-65 | 2,175 | 342 | 500 | 6.9 | 49 | Yield 1 gpm, C |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25 | Ruben G. Eberhart | .... | 14 | ... | D,S | ... | ... | 9-3-64 6-17-65 | 1,700 | 719 | 75 | 7.2 | 52 | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28 | Eugene Mittelreider | 1961 | 14 | 24 | D,S | ... | ... | 9-1-64 | 1,400 | 668 | 162 | ... | ... | ..... |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30 | W. Oswald | .... | 50 | 3 | D,S | ... | ... | 6-23-65 | 2,050 | 1,010 | 50 | ... | ... | C |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31 | Christ Lutz | .... | 40 | 24 | D,S | R | 20 | 9-1-64 | 2,600 | 1,710 | 75 | ... | ... | ..... |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33 | Levern Gill | 1960 | 53 | 24 | D,S | R | 45 | 9-1-64 | 1,870 | 976 | 50 | ... | ... | ..... |
| T. 125 N., R. 75 W. | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2 | Emanuel Holzwarth | 1925 | 80 | 24 | D,S | R | 45-50 | 9-2-64 6-17-65 | 995 | 394 | 25 | 6.8 | 49 | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2 | Orville Ackerman | .... | 15 | ... | S | ... | ... | 9-2-64 | 1,375 | 736 | 150 | ... | ... | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3 | Orville Ackerman | .... | 60 | 24 | S | ... | ... | 9-2-64 | 1,000 | 496 | 25 | ... | 50 | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4 | Edward Lindemann | 1947 | 52 | 24 | D | R | 20 | 9-3-64 | 1,000 | 548 | 50 | ... | ... | ..... |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5 | Alfred Lindemann | 1956 | 70 | 21 | S | R | 58 | ..... | ..... | ..... | ... | ... | ... | ..... |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10 | Ervin Rau | 1950 | 200 | 3 | S | 6-6-67 | 23.45 | 9-2-64 6-17-65 | 4,000 | 1,990 | 100 | 7.0 | 50 | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12 | Perry Rau | .... | 100 | 24 | D,S | R | 70 | 9-2-64 6-17-65 | 1,600 | 514 | 125 | 6.4 | 49 | C |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15 | Erwin Rau | 1950 | 120 | 3 | D,S | R | 80 | 9-2-64 | 1,900 | 308 | 50 | ... | ... | ..... |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16 | S. Rau | 1965 | 147 | 3 | S | R | 50 | ..... | ..... | ..... | ... | ... | ... | ..... |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18 | Alvina Theis | .... | 209 | 3 | S | 6-6-67 | 76.71 | 9-1-64 | 1,400 | 462 | 50 | ... | 50 | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21 | Virgil Biel | .... | 14 | ... | D,S | ... | ... | 9-1-64 6-17-65 | 2,600 | 1,030 | 575 | 6.6 | 47 | Yield 40 gpm, C |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22 | Leslie Rau | 1930 | 15 | ... | D,S | R | 12 | 9-2-64 6-17-65 | 1,600 | 342 | 100 | 7.5 | 53 | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 25 | Eugene Rau | 1962 | 100 | 4 | D,S | ... | ... | 9-1-64 6-18-65 | 1,150 | 240 | 75 | 6.8 | 50 | C |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27 | Ted F. Biel | 1911 | 64 | 30 | D,S | R | 60 | 9-1-64 | 1,475 | 462 | 50 | ... | ... | ..... |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27 | Fred C. Biel | 1956 | 36 | 24 | D,S | ... | ... | 9-1-64 | 1,050 | 548 | 100 | ... | ... | ..... |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29 | Ralph Rubida | 1960 | 102 | 4 | D,S | R | 27 | 9-1-64 | 1,000 | 394 | 25 | 6.8 | 52 | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30 | H. Haux | .... | 135 | 3 | D,S | ... | ... | 6-18-65 | 1,575 | 531 | 88 | 6.8 | 50 | C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30 | Ervin Munsch | .... | 40 | 24 | D,S | ... | ... | 9-1-64 | 1,400 | 788 | 100 | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32 | Ruben Schneider | 1920 | 64 | 18 | D,S | R | 51 | 9-1-64 | 2,150 | 482 | 88 | ... | 50 | ..... |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|---------------------------------|----------------------------|--------|-----|-----|-----|-------------------|---------------|--------------------|--------------|------------|----------|-------|-------|-------------------------|
| T. 125 N., R. 75 W. (continued) | | | | | | | | | | | | | | |
| NW¼SW¼SE¼ sec. 32 | Ruben Schneider | 1964 | 15 | 24 | S | R | 13 | ..... | ..... | ..... | ..... | ..... | ..... | C |
| NW¼SE¼NW¼ sec. 33 | Rinel Schneider | 1949 | 56 | 24 | D,S | R | 42 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| NW¼SE¼NW¼ sec. 33 | Rinel Schneider | 1963 | 60 | 24 | S | R | 30 | 9-1-64 | 2,100 | 633 | 62 | ..... | ..... | ..... |
| SE¼NW¼SE¼ sec. 33 | Ted Schneider | 1920 | 40 | 24 | D,S | ... | ... | 9-1-64 | 2,200 | 753 | 62 | ..... | ..... | ..... |
| NW¼NW¼SE¼ sec. 35 | Floyd Biel | 1931 | 90 | 18 | D,S | R | 86 | 9-1-64 6-18-65 | 1,325 | 496 | 38 | 6.5 | 50 | Yield 2 gpm, C |
| T. 125 N., R. 76 W. | | | | | | | | | | | | | | |
| SW¼NW¼SW¼ sec. 1 | Mike Madden | 1952 | 31 | 24 | S | R | 25 | ..... | ..... | ..... | ..... | ..... | ..... | C |
| NW¼NE¼NW¼ sec. 3 | Eugene Hinzman | .... | 14 | ... | S | R | 9 | 9-2-64 | 1,300 | 479 | 75 | 7.0 | ... | ..... |
| SW¼SW¼SE¼ sec. 3 | Donald Grad | 1963 | 31 | 24 | D,S | R | 12 | 8-31-64 | 975 | 377 | 50 | 7.0 | 52 | C |
| SW¼SW¼NW¼ sec. 6 | Arthur Larson | .... | 15 | 48 | S | R | 12 | 10-6-64 | 4,650 | 1,940 | 388 | ... | ... | C |
| SW¼SW¼SE¼ sec. 6 | Tilmer Larson | .... | 20 | 36 | S | R | 15 | 9-2-64 | 970 | 360 | 25 | 6.9 | 48 | C |
| SW¼SE¼SE¼ sec. 10 | Otto Lafmmlle | 1958 | 40 | 3 | D,S | R | 8-20 | 6-18-65 | 1,900 | 1,180 | 212 | ... | ... | ..... |
| NW¼NW¼SW¼ sec. 11 | Donald Grad | 1962 | 29 | 24 | S | 9-2-64 6-18-65 | 15,45 15.6 | 9-2-64 6-18-65 | 1,300 730 | 788 411 | 25 38 | ... | ... | Yield 120 gpm |
| NE¼SW¼SE¼ sec. 12 | John J. Ackerman | 1955 | 30 | 18 | D | R | 15 | 8-31-64 | 1,080 | 531 | 68 | ... | ... | ..... |
| NW¼SW¼NW¼ sec. 13 | Levi Thies | .... | 90 | 3 | S | R | 60 | 8-31-64 | 2,620 | 1,990 | 38 | ... | 50 | ..... |
| SW¼NE¼SE¼ sec. 13 | Leo Brockel | 1960 | 98 | 4 | D,S | R | 65 | 8-31-64 | 2,950 | 1,850 | 56 | 6.4 | 51 | C |
| NE¼SW¼SW¼ sec. 22 | Harold Brockel | 1926 | 12 | 41 | S | 6-18-65 | 7.0 | 6-18-65 | 550 | 274 | 38 | ... | ... | ..... |
| SE¼SW¼SE¼ sec. 23 | Dale Mager | .... | 28 | ... | D | 6-24-65 | 27.2 | 6-24-65 | 2,700 | 1,580 | 125 | ... | ... | ..... |
| SE¼SW¼SE¼ sec. 23 | Dale Mager | .... | 28 | ... | S | ... | ... | 6-24-65 | 2,600 | 1,340 | 300 | ... | ... | C |
| NE¼NE¼SE¼ sec. 24 | Marvin Volzke | .... | 170 | 4 | ... | ... | ... | ..... | ..... | ..... | ... | ... | ... | Abd. |
| SE¼NE¼NW¼ sec. 25 | Levi Thies | 1948 | 150 | 2 | S | R | 60 | 8-31-64 6-24-65 | 1,880 | 822 | 50 | 6.9 | 50 | C |
| NW¼NE¼NW¼ sec. 26 | Levi Thies | 1925 | 14 | 36 | D,S | R | 6 | 8-31-64 | 2,100 | 1,220 | 100 | ... | 51 | ..... |
| SW¼SW¼SW¼ sec. 27 | Allie Twete | .... | 14 | 24 | S | R | 9 | 8-31-64 6-24-65 | 480 | 257 | 25 | 7.6 | ... | 51½ C |
| NE¼NE¼NE¼ sec. 28 | Elmer Brockel | 1957 | 205 | 2 | D | R | 15 | 9-1-64 6-24-65 | 4,000 | 86 | 1,500 | 7.7 | ... | C |
| SE¼SW¼SE¼ sec. 28 | Elmer Brockel | 1963 | 34 | 4 | S | R | 11 | ..... | ..... | ..... | ... | ... | ... | Abd |
| NE¼NE¼SW¼ sec. 31 | Raymond Gustafson | 1940's | 12 | 2 | D | ... | ... | 10-5-64 | 1,100 | 360 | 38 | ... | ... | ..... |
| SW¼ sec. 31 | Water Resources Commission | 1957 | 18 | 1½ | Ob | 11-15-57 | 14.0 | ..... | ..... | ..... | ... | ... | ... | ..... |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--|-----------------|-------|-------|-----------------|-----|--------------------|---------------|--------------------|-------|-------|-------|-------|-------|------------------|
| T. 125 N., R. 77 W. (continued) | | | | | | | | | | | | | | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | Harry Stowell | ..... | 65 | 24 | ... | R | 25 | 10-8-64 6-24-65 | 750 | 342 | 38 | 6.7 | 49 | C |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32 | Arthur Beckman | ..... | 60 | 24 | D | R | 39 | 10-8-64 | 1,420 | 599 | 38 | ... | ... | ... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33 | LeRoy Steiger | ..... | 45 | 24 | D | R | 38 | 10-7-64 | 1,720 | 651 | 38 | ... | ... | ... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33 | LeRoy Steiger | ..... | 52 | 24 | S | R | 40 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34 | Edwin Jenson | 1948 | 24 | 18 | Ob | 5-9-56 | 20.11 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34 | Edwin Jenson | 1937 | 60 | 24 | S | 5-9-56 6-24-65 | 20.43 18.0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34 | Edwin Jenson | 1954 | 165 | 2 | D,S | R | 8 | 10-8-64 | 2,100 | 120 | 150 | ... | ... | C |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35 | Alton Opheim | 1934 | 16 | 48 | D,S | 5-9-56 | 14.30 | ..... | 1,280 | ..... | ..... | ..... | ..... | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36 | Anton Rygh | 1962 | 126 | 1 $\frac{1}{2}$ | D | R | 56 | 10-5-64 | 1,400 | 377 | 50 | ... | ... | C |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36 | Merte E. Wahl | 1963 | 115 | 3 | S | ... | ... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| T. 125 N., R. 78 W. | | | | | | | | | | | | | | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1 | Clayton Steiger | 1906 | 74 | 24 | D,S | R | 28 | 10-6-64 | 2,400 | 411 | 62 | ... | ... | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2 | Vernon Hanson | 1930 | 60 | 24 | S | ... | ... | 10-6-64 | 3,050 | 993 | 162 | ... | ... | ..... |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4 | Gene Strasser | 1965 | 2,472 | ... | D,S | ... | Flow | ..... | ..... | ..... | ..... | ..... | ..... | Yield 40 gpm, C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4 | Willis Hanson | 1962 | 62 | 24 | D,S | 10-7-64 6-24-65 | 27.4 17.4 | 10-7-64 | 750 | 377 | 25 | ... | ... | C |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | U.S. Government | ..... | 2,400 | 4 | S | 7-11-62 | Flows | ..... | ..... | ..... | ... | 85 | ... | Flows 23 gpm |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9 | John Brockel | 1962 | 70 | 24 | D,S | R | 60 | 10-7-64 | 1,950 | 531 | 75 | ... | ... | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9 | Carter | 1961 | 70 | 24 | D,S | R | 30 | 10-7-64 | 3,700 | 685 | 188 | ... | ... | ..... |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9 | John Carter | 1962 | 40 | 24 | D,S | R | 14 | 10-7-64 | 5,250 | 2,500 | 150 | ... | ... | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11 | Milton Steiger | 1940 | 80 | 24 | D,S | R | 40 | 10-7-64 | 3,150 | 565 | 50 | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12 | Calvin Anderson | 1964 | 100 | 24 | D,S | R | 55 | 10-8-64 | 2,350 | 702 | 138 | ... | ... | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13 | Arden Tronson | 1957 | 50 | 24 | D,S | R | 18 | 10-7-64 | 1,880 | 685 | 50 | ... | ... | C |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15 | Palmer Anderson | 1954 | 28 | 24 | D,S | R | 18 | 10-8-64 | 750 | 342 | 25 | ... | ... | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17 | Fred Wessel | ..... | 80 | 24 | S | R | 60 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20 | Ed Kramlich | 1962 | 100 | 4 | D,S | R | 15 | 10-7-64 | 2,450 | 360 | 50 | ... | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 22 | Jack Bohlander | 1936 | 28 | 24 | D | R | 8 | 10-8-64 | 2,280 | 1,080 | 100 | ... | ... | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25 | A. K. Tronson | ..... | 52 | 24 | D | R | 35 | 10-8-64 | 1,900 | 839 | 150 | ... | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27 | Ross Rabenberg | 1963 | 2,298 | 2 | D,S | 10-8-64 | Flows | ..... | ..... | ..... | ... | ... | ... | Flows 100 gpm, C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28 | Edwin Nordstrom | 1949 | 28 | 24 | D | R | 16 | 10-8-64 | 1,350 | 325 | 38 | ... | ... | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28 | Earl Espeland | 1928 | 60 | 24 | D,S | R | 55 | 10-7-64 | 3,700 | 1,110 | 62 | ... | ... | ..... |

(1)
T. 125 N., R. 78 W. (continued)

| | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--|----------------------|------|-----|-----------------|-----|-----|-------|-------------------|-------|-------|------|------|------|-------|
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32 | N. J. Amundson | .... | 110 | 24 | D,S | R | 60 | 10-8-64 | 800 | 137 | 50 | ... | .. | C |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33 | Mrs. Kilien | 1924 | 70 | 24 | D,S | R | 54 | 10-8-64 | 1,350 | 274 | 38 | ... | .. | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33 | Martin Anderson | 1949 | 28 | 24 | D | R | 14 | 10-8-64 | 2,020 | 582 | 150 | ... | .. | C |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34 | J. G. Bohlander | 1940 | 35 | 24 | D | R | 20 | 10-8-64 | 2,900 | 976 | 188 | ... | .. | ..... |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | Alfred Bohlander | 1952 | 16 | 48 | D | R | 11 | ..... | ..... | ..... | ... | ... | .. | ..... |
| T. 125 N., R. 79 W. | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22 | Nordahl Amundson | .... | 80 | 3 | D,S | ... | ... | 10-8-64 | 972 | 257 | 75 | ... | .. | C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34 | Henry Skillingstad | .... | 123 | 24 | D,S | R | 117 | 10-8-64 | 3,350 | 1,900 | 50 | ... | .. | ..... |
| T. 126 N., R. 74 W. | | | | | | | | | | | | | | |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2 | Jacob Hoff | .... | 75 | ... | S | ... | ... | ..... | ..... | ..... | ... | ... | .. | Abd |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6 | Arthur Beck | .... | 40 | 24 | D | R | 28 | 9-4-64 6- -65 | 3,410 | 2,310 | 300 | ... | 44 | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6 | Arthur Beck | 1938 | 202 | 4 | D,S | R | 80-90 | 9-4-64 6- -65 | 2,250 | 291 | 150 | ... | 47 | C |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7 | Walter Heiser | 1910 | 60 | 24 | S | R | 50 | ..... | ..... | ..... | ... | ... | .. | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7 | Walter Heiser | 1954 | 48 | 24 | D,S | R | 32-41 | 11-6-64 | 4,600 | 3,050 | 525 | 7 | .. | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7 | Walter Heiser | 1940 | 22 | 24 | S | R | 16 | ..... | ..... | ..... | ... | ... | .. | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9 | Oscar Ottenbacher | 1962 | 105 | 24 | D,S | R | 56 | 11-3-64 | 1,300 | 582 | 38 | 8 | .. | C |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10 | Herbert Schick | 1920 | 60 | 24 | D,S | R | 50 | 9-4-64 | 1,350 | 668 | 75 | ... | .. | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11 | Edwin F. Hoff | .... | 35 | 24 | D,S | R | 17 | 9-4-64 | 1,010 | 445 | 88 | ... | .. | C |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12 | Gottlieb Ottenbacher | .... | 220 | 6 | D,S | R | 100 | 9-3-64 6- -65 | 2,380 | 514 | 200 | ... | 48 | C |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13 | John Freimark | 1930 | 94 | 24 | D,S | R | 54 | 9-3-64 | 1,920 | 856 | 62 | ... | .. | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14 | Delbert Knoepfle | 1930 | 80 | 24 | D,S | R | 72 | 9-3-64 | 1,050 | 548 | 25 | ... | .. | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18 | Phillip Wiedmeier | .... | 50 | 1 $\frac{1}{4}$ | D,S | R | 35 | 11-3-64 6- -65 | 1,600 | 907 | 25 | 7.2 | 47 | C |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21 | Bruno Eiseman | 1918 | 110 | 24 | D,S | R | 102 | 9-4-64 | 1,280 | 479 | 38 | ... | .. | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22 | Arthur M. Fisher | 1918 | 150 | 24 | D,S | R | 130 | 9-4-64 | 1,400 | 599 | 38 | ... | .. | ..... |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22 | Milbert Oberlander | 1924 | 190 | 4 | D,S | R | 90 | 9-4-64 6- -65 | 1,300 | 479 | 38 | ... | 47 | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23 | Milbert Oberlander | .... | 60 | 24 | S | R | 40 | 9-4-64 | 1,100 | 599 | 38 | ... | .. | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23 | Otto W. Schick | 1949 | 50 | 24 | D,S | R | 30 | 9-3-64 6- -65 | 1,280 | 633 | 38 | ... | 46 | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25 | George Raile | .... | 20 | 24 | S | ... | ... | ..... | ..... | ..... | ... | ... | .. | Abd |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28 | Sam Goetz | 1961 | 12 | 24 | D,S | R | 4 | 9-3-64 | 1,950 | 822 | 75 | ... | .. | C |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--|--------------------|------|-----|-----------------|-----|-----|-------|--------------------|-------|------------|------|------|------|-------|
| T. 126 N., R. 74 W. (continued) | | | | | | | | | | | | | | |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 31 | Elmer H. Lindemann | 1931 | 11 | 32 | S | R | 9 | 9-2-64 | 965 | 325 | 38 | ... | .. | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31 | Elmer H. Lindemann | 1948 | 45 | 30 | S | R | 37 | 9-3-64 | 995 | 514 | 38 | ... | .. | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32 | Walter Metzger | 1959 | 12 | 24 | D,S | R | 3 | 9-3-64 | 1,400 | 599 | 62 | ... | .. | ..... |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33 | Sam Goetz | .... | 200 | 4 | ... | ... | ... | ..... | ..... | ..... | ... | ... | .. | Abd |
| T. 126 N., R. 75 W. | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3 | Ed Quenzer | 1954 | 150 | 5 | D,S | R | 30 | 10-6-64 6- -65 | 2,000 | 205 | 200 | ... | 48 | C |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3 | Edward Quenzer | 1959 | 125 | 5 | S | R | 30 | 2-17-64 10-6-64 | 2,050 | 520 479 | 138 | ... | .. | ..... |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3 | Edward Quenzer | .... | 20 | 2 $\frac{1}{2}$ | S | R | 10 | ..... | ..... | ..... | ... | ... | .. | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3 | Adam Quenzer | 1962 | 170 | 3 | D,S | R | 50 | 10-6-64 | 1,720 | 86 | 300 | ... | .. | ..... |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4 | Rudy Follmer | .... | 30 | 12 | S | R | 15-20 | 10-6-64 | 650 | 325 | 25 | ... | .. | C |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4 | Rudy Follmer | .... | 30 | .. | D | ... | ... | ..... | ..... | ..... | ... | ... | .. | C |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | Christ Schaeffer | 1958 | 13 | 8 | S | R | 8 | 10-6-64 | 1,680 | 924 | 150 | ... | .. | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | Christ Schaeffer | .... | 80 | 18 | S | R | 12 | 10-6-64 6- -65 | 1,600 | 770 | 38 | ... | 46 | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12 | Albert Schaeffer | .... | 20 | 18 | S | ... | ... | 11-6-64 | 1,500 | 736 | 212 | 8 | ... | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13 | Otto Beck | 1949 | 70 | 24 | D,S | R | 48 | 11-6-64 | 1,400 | 753 | 38 | 8 | ... | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15 | William Schick | 1944 | 80 | 24 | S | R | 40 | 11-3-64 6- -65 | 3,500 | 2,340 | 138 | ... | 46 | C |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15 | William Schick | 1955 | 24 | 24 | D | R | 16 | 11-3-64 6- -65 | 1,900 | 1,130 | 125 | ... | .. | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15 | Albert Quenzer | 1958 | 35 | 6 | S | ... | ... | 11-3-64 | 2,450 | 1,460 | 162 | ... | .. | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15 | Joe Grenz | .... | 80 | 24 | S | ... | ... | ..... | ..... | ..... | ... | ... | .. | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15 | Joe Grenz | 1960 | 50 | 24 | D,S | R | 18 | 11-3-64 | 3,450 | 2,400 | 200 | 8 | ... | ..... |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21 | Willie Schaffer | 1954 | 110 | 4 | D | R | 45 | 11-3-64 6- -65 | 1,220 | 565 | 25 | 8 | ... | C |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21 | Willie Schaffer | 1944 | 16 | 48 | S | R | 10 | 11-3-64 | 1,220 | 633 | 25 | 8 | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23 | Walter G. Bauer | .... | 60 | 24 | S | R | 20 | 11-3-64 | 2,150 | 1,040 | 62 | 8 | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23 | Walter Bauer | 1952 | 72 | 24 | D | R | 35 | 11-3-64 | 1,350 | 599 | 38 | 8 | ... | ..... |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24 | Otto Beck | .... | 80 | 24 | D,S | ... | ... | 11-3-64 | 3,180 | 1,610 | 250 | 8 | ... | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27 | Wilmer Grenz | 1943 | 30 | 6 | S | ... | ... | ..... | ..... | ..... | ... | ... | .. | Abd |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 27 | Wilmer Grenz | 1918 | 90 | 24 | D,S | R | 80 | 9-2-64 | 1,450 | 719 | 175 | ... | .. | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28 | Ervin Holzwarth | 1920 | 20 | 36 | D,S | ... | ... | 9-2-64 | 1,810 | 1,030 | 275 | ... | .. | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32 | Alfred Lindemann | .... | 12 | 21 | S | R | 10 | 9-2-64 6- -65 | 2,600 | 1,370 | 175 | 7.5 | 43 | C |

(1)

T. 126 N., R. 75 W. (continued)

| | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|---|----------------------------|-------|-------|-----------------|-----|----------|-------|------------------|-------|-------|------|------|---|------------------------------|
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33 | Loyd Sieler | 1930? | 20 | 36 | S | R | 16 | 9-3-64 6- -65 | 970 | 377 | 50 | 6.2 | 47 | C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | Perry Rau | .... | 80-90 | 24 | S | ... | ... | ..... | ..... | ..... | ... | ... | ... | ..... |
| T. 126 N., R. 76 W. | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3 | J. F. Rossow | .... | 10 | 96 | D,S | 9-22-64 | Flows | 9-22-64 | 998 | 394 | 25 | ... | ... | Flows 30 gpm |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3 | Hilmer Wessel | .... | 30 | 36 | D,S | 9-22-64 | Flows | 9-22-64 | 995 | 411 | 25 | ... | ... | Flows 2 $\frac{1}{2}$ gpm, C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9 | Maynard Martin | .... | 20 | 48 | D,S | R | 10 | 9-22-64 | 995 | 479 | 62 | ... | ... | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10 | Omer Wessel | 1961 | 90 | 24 | D,S | R | 30 | 9-22-64 | 1,410 | 633 | 88 | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11 | Omer Wessel | .... | 15 | 48 | S | ... | ... | 9-22-64 | 2,300 | 1,320 | 113 | ... | ... | ..... |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11 | Omer Wessel | 1961 | 20 | 18 | S | ... | ... | 9-22-64 | 750 | 342 | 25 | ... | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15 | USGS | 1967 | 237 | 1 $\frac{1}{4}$ | Ob | 5-23-67 | 21.67 | ..... | ..... | ..... | ... | ... | ... | ..... |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16 | J. F. Rossow | 1964 | 24 | 24 | S | ... | ... | 9-23-64 | 850 | 411 | 38 | ... | ... | City well 2, Abd |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 | Mound City | 1962 | 55 | 24 | PS | R | 30 | ..... | ..... | ..... | ... | ... | Yield 120 gpm, City | |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 | Mound City | 1964 | 69 | 18 | PS | R | 44 | ..... | ..... | ..... | ... | ... | well 3, C, Abd | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 | Mound City | 1958 | 59 | 24 | PS | R | 20 | ..... | ..... | ..... | ... | ... | City well 1, Yield 10-15 gpm, C, Abd | |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 | Orral Kightlinger | .... | 22 | 24 | D | ... | ... | ..... | ..... | ..... | ... | ... | C | |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18 | Mound City | 1965 | 2,189 | .. | PS | 4-65 | Flows | ..... | ..... | ..... | ... | ... | C | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18 | Ben Heister | 1954 | 60 | 24 | S | ... | ... | 9-22-64 | 1,360 | 719 | 162 | ... | ... | ..... |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21 | Henry Schaffer | 1960 | 18 | 6 | D,S | ... | ... | 9-2-64 | 1,300 | 582 | 100 | 7.5 | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22 | Maynard Goehring | 1963 | 60 | 24 | D,S | R | 12 | 9-2-64 | 1,300 | 462 | 50 | 7 | ... | ..... |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23 | Wilbert Goehring | .... | 45 | 18 | D,S | R | 35 | 9-2-64 | 2,900 | 1,390 | 225 | 7 | ... | ..... |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24 | Ted Moser | .... | 60 | 24 | D,S | ... | ... | 9-2-64 | 1,850 | 753 | 100 | 7.5 | ... | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 29 | Alex Mitzel | .... | 12 | 2 | S | ... | ... | 10-6-64 | 1,020 | 462 | 75 | ... | ... | ..... |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29 | Ed Mitzel | .... | 15 | 1 $\frac{1}{4}$ | D,S | ... | ... | 9-2-64 | 980 | 394 | 50 | 7.5 | ... | ..... |
| SE $\frac{1}{4}$ sec. 30 | Water Resources Commission | 1957 | 36 | 1 $\frac{1}{4}$ | Ob | 11-15-57 | 6.6 | ..... | ..... | ..... | ... | ... | ... | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33 | Herman Krokell | 1950 | 26 | 36 | D,S | R | 9 | 9-2-64 | 1,500 | 565 | 225 | 7.0 | ... | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 34 | Karl Goehring | .... | 21 | 24 | D,S | R | 12 | 9-2-64 | 3,000 | 1,440 | 400 | 7.0 | ... | ..... |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35 | Albert Hinzman | 1959 | 33 | 24 | D,S | ... | ... | 9-2-64 | 3,020 | 2,000 | 275 | 7.5 | ... | ..... |
| T. 126 N., R. 77 W. | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1 | Willis Rodenburg | 1961 | 42 | 24 | D,S | 9-22-64 | 21.01 | 9-22-64 | 1,280 | 651 | 75 | ... | ... | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2 | Ted Diebert | 1962 | 40 | 24 | D,S | R | 22 | 9-25-64 | 2,600 | 873 | 113 | ... | ... | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4 | Emil Twete | 1963 | 250 | 6 | D,S | ... | ... | 9-25-64 | 2,780 | 86 | 412 | ... | ... | ..... |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--|--------------------|------|--------|-----|-----|---------|-------|----------|-------|-------|------|------|------|----------------|
| T. 126 N., R. 77 W. (continued) | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5 | Ervin Monthye | .... | 32 | 24 | D,S | R | 10 | 11-18-64 | 1,300 | 325 | 38 | ... | ... | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7 | Anna Jilek | 1950 | 37 | 24 | S | R | 20 | 11-18-64 | 780 | 342 | 25 | ... | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8 | R. H. Schlunkert | 1960 | 65 | 24 | D,S | R | 55 | 9-25-64 | 975 | 360 | 38 | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11 | Hilmer Schuetzle | .... | 30-40 | 24 | D,S | ... | ... | 9-22-64 | 985 | 360 | 38 | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12 | Frank G. Grad | .... | 85 | 24 | D,S | ... | ... | 9-22-64 | 1,230 | 548 | 62 | ... | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13 | Edward Schuetzle | 1954 | 80-100 | 24 | S | ... | ... | ..... | ..... | ..... | ... | ... | ... | ..... |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13 | Ralph Ritter | 1930 | 87 | 24 | S | ... | ... | ..... | ..... | ..... | ... | ... | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 | Carl Fenske | .... | 250 | 6 | D | ... | ... | 9-25-64 | 2,220 | 51 | 612 | ... | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 | Carl Fenske | .... | 65 | 24 | D,S | ... | ... | 9-25-64 | 1,800 | 86 | 38 | ... | ... | C |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 20 | John Vojta | 1931 | 31 | 42 | D,S | R | 12 | 9-25-64 | 3,420 | 1,340 | 75 | ... | ... | ..... |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21 | Hilmer Dupper | 1956 | 40 | 24 | D | ... | ... | 9-25-64 | 3,080 | 736 | 88 | ... | ... | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22 | Jacob Schuetzle | 1956 | 70 | 24 | D,S | R | 60 | 10-6-64 | 1,820 | 565 | 75 | ... | ... | ..... |
| NE $\frac{1}{4}$ sec. 23 | Floyd Wuif | .... | 45 | .. | D,S | ... | ... | ..... | ..... | ..... | ... | ... | ... | C |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24 | Ralph Ritter | 1964 | 107 | 24 | D,S | R | 37 | 9-22-64 | 2,000 | 582 | 100 | ... | ... | ..... |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24 | Herbert Ritter | 1923 | 100 | 24 | D,S | R | 0 | 9-22-64 | 1,400 | 137 | 50 | ... | ... | C |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26 | Virgil Vojta | 1957 | 65 | 24 | D,S | R | 35 | 10-6-64 | 3,050 | 959 | 138 | ... | ... | ..... |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27 | George Anderson | 1961 | 38 | 24 | D,S | R | 22 | 10-6-64 | 2,650 | 1,350 | 175 | ... | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30 | Emma Wientjes | 1944 | 100 | 24 | S | R | 90 | ..... | ..... | ..... | ... | ... | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32 | Alvin Werner | 1937 | 60 | 24 | S | R | 30 | 10-6-64 | 1,920 | 770 | 125 | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32 | Lawrence Senftner | 1926 | 80 | 24 | D,S | 10-6-64 | 14,45 | 10-6-64 | 2,420 | 1,030 | 50 | ... | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33 | Oskar Prasek | 1963 | 50 | 24 | S | ... | ... | 10-6-64 | 4,000 | 1,110 | 212 | ... | ... | ..... |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | Lewis Prasek | .... | Spring | .. | D,S | ... | ... | 10-6-64 | 1,220 | 257 | 25 | ... | ... | ..... |
| T. 126 N., R. 78 W. | | | | | | | | | | | | | | |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1 | Martin Mickelson | 1964 | 60 | 24 | S | R | 20 | 11-18-64 | 3,200 | 839 | 38 | ... | ... | Yield 10 gpm. |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1 | Carl Odde | 1963 | 38 | 24 | D,S | R | 15 | 11-18-64 | 1,220 | 428 | 25 | ... | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2 | Elizabeth Ankerson | 1951 | 58 | 24 | D | R | 28 | 11-18-64 | 795 | 34 | 12 | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3 | Engolf Larson | 1964 | 46 | 24 | D,S | R | 30 | 11-18-64 | 905 | 360 | 38 | ... | ... | Yield 6 gpm, C |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11 | Raymond Beed | 1957 | 75 | 24 | D | R | 45 | 11-18-64 | 1,050 | 394 | 25 | ... | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12 | Arnie Gunderson | 1964 | 60 | 24 | S | R | 15 | 11-18-64 | 525 | 154 | 18 | ... | ... | Yield 5 gpm |
| SW $\frac{1}{4}$ sec. 14 | U. S. Government | .... | 1700? | .. | S | ... | ... | ..... | ..... | ..... | ... | ... | ... | Flows 20 gpm |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25 | Emma Wientjes | 1920 | 165 | 24 | S | R | 140 | 9-25-64 | 2,650 | 1,180 | 62 | ... | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35 | Alma Pekelder | .... | 100 | 24 | D,S | R | 60 | 10-6-64 | 2,700 | 788 | 50 | ... | ... | ..... |

T. 126 N., R. 78 W. (continued)

| | | | | | | | | | | | | |
|--|-------|-----|----|-----|-----|------|----------|-------|-------|-------|-------|-------|
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36 | 1962 | 80 | 24 | D | R | 68 | 9-2-5-64 | 2,150 | 565 | 25 | ... | ... |
| T. 127 N., R. 74 W. | | | | | | | | | | | | |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1 | ..... | 17 | .. | D | R | 3 | ..... | ..... | ..... | ..... | ..... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1 | ..... | 18 | 36 | D,S | R | 10 | 11-5-64 | 1,600 | 753 | 50 | 8 | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3 | 1945 | 17 | 24 | D,S | R | 14 | 11-5-64 | 1,200 | 633 | 25 | 8 | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5 | ..... | 35 | 24 | D,S | ... | ... | 11-5-64 | 1,850 | 890 | 100 | 8 | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7 | ..... | 60 | 24 | D,S | R | 42 | 11-3-64 | 1,150 | 565 | 38 | 7.5 | C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8 | 1949 | 22 | 36 | D,S | R | 17 | 11-3-64 | 1,620 | 770 | 62 | 8 | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11 | 1946 | 30 | 18 | D,S | R | 28 | 11-5-64 | 1,000 | 514 | 75 | 8 | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11 | 1945 | 40 | 36 | S | R | 20 | 11-5-64 | 1,250 | 582 | 50 | 8 | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15 | ..... | 12 | 15 | D,S | R | 2 | ..... | ..... | ..... | ..... | ..... | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18 | ..... | 75 | 30 | D,S | R | 60 | 11-3-64 | 2,000 | 582 | 62 | 8 | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21 | 1929 | 60 | 24 | D,S | R | 58 | 11-6-64 | 1,750 | 822 | 113 | 8 | ..... |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23 | 1964 | 42 | 18 | D,S | R | 18 | 9-16-64 | 750 | 308 | 38 | 8 | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24 | 1959 | 24 | 24 | S | R | 10 | 9-16-64 | 1,320 | 685 | 138 | 8 | ..... |
| SW $\frac{1}{4}$ sec. 28 | ..... | 30 | .. | S | R | 15 | ..... | ..... | ..... | ..... | ..... | C |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29 | ..... | 60 | .. | D,S | ... | ... | 11-6-64 | 998 | 479 | 25 | 8 | C |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29 | ..... | 56 | .. | D | ... | ... | ..... | ..... | ..... | ..... | ..... | C |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30 | 1955 | 87 | 4 | D | R | 67 | 11-3-64 | 2,020 | 651 | 62 | 8 | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31 | 1961 | 100 | 24 | D,S | R | 70 | 11-6-64 | 2,220 | 942 | 50 | 8 | ..... |
| SE $\frac{1}{4}$ sec. 31 | ..... | 60 | 24 | S | R | 32 | ..... | ..... | ..... | ..... | ..... | Abd |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33 | ..... | 47 | 24 | D,S | R | 15 | 11-6-64 | 1,900 | 873 | 50 | 8 | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33 | ..... | 60 | 24 | D,S | R | 30 | 9-4-64 | 2,400 | 1,130 | 138 | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35 | 1924 | 15 | 36 | D,S | R | 3-10 | 9-16-64 | 1,250 | 599 | 38 | 8 | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35 | 1949 | 50 | 24 | S | ... | ... | 9-16-64 | 2,000 | 873 | 88 | 8 | ..... |
| T. 127 N., R. 75 W. | | | | | | | | | | | | |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6 | 1956 | 41 | 24 | D,S | R | 20 | 11-5-64 | 900 | 360 | 50 | 8 | C |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7 | ..... | 32 | 24 | S | R | 12 | 11-3-64 | 1,600 | 788 | 75 | 8 | C |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8 | ..... | 28 | 14 | D,S | R | 6 | 11-3-64 | 2,220 | 1,100 | 138 | 8 | ..... |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9 | 1956 | 32 | 24 | S | R | 6 | 11-3-64 | 1,420 | 685 | 62 | 8 | ..... |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9 | 1962 | 45 | 24 | S | R | 23 | 11-3-64 | 1,900 | 959 | 125 | ... | C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10 | 1946 | 25 | 24 | D,S | R | 18 | 11-3-64 | 1,080 | 548 | 50 | 8 | ..... |

(1) T. 127 N., R. 75 W. (continued)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|---------------------|--------------------|------|-----|-----|-----|----------|-------|---------|-------|-------|------|------|------|---|
| NW¼NW¼SE¼ sec. 11 | George Vilhauer | .... | 30 | 24 | D,S | R | 18 | 11-3-64 | 1,520 | 668 | 62 | 8 | .. | ..... |
| SE¼SE¼NW¼ sec. 12 | Otto Fischer | 1959 | 60 | 24 | D,S | R | 30 | 11-3-64 | 1,600 | 788 | 75 | 7.5 | .. | ..... |
| NW¼SE¼SW¼ sec. 13 | Ronald Rossow | 1959 | 80 | 24 | D,S | ... | ... | 11-3-64 | 1,680 | 479 | 50 | 8 | .. | C |
| NW¼SE¼ sec. 17 | Art Huber | 1920 | 28 | 24 | S | R | 16 | ..... | ..... | ..... | ... | ... | .. | ..... |
| NE¼SW¼SE¼ sec. 18 | Adam H. Berndt | 1941 | 55 | 30 | S | R | 40 | 9-23-64 | 1,680 | 633 | 38 | ... | .. | ..... |
| NE¼SW¼SE¼ sec. 18 | Adam H. Berndt | 1960 | 45 | 30 | D | R | 30 | 9-23-64 | 3,200 | 1,400 | 188 | ... | .. | ..... |
| NW¼NW¼NE¼ sec. 19 | Lauren Berndt | 1959 | 60 | 36 | D,S | R | 50 | 9-23-64 | 1,720 | 668 | 50 | ... | .. | ..... |
| SE¼NE¼SE¼ sec. 22 | Emil Orth | .... | 48 | 24 | D,S | R | 20 | 11-3-64 | 1,720 | 428 | 62 | 8 | .. | C |
| SE¼NW¼NW¼ sec. 27 | Andrew Huber | .... | 45 | 24 | S | ... | ... | 11-3-64 | 2,650 | 1,421 | 100 | 7 | .. | ..... |
| NW¼NW¼NW¼ sec. 29 | Carl Rueb | 1944 | 50 | 36 | D,S | R | 30 | 9-22-64 | 3,100 | 1,830 | 200 | ... | .. | ..... |
| SE¼SE¼NW¼ sec. 29 | Carl Rueb | 1950 | 50 | 24 | S | ... | ... | ..... | ..... | ..... | ... | ... | .. | ..... |
| NW¼NE¼ sec. 30 | Adam H. Berndt | .... | 20 | 24 | S | R | 5 | ..... | ..... | ..... | ... | ... | .. | ..... |
| NE¼NE¼SW¼ sec. 31 | Emil Schaeffer | 1920 | 33 | 24 | D,S | R | 16 | 11-6-64 | 380 | 205 | 25 | ... | .. | ..... |
| NW¼NE¼SE¼ sec. 34 | Christ Huber | 1951 | 30 | 36 | D | ... | ... | 10-6-64 | 1,150 | 565 | 75 | ... | .. | ..... |
| SW¼NE¼SE¼ sec. 34 | Christ Huber | 1959 | 90 | 36 | S | ... | ... | 10-6-64 | 2,250 | 822 | 50 | ... | .. | ..... |
| NW¼NW¼SE¼ sec. 35 | Arthur Quenzer | .... | 20 | 26 | S | R | 7 | 11-6-64 | 750 | 360 | 50 | 8 | .. | ..... |
| SE¼SE¼NW¼ sec. 36 | Gottlieb Schaeffer | 1932 | 18 | 36 | S | R | 12 | 11-6-64 | 1,700 | 942 | 75 | 8 | .. | ..... |
| T. 127 N., R. 76 W. | | | | | | | | | | | | | | |
| SW¼SE¼NE¼ sec. 2 | Philip Nolz | 1959 | 50 | 4 | D | ... | ... | 11-5-64 | 600 | 240 | 25 | 8 | .. | C |
| SE¼NE¼NE¼ sec. 3 | Walter Schmidt | .... | 15 | 36 | S | R | 8 | ..... | ..... | ..... | ... | ... | .. | ..... |
| SE¼SE¼NE¼ sec. 5 | Lawrence Brandner | 1906 | 24 | 36 | D,S | R | 16 | 9-24-64 | 750 | 377 | 50 | ... | .. | ..... |
| SE¼SE¼NE¼ sec. 5 | Lawrence Brandner | 1966 | 220 | 4 | D,S | 9-28-66 | 58.22 | 8-9-66 | 1,700 | ..... | ... | ... | .. | C |
| SW¼NW¼SW¼SW¼ sec. 5 | Herreid | 1965 | 20 | 84 | PS | 12-16-65 | 9.51 | ..... | ..... | ..... | ... | ... | .. | C |
| SW¼SW¼SW¼ sec. 5 | Rienold Kosel | 1964 | 14 | 24 | D,S | ... | ... | 9-21-64 | 1,580 | 668 | 175 | ... | .. | ..... |
| SE¼SE¼NE¼ sec. 6 | Paul Kosel | .... | 12 | 24 | D,S | ... | ... | 9-21-64 | 1,350 | 702 | 150 | ... | .. | ..... |
| SW¼SE¼NE¼ sec. 7 | B. E. Berndt | 1948 | 185 | 18 | S | 8-10-66 | 11.65 | 10-7-64 | 4,100 | 1,970 | 125 | ... | .. | C |
| NE¼NE¼SE¼ sec. 7 | Herreid | 1964 | 20 | 84 | PS | 12-15-65 | 6.36 | ..... | ..... | ..... | ... | ... | .. | Yield 75 gpm, City well 1, drawdown 3, C |
| SW¼SW¼SW¼NW¼ sec. 8 | Herreid | 1961 | 27 | 96 | PS | 12-15-65 | 8.38 | ..... | ..... | ..... | ... | ... | .. | Yield 150 gpm, City well 4, drawdown 6, C |
| SE¼SE¼SW¼NW¼ sec. 8 | Herreid | 1956 | 26 | 96 | PS | R | 8 | ..... | ..... | ..... | ... | ... | .. | City well 2, C |
| SE¼SE¼SW¼NW¼ sec. 8 | Herreid | 1956 | 26 | 96 | PS | 7-7-65 | 7.55 | ..... | ..... | ..... | ... | ... | .. | Yield 75 gpm, draw-down 11, City well 3 |

T. 127 N., R. 76 W. (continued)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|---------------------|----------------------|------|--------|-----|-----|---------|-------|---------|-------|-------|------|------|------|------------------|
| NW¼NE¼SW¼ sec. 9 | Joe O. Brandner | 1900 | 12 | .. | D,S | R | 10 | 9-22-64 | 2,250 | 1,010 | 250 | .. | .. | .. |
| SW¼NW¼ sec. 10 | Frank Road | .... | 80-100 | 24 | S | ... | ... | ..... | ..... | ..... | ... | ... | .. | ..... |
| SW¼SW¼SW¼ sec. 10 | Peter Feist | 1963 | 45 | 2½ | D,S | 9-22-64 | Flow | 9-22-64 | 990 | 325 | 25 | ... | .. | ..... |
| NW¼SW¼NE¼ sec. 12 | Larry Fieldheim | .... | 34 | 18 | D | R | 12 | 11-3-64 | 1,320 | 308 | 50 | 8 | .. | ..... |
| SW¼SW¼NE¼ sec. 14 | Otto Bauer | 1963 | 50 | 24 | S | R | 10 | 10-9-64 | 1,220 | 411 | 100 | ... | .. | C |
| SW¼SW¼NE¼ sec. 14 | Otto Bauer | .... | 33 | 24 | D | R | 10 | ..... | ..... | ..... | ... | ... | .. | ..... |
| SW¼SW¼NW¼ sec. 15 | Simon Schaeftbauer | .... | 45 | .. | D,S | R | 30 | 9-22-64 | 1,300 | 411 | 50 | ... | .. | ..... |
| SE¼NE¼SW¼ sec. 15 | Lavern Schillingstad | 1961 | 61 | 24 | D,S | R | 30 | 9-22-64 | 2,610 | 1,680 | 212 | ... | .. | ..... |
| SE¼SW¼SW¼ sec. 16 | Frank Schaeftbauer | 1958 | 30 | 24 | D,S | R | 15 | 9-22-64 | 2,920 | 1,580 | 138 | ... | .. | ..... |
| SW¼NW¼SE¼ sec. 19 | D. Hughes | 1964 | 237 | 3 | D,S | 8-10-66 | 23.96 | 6-24-65 | 1,350 | 154 | 62 | ... | .. | C |
| SE¼SE¼SE¼ sec. 19 | USGS | 1965 | 240 | 1½ | Ob | 9-23-65 | 37.55 | ..... | ..... | ..... | ... | ... | .. | ..... |
| SE¼SE¼NE¼ sec. 22 | Alvin Bauer | .... | ... | .. | S | ... | ... | 9-23-64 | 1,900 | 924 | 25 | ... | .. | Shallow |
| NW¼NW¼NE¼ sec. 23 | Alvin Bauer | 1964 | 30 | 24 | S | ... | ... | 9-23-64 | 988 | 342 | 38 | ... | .. | ..... |
| NW¼SW¼SW¼ sec. 25 | Edwin J. Fischer | 1954 | 80 | 24 | D,S | R | 60 | 9-22-64 | 1,300 | 445 | 62 | ... | .. | C |
| SE¼SW¼SE¼ sec. 28 | Marvin Rossow | .... | 30 | 24 | D,S | R | 15 | 11-6-64 | 2,100 | 1,150 | 150 | 8 | .. | ..... |
| NW¼SW¼NW¼ sec. 29 | E. G. Rossow | .... | 4 | 48 | S | 9-21-64 | Flow | 9-21-64 | 535 | 240 | 25 | ... | .. | Flows 2 gpm |
| SE¼NE¼SE¼ sec. 30 | E. G. Rossow | 1959 | 224 | 3 | S | R | 45-50 | 9-21-64 | 1,300 | 257 | 38 | ... | .. | C |
| SE¼NE¼SE¼ sec. 30 | E. G. Rossow | 1950 | 27 | 24 | .. | R | 12 | 9-21-64 | 1,800 | 976 | 50 | ... | .. | ..... |
| NW¼NW¼SW¼ sec. 31 | John E. Weisbeck | 1963 | 243 | 3 | S | R | 60 | ..... | ..... | ..... | ... | ... | .. | C |
| NE¼NW¼SE¼ sec. 31 | John E. Weisbeck | 1962 | 236 | 4 | S | R | 70 | 9-21-64 | 1,750 | 291 | 62 | ... | .. | Yield 100 gpm, C |
| SE¼SE¼SE¼ sec. 31 | John E. Weisbeck | 1961 | 247 | 3 | D,S | 1-18-66 | 50.10 | 9-21-64 | 985 | 445 | 38 | ... | .. | Abd |
| SE¼SE¼SE¼ sec. 31 | John E. Weisbeck | 1951 | 20 | 24 | D | R | 16 | 9-21-64 | 980 | 445 | 31 | ... | .. | C |
| SE¼SE¼SE¼ sec. 31 | John E. Weisbeck | 1964 | 270 | 4 | D | ... | ... | ..... | ..... | ..... | ... | ... | .. | C, Abd |
| SW¼SE¼NW¼ sec. 32 | Earl Rossow | .... | 37 | 36 | S | R | 4-9 | 11-6-64 | 1,020 | 514 | 75 | 8 | .. | ..... |
| SE¼NE¼SW¼ sec. 32 | Jerome Rossow | 1962 | 235 | 3 | S | 8-10-66 | 52.54 | 11-6-64 | 1,250 | 274 | 38 | 8 | .. | Yield 20 gpm, C |
| SE¼NE¼SW¼ sec. 32 | Jerome Rossow | 1942 | 44 | 36 | D | R | 17 | 11-6-64 | 1,250 | 599 | 100 | 8 | .. | ..... |
| NE¼NW¼SW¼ sec. 33 | Jerome Rossow | 1959 | 267 | 3 | S | 9-28-66 | 47.75 | 6-24-65 | 2,000 | 325 | 238 | ... | .. | C |
| NE¼NW¼NE¼ sec. 36 | Edwin J. Fischer | 1944 | 70 | 24 | S | R | 35 | 9-22-64 | 2,950 | 822 | 75 | ... | .. | ..... |
| T. 127 N., R. 77 W. | | | | | | | | | | | | | | |
| NE¼NW¼NW¼ sec. 1 | Labolt Berndt | 1956 | 22 | 28 | S | R | 18 | 11-2-64 | 1,700 | 839 | 113 | 8 | .. | ..... |
| NE¼NW¼NW¼ sec. 2 | Donald Weisbeck | 1946 | 45 | 6 | D,S | R | 42 | 11-2-64 | 700 | 360 | 38 | 8 | .. | ..... |

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--|------|---------------------|-------|-----------------|-----|----------|----------|------|-----------------|-------|-------|------|------|------|---------------------------|
| T. 127 N., R. 77 W. (continued) | | | | | | | | | | | | | | | |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2 | 1962 | Louis Huber | 14 | 7 | D | R | 11-17-64 | 12 | 11-17-64 | 1,600 | 719 | 125 | 8 | | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3 | 1965 | USGS | 210 | 1 $\frac{1}{2}$ | Ob | 11-23-65 | 30.82 | | | | | | | | |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3 | 1954 | Louise Lang | 20 | 4 | S | | | | 11-17-64 | 3,400 | 1,730 | 325 | 8 | | |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4 | 1964 | Walter Mittfelder | 212 | 6 | D,S | 8-10-66 | 30.00 | | 11-17-64 | 1,400 | 188 | 38 | 8 | | Yield 12 gpm, C |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | 1964 | Mervin Mittfelder | 200 | 4 | S | 8-10-66 | 29.60 | | 11-17-64 | 1,800 | 394 | 212 | 8 | | Yield 60 gpm, drawdown 20 |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | | Mervin Mittfelder | 18 | 72 | S | | | | 11-17-64 | 835 | 394 | 38 | 8 | | |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | 1962 | Mervin Mittfelder | 25 | 24 | D | | | | | | | | | | C |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8 | | Walter Mittfelder | 16 | 3 | D,S | R | | 8 | 11-17-64 | 835 | 411 | 38 | 8 | | |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10 | 1947 | George B. Huber | 11 | 36 | S | R | | 7 | 9-23-64 | 1,400 | 428 | 62 | | | C |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10 | | George B. Huber | 23 | | D | R | | 12 | | | | | | | |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11 | 1950 | August Schaeftbauer | 25 | 24 | D | R | | 15 | 9-23-64 | 1,000 | 394 | 50 | | | |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13 | 1961 | B. Berndt | 20 | 18 | S | | | | 9-23-64 | 1,250 | 531 | 62 | | | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13 | 1963 | Arthur Huber | 223 | 5 | D,S | 8-10-66 | 24.51 | | 9-23-64 | 1,910 | 291 | 125 | | 50 | Nitrate O, C |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15 | 1959 | W. A. Werner | 38 | 18 | S | | | | | | | | | | |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15 | 1961 | W. A. Werner | 60 | 24 | D,S | R | | 10 | 9-23-64 | 4,300 | 1,900 | 200 | | | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17 | 1939 | Glen Tolsted | 32 | 32 | S | R | | 19 | 9-23-64 | 2,280 | 685 | 175 | | | |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18 | 1960 | Roland Brandner | 65 | 24 | S | R | | 6-16 | 11-19-64 | 1,600 | 154 | 50 | | | |
| NW $\frac{1}{4}$ sec. 21 | 1968 | Karl Deibert | 2,266 | 2 | | | | Flow | | | | | | | |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21 | | Clarence Deibert | 85 | 18 | D,S | R | | 40 | 9-23-64 6-65 | 3,220 | 1,350 | 75 | 5.8 | 48 | C, Flows 80 gpm |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22 | 1900 | Melvin Salverson | 80 | 24 | S | | | | | | | | | | |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23 | 1962 | Robert Hague | 235 | 6 | D,S | R | | 20 | 9-23-64 | 2,250 | 154 | 175 | | | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24 | 1955 | Emil Perman | 60 | 24 | S | | | | 9-23-64 | 2,000 | 1,110 | 250 | | | |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 29 | | John Loyo | 27 | 24 | | R | | 5 | 11-19-64 | 2,600 | 1,010 | 50 | | | |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31 | | Leonhart Deibert | 28 | 24 | D,S | R | | 25 | 11-19-64 | 1,400 | 599 | 50 | | | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33 | | Edward Schaeffer | 21 | 24 | S | R | | 6 | 9-25-64 | 1,880 | 702 | 50 | | | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34 | 1960 | Milton Schuetzle | 42 | 24 | D,S | R | | 12 | 9-25-64 | 1,650 | 736 | 125 | | | |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36 | 1959 | Paul Kosel | 20 | 24 | S | | | | | | | | | | |
| T. 127 N., R. 78 W. | | | | | | | | | | | | | | | |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5 | | Adolph Siegle | 40 | 36 | D | R | | 20 | 11-17-64 | 1,300 | 154 | 25 | | | C |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5 | | H. J. Dienert | 2,362 | 2 | D,S | | | Flow | | | | | | | C |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9 | | Walter Pollock | 35 | 24 | D,S | R | | 28 | 11-19-64 | 1,350 | 651 | 88 | | | |

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15)

T. 127 N., R. 78 W. (continued)

| | | | | | | | | | | | | | |
|--|------------------|-------|-------|----|-----|-----|-------|----------|-------|-------|-------|-------|----------------|
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20 | Ruben Deibert | 1962 | 2,492 | 3 | D,S | R | Flow | ..... | ..... | ..... | ..... | 88 | C, Flow 20 gpm |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21 | Joe LaFave | ..... | 60 | 24 | D,S | R | 25 | 11-17-64 | 1,300 | 342 | 25 | ..... | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23 | Earl Fjeldheim | 1915 | 40 | 24 | D,S | R | 20 | 11-18-64 | 1,800 | 839 | 88 | ..... | ..... |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23 | Earl Fjeldheim | 1962 | 54 | 18 | S | R | 25 | ..... | ..... | ..... | ..... | ..... | ..... |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23 | Wilmer Pudwill | 1960 | 80 | 24 | D,S | R | 30 | 11-18-64 | 1,720 | 839 | 88 | ..... | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24 | Steven Volk | 1963 | 24 | 4 | S | R | 12 | 11-19-64 | 915 | 462 | 25 | ..... | ..... |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 27 | M. J. Schaeffer | 1957 | 55 | 24 | D,S | R | 35-40 | 11-18-64 | 1,950 | 291 | 88 | ..... | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28 | Walter Kluckman | ..... | 60 | 24 | S | ... | ... | 11-19-64 | 2,900 | 445 | 275 | ..... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33 | Albert Schaeffer | ..... | 40 | 24 | D | R | 20 | 11-18-64 | 1,400 | 240 | 62 | ..... | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34 | G. T. Sjomeling | 1963 | 100 | 24 | S | R | 15 | ..... | ..... | ..... | ..... | ..... | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34 | G. T. Sjomeling | 1954 | 38 | 24 | S | R | 12 | 11-18-64 | 1,400 | 308 | 50 | ..... | ..... |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | Raymond Beed | 1954 | 16 | 24 | D,S | R | 9-10 | 11-18-64 | 1,800 | 599 | 50 | ..... | ..... |

T. 128 N., R. 74 W.

| | | | | | | | | | | | | | |
|--|--------------------|-------|-----|----|-----|-----|-----|---------|-------|-------|-------|-------|-------|
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3 | Antone Hartz | ..... | 30 | 24 | D,S | ... | ... | 11-5-64 | 3,300 | 1,080 | 375 | 8 | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3 | Antone Hartz | ..... | 105 | 24 | ... | ... | ... | 11-5-64 | 5,900 | 1,710 | 675 | 8 | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4 | John Schatz | ..... | 70 | 36 | D,S | ... | ... | 11-5-64 | 2,100 | 223 | 75 | 8 | C |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | Pius Nolz | ..... | 20 | .. | D | ... | ... | 11-5-64 | 1,800 | 804 | 150 | 8 | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7 | Victor Feist | 1961 | 90 | 18 | S | R | 60 | 9-23-64 | 7,000 | 2,910 | 113 | 8 | ..... |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9 | Adam Nolz | 1930 | 45 | 24 | S | ... | ... | 11-5-64 | 5,700 | 1,710 | 262 | 8 | ..... |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9 | Adam Nolz | ..... | 280 | 4? | S | ... | ... | 11-5-64 | 6,600 | 2,240 | 338 | 6.8 | ..... |
| SE $\frac{1}{4}$ sec. 9 | Edwin Zimmerman | 1944 | 50 | 36 | S | R | 20 | ..... | ..... | ..... | ..... | ..... | ..... |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11 | John Seiler | 1961 | 72 | 24 | S | ... | ... | ..... | ..... | ..... | ..... | ..... | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11 | John Seiler | ..... | 65 | 24 | S | ... | ... | 11-5-64 | 1,920 | 959 | 162 | 7 | ..... |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19 | Oscar Kauk | 1957 | 50 | 24 | D | R | 60 | 9-24-64 | 1,750 | 445 | 50 | ..... | ..... |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19 | Oscar Kauk | 1960 | 60 | 24 | S | ... | ... | ..... | ..... | ..... | ..... | ..... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 20 | Wallace H. Kusler | 1959 | 72 | 24 | D | R | 45 | 9-24-64 | 2,220 | 565 | 175 | ..... | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20 | E. U. B. Church | 1964 | 21 | 18 | ... | R | 17 | 11-5-64 | 775 | 394 | 25 | 8 | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20 | Arthur W. Rohrbach | ..... | 16 | 6 | D | ... | ... | 9-24-64 | 1,080 | 479 | 50 | ..... | ..... |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21 | Elmer Bentz | 1960 | 30 | 24 | D,S | ... | ... | 11-5-64 | 1,700 | 788 | 100 | 8 | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 25 | Larry Ackerman | ..... | 12 | 18 | D,S | R | 9 | 11-5-64 | 1,100 | 445 | 62 | 8 | ..... |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26 | Carl Ackerman | 1963 | 12 | 22 | D | R | 10 | 11-5-64 | 1,000 | 428 | 62 | 8 | ..... |

| | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--|-------------------|------|-----|-----|-----|-----|-----|-------------------|-------|-------|------|------|------|------|
| T. 128 N., R. 74 W. (continued) | | | | | | | | | | | | | | |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28 | Willie Kautz | 1963 | 30 | 18 | D | R | 15 | 11-5-64 6- -65 | 1,800 | 736 | 188 | 8 | 45 | C |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28 | Willie Kautz | 1961 | 100 | 18 | S | R | 40 | 11-5-64 6- -65 | 2,700 | 377 | 162 | 8 | 47 | C |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28 | Ruben Beck | .... | 8 | 36 | D,S | R | 6 | 11-5-64 | 1,600 | 668 | 138 | 8 | .. | .. |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35 | Ernest Ackerman | 1962 | 70 | 18 | D,S | R | 10 | 11-5-64 | 2,450 | 890 | 212 | 8 | .. | .. |
| T. 128 N., R. 75 W. | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1 | Huber Estate | 1918 | 65 | .. | D,S | .. | .. | 9-24-64 | 1,580 | 548 | 50 | .. | .. | C |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4 | Jacob A. Rutschke | 1947 | 58 | 24 | D,S | R | 33 | 9-24-64 | 2,850 | 856 | 62 | .. | .. | .. |
| SW $\frac{1}{4}$ sec. 6 | Carl Ochsner | 1959 | 75 | 24 | S | R | 35 | .. | .. | .. | .. | .. | .. | .. |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8 | Milton Ochsner | 1955 | 56 | 24 | D,S | R | 6 | 9-24-64 | 2,200 | 1,150 | 100 | .. | .. | .. |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9 | Calvin Fuehrer | .... | 70 | 24 | D,S | R | 40 | 9-24-64 | 1,680 | 377 | 18 | .. | .. | C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12 | Alfred Bentz | 1900 | 80 | 24 | D,S | R | 50 | 9-24-64 | 1,000 | 445 | 38 | .. | .. | .. |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 13 | Calvin Bentz | 1940 | 44 | 22 | D,S | R | 20 | 9-24-64 | 992 | 411 | 75 | .. | .. | .. |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17 | Calvin Fuehrer | 1930 | 65 | 24 | S | R | 40 | 9-24-64 | 1,910 | 685 | 31 | .. | .. | .. |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21 | Albert Berreth | 1963 | 65 | 36 | D,S | R | 10 | 9-24-64 | 800 | 257 | 38 | .. | .. | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21 | Henry Munsch | 1930 | 36 | .. | D,S | .. | .. | 9-24-64 6- -65 | 1,350 | 668 | 113 | .. | 46 | C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23 | Chester Beck | .... | 30 | 36 | S | .. | .. | 9-24-64 | 1,280 | 514 | 50 | .. | .. | .. |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26 | Henry Orth | .... | 14 | 18 | S | R | 12 | 11-5-64 | 3,120 | 993 | 175 | 8 | .. | .. |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30 | Elmer Ochsner | 1954 | 23 | .. | D,S | .. | .. | 9-24-64 | 1,180 | 548 | 31 | .. | .. | .. |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30 | Elmer Ochsner | .... | 26 | 36 | D,S | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31 | Henry Bickel | 1958 | 50 | 24 | S | R | 20 | 11-5-64 | 2,300 | 1,080 | 100 | 8 | .. | .. |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33 | Edward Quaschnick | .... | 16 | 24 | D,S | .. | .. | 11-5-64 | 1,250 | 548 | 100 | 8 | .. | C |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34 | Arthur Wacker | 1944 | 13 | .. | S | R | 10 | 11-5-64 | 1,300 | 514 | 62 | 8 | .. | .. |
| T. 128 N., R. 76 W. | | | | | | | | | | | | | | |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2 | Edward Lutz | .... | 65 | 18 | S | R | 45 | 11-4-64 | 850 | 394 | 25 | 8 | .. | C |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4 | Mary Bohlander | 1958 | 16 | 24 | D,S | R | 8 | 11-4-64 | 1,700 | 993 | 150 | 8 | .. | .. |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5 | Arnold Hasper | 1940 | 116 | 24 | D,S | R | 109 | 11-4-64 | 2,120 | 770 | 62 | 7 | .. | C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7 | Eugene H. Wiest | 1922 | 135 | 5 | D | R | 95 | .. | .. | .. | .. | .. | .. | C |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8 | Peter Horner | 1951 | 90 | 4 | D | R | 85 | 11-4-64 | 1,220 | 188 | 38 | 8 | .. | .. |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9 | Theodore Kost | .... | 32 | 20 | D,S | R | 16 | 11-4-64 | 1,300 | 291 | 38 | 7 | .. | .. |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11 | Vern Ochsner | 1925 | 60 | 24 | D | R | 30 | 11-4-64 | 1,850 | 907 | 175 | .. | .. | .. |

(1) T. 128 N., R. 76 W. (continued)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--|--------------------|------|-----|-----------------|------------------|---------|-------|---------|-------|-------|-------|------|------|-------|
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14 | Alvin Schmidt | 1964 | 70 | 24 | S | R | 50 | 11-4-64 | 2,200 | 1,040 | 38 | ... | ... | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14 | J. K. Schmidt | 1963 | 75 | 24 | S | R | 45 | 11-4-64 | 2,750 | 959 | 88 | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 17 | Clarence Fjeldheim | 1963 | 80 | 30 | D ₂ S | R | 71 | 11-4-64 | 1,300 | 223 | 38 | 8 | ... | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19 | Stephen Weisbeck | 1954 | 21 | 24 | D | R | 10 | 11-4-64 | 1,300 | 582 | 38 | 8 | ... | C |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21 | William Grad | .... | 35 | 24 | ... | ... | ... | ..... | ..... | ..... | ... | ... | ... | ..... |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27 | Herman Klaudt | .... | 65 | 24 | S | R | 50 | 9-24-64 | 800 | 428 | 38 | ... | ... | C |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28 | William Grad | 1958 | 52 | 24 | D ₂ S | R | 16 | 9-24-64 | 1,550 | 753 | 44 | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28 | William Grad | .... | 70 | 24 | S | R | 58 | ..... | ..... | ..... | ... | ... | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 29 | Donald Seiler | 1955 | 48 | 36 | D ₂ S | R | 15 | 9-24-64 | 2,000 | 856 | 175 | ... | ... | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30 | Leslie Heisler | 1944 | 50 | 24 | D ₂ S | R | 18 | 11-4-64 | 1,420 | 377 | 38 | 7 | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31 | John Thullner | 1951 | 50 | 18 | S | R | 20 | ..... | ..... | ..... | ... | ... | ... | ..... |
| SW $\frac{1}{4}$ sec. 31 | John Thullner | 1947 | 20 | 18 | S | R | 5 | ..... | ..... | ..... | ... | ... | ... | ..... |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | John Thullner | 1920 | 280 | 6 | S | 8-9-66 | 89.87 | 11-2-64 | 3,650 | 51 | 1,220 | 8 | ... | C |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | John Thullner | 1949 | 50 | 18 | D | R | 25 | 11-2-64 | 1,000 | 514 | 38 | 8 | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 32 | Bert Brandner | .... | 30 | 24 | D ₂ S | R | 18 | 9-24-64 | 1,420 | 719 | 150 | ... | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33 | Edward Gall | 1920 | 130 | 6 | D ₂ S | R | 14 | 9-24-64 | 1,000 | 308 | 12 | ... | ... | ..... |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34 | Walter Schmidt | 1960 | 9 | 36 | S | R | 6 | 11-5-64 | 700 | 394 | 25 | 8 | ... | ..... |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35 | Edwin Berreth | 1963 | 45 | 20 | S | R | 10 | ..... | ..... | ..... | ... | ... | ... | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | Edwin Berreth | 1958 | 100 | 3 | D | R | 35 | 9-24-64 | 1,100 | 428 | 25 | ... | ... | ..... |
| T. 128 N., R. 77 W. | | | | | | | | | | | | | | |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 1 | Kenneth Fjeldheim | .... | 52 | 24 | D ₂ S | R | 15 | 11-4-64 | 1,050 | 462 | 25 | 8 | ... | C |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2 | Edward Weisbeck | 1958 | 55 | 24 | D ₂ S | R | 30 | 11-4-64 | 1,580 | 137 | 75 | 8 | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8 | Johnson Brothers | 1946 | 21 | 36 | D ₂ S | R | 10 | 11-4-64 | 1,780 | 616 | 38 | 8 | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9 | George Renner | 1958 | 50 | 24 | D ₂ S | R | 14 | ..... | ..... | ..... | ... | ... | ... | C |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11 | Edwin Goehring | 1963 | 22 | 24 | S | ... | ... | 11-4-64 | 1,280 | 548 | 88 | 8 | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12 | Frank Weisbeck | 1954 | 52 | 24 | D | R | 19 | 11-4-64 | 1,700 | 633 | 175 | 8 | ... | ..... |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13 | Mike J. Seiler | 1962 | 32 | 24 | D ₂ S | R | 12 | 11-2-64 | 1,500 | 377 | 50 | 7.5 | ... | ..... |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14 | Theodore Schaeffer | 1920 | 28 | 24 | S | R | 15 | 11-2-64 | 1,280 | 342 | 38 | 8 | ... | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15 | John Renner | 1963 | 42 | 24 | D ₂ S | R | 27 | 11-2-64 | 1,280 | 257 | 50 | 8 | ... | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23 | Mike Sempfner | 1921 | 80 | 2 | S | 11-2-64 | Flow | 7-11-62 | 1,900 | 325 | 62 | 7 | ... | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25 | Clement Brandner | 1920 | 40 | 24 | D ₂ S | R | 20 | 11-2-64 | 1,500 | 479 | 50 | 7 | ... | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27 | Everett Jones | 1964 | 105 | 3 $\frac{1}{2}$ | D ₂ S | R | 20 | 11-2-64 | 3,120 | 993 | 138 | 7.5 | ... | ..... |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|---|----------------------------|-------|-------|-----------------|-----|----------|-------|----------|-------|-------|-------|------|------|--|
| T. 128 N., R. 77 W. (continued) | | | | | | | | | | | | | | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27 | Seth Fetterly | .... | 165 | 2 | D,S | 7-11-64 | Flow | 11-2-64 | 1,800 | 342 | 62 | ... | .. | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30 | Water Resources Commission | 1968 | 148 | 1 $\frac{1}{4}$ | Ob | 9-30-58 | 20.2 | ..... | ..... | ..... | ... | ... | .. | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30 | Rider Reterson | 1948 | 178 | 2 | D | R | 35 | 11-4-64 | 1,800 | 325 | 175 | 7 | .. | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30 | Rider Reterson | 1918 | 18 | 30 | S | R | 8 | 11-4-64 | 2,550 | 1,280 | 300 | 7 | .. | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31 | Carrie Volzke | .... | 12 | .. | D,S | ... | ... | 11-19-64 | 725 | 360 | 38 | ... | .. | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33 | Herman Weisbeck | .... | 24 | 3 $\frac{1}{2}$ | D,S | R | 12 | 11-19-64 | 975 | 428 | 100 | ... | .. | ..... |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | Henry Hahne | 1960 | 42 | 6 | S | R | 27 | 11-2-64 | 2,100 | 1,010 | 125 | 8 | .. | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36 | Water Resources Commission | 1957 | 18 | 1 $\frac{1}{4}$ | Ob | 11-15-57 | 8.5 | ..... | ..... | ..... | ... | ... | .. | ..... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36 | John Thullner | .... | 10 | .. | ... | ... | ... | ..... | ..... | ..... | ... | ... | .. | C |
| T. 128 N., R. 78 W. | | | | | | | | | | | | | | |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2 | Andrew Fjeldheim | 1900 | 100 | 8 | D,S | R | 90 | 11-4-64 | 2,200 | 51 | 50 | 8 | .. | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3 | Robert Pollock | 1954 | 25 | 6 | S | R | 12 | 11-4-64 | 1,500 | 633 | 25 | 8 | .. | C |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5 | John Pollock | .... | 25 | 25 | D,S | R | 20 | 11-4-64 | 2,900 | 753 | 62 | 8 | .. | ..... |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10 | Leslie Knudson | 1961 | 18 | 24 | D,S | R | 8 | 11-4-64 | 1,100 | 565 | 38 | 8 | .. | C |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11 | Vern Borr | 1959 | 20 | 24 | D,S | R | 5 | 11-4-64 | 1,750 | 907 | 88 | 8 | .. | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14 | Clemmet Hanson | 1960 | 12 | 27 | D,S | R | 8 | 11-4-64 | 1,000 | 445 | 38 | 8 | .. | ..... |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16 | Pollock | 1955 | 198 | 8 | PS | 4-27-66 | 53.07 | ..... | ..... | ..... | ... | ... | .. | C, Yield 12.5 gpm, drawdown 10 feet |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16 | Pollock | 1961 | 232 | 8 | PS | ... | ... | ..... | ..... | ..... | ... | ... | .. | C, Yield 250 gpm |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20 | Henry Weber | 1958 | 18 | 24 | D,S | R | 15 | 11-17-64 | 680 | 291 | 25 | 8 | .. | ..... |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21 | Myron Johnson | 1966 | 225 | 8 | Irr | 8-15-66 | 47.15 | ..... | ..... | ..... | ... | ... | .. | C |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21 | USGS | 1966 | 179 | 1 $\frac{1}{2}$ | Ob | 5-18-66 | 42.22 | ..... | ..... | ..... | ... | ... | .. | ..... |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 25 | Arthur Ottenbacher | .... | 28 | 36 | D,S | ... | ... | ..... | ..... | ..... | ... | ... | .. | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28 | Harold Carlson | .... | 35 | 6 | S | ... | ... | 11-17-64 | 1,100 | 599 | 150 | ... | .. | C |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | Sidney Fetterly | 1956 | 180 | 3 | D,S | R | 50 | 11-17-64 | 2,800 | 411 | 113 | ... | .. | C |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35 | Frank J. Bauer | 1960 | 42 | 24 | S | R | 6 | 11-18-64 | 915 | 394 | 25 | ... | .. | ..... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | Arthur Dienert | 1963 | 42 | 24 | D | R | 20 | 11-18-64 | 4,100 | 1,420 | 1,160 | ... | .. | C |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | A. J. Dienert | 1912? | 2,300 | 4 $\frac{1}{2}$ | S | 11-18-64 | Flow | ..... | ..... | ..... | ... | ... | .. | C |
| T. 128 N., R. 79 W. | | | | | | | | | | | | | | |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 1 | R. B. LaFave | 1961 | 55 | 24 | S | ... | ... | ..... | ..... | ..... | ... | ... | .. | ..... |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2 | Jake Moser | 1949 | 60 | 24 | D,S | R | 40 | 11-18-64 | 825 | 171 | 18 | ... | .. | ..... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3 | Jake Moser | 1961 | 80 | 24 | S | ... | ... | 11-18-64 | 810 | 257 | 18 | ... | .. | ..... |

T. 128 N., R. 79 W. (continued)

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|---|------------------------|------|------------------|-----|-----|-----|------|----------|-------|-------|------|------|------|-------|
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5 | Peter C. Meyer | 1962 | 50 | 24 | D,S | R | 45 | 11-18-64 | 835 | 411 | 25 | ... | .. | C |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10 | Lloyd Vander Vorste | 1962 | 100 | 24 | S | R | 30 | 11-18-64 | 2,320 | 1,130 | 50 | ... | .. | C |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11 | Everett Van Beek | 1962 | 170 | 3 | S | ... | ... | 11-18-64 | 1,300 | 325 | 25 | ... | .. | C |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12 | Johannes Vander Vorste | 1958 | 40 | 24 | D | R | 10 | 11-18-64 | 2,950 | 804 | 50 | ... | .. | C |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14 | R. B. LaFave | 1962 | 60 | 24 | D,S | R | 40 | 11-18-64 | 3,950 | 1,880 | 88 | ... | .. | ..... |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14 | Irvin Salzer | .... | 120 | 4 | D,S | ... | ... | 11-18-64 | 1,720 | 291 | 25 | ... | .. | ..... |
| SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14 | Everett Van Beek | .... | 20 | 24 | D | R | 10 | 11-18-64 | 1,250 | 34 | 25 | ... | .. | ..... |
| Sec. 16 | Gene Vander Vorste | 1958 | 91 $\frac{1}{2}$ | 24 | S | ... | Dry | ..... | ..... | ..... | ... | ... | .. | ..... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21 | U. S. Government | .... | ... | 6 | S | R | Flow | ..... | ..... | ..... | ... | ... | .. | ..... |

Table 3.--Chemical analyses of water from selected wells in Campbell County, South Dakota
(Analyses by South Dakota State University Chemical Laboratory except as indicated.)

| Location (1) | Date of collection (2) | Depth of well (feet) (3) | Iron (Fe) (4) | Manganese (Mn) (5) | Calcium (Ca) (6) | Magnesium (Mg) (7) | Sodium (Na) (8) | Potassium (K) (9) | Bicarbonate (HCO ₃) (10) | Carbonate (CO ₃) (11) | Sulfate (SO ₄) (12) | Chloride (Cl) (13) | Fluoride (F) (14) | Nitrate (NO ₃) (15) | Dissolved solids (sum) (16) | Hardness | Percent sodium (18) | SAR (19) | Specific conduc- tance (micro- hos at 25° C) (20) | pH (21) |
|--|------------------------------|--------------------------------------|---------------------|--------------------------|------------------------|--------------------------|-----------------------|-------------------------|--|---|---------------------------------------|--------------------------|-------------------------|---------------------------------------|--------------------------------------|----------|---------------------------|-------------|---|------------|
| T. 125 N., R. 74 W. | | | | | | | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3 | 6-23-65 | 12 | 0.06 | 0.3 | 28 | 24 | 74 | 16 | 451 | 0 | 75 | 15 | 0.2 | 4.4 | 492 | 199 | 46 | ... | 750 | 7.4 |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | 6-23-65 | 53 | .23 | .6 | 208 | 56 | 64 | 9 | 549 | 0 | 470 | 15 | .4 | 0 | 1,430 | 746 | 15 | ... | 1,500 | 7.5 |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11 | 6-23-65 | 400 | 2.8 | .28 | 84 | 27 | 160 | 3 | 902 | 0 | 60 | 10 | .4 | 9 | 1,220 | 318 | 51 | 3.9 | 1,500 | 7.5 |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11 | 6-23-65 | 26 | .08 | 0 | 112 | 80 | 35 | 14 | 341 | 20 | 80 | 55 | .1 | 252 | 1,160 | 607 | 11 | ... | 1,350 | 8.2 |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 12 1/2 | 6-6-67 | 408 | 2.6 | ... | 104 | 5 | 330 | 10 | 892 | 0 | 35 | 138 | ... | 4 | 1,150 | 280 | 71 | 8.6 | 1,720 | 7.7 |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13 | 6-23-65 | 360 | .17 | .7 | 128 | 56 | 290 | 10 | 585 | 0 | 285 | 320 | .5 | 0 | 1,520 | 547 | 53 | 5.5 | 2,000 | 7.5 |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20 | 6-23-65 | 25 | .03 | .11 | 116 | 29 | 8 | 1 | 341 | 0 | 175 | 30 | .5 | 18 | 780 | 411 | 4 | .2 | 800 | 7.7 |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22 | 6-23-65 | 100 | .2 | .5 | 92 | 17 | 250 | 15 | 512 | 0 | 400 | 65 | .4 | 27 | 1,480 | 297 | 63 | 6.3 | 1,800 | 8.0 |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22 | 6-23-65 | 300 | 13 | 1.1 | 120 | 34 | 580 | 20 | 1,060 | 0 | 750 | 10 | .6 | 4 | 2,410 | 376 | 73 | 12 | 3,000 | 7.1 |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23 | 8-25-66 | 360 | .78 | ... | 31 | 5 | 464 | 13 | 722 | 128 | 4 | 325 | ... | 0 | 1,420 | 100 | 90 | 20 | 2,520 | 7.8 |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24 | 6-23-65 | 400 | 3.3 | .18 | 92 | 24 | 210 | 5 | 963 | 0 | 30 | 25 | .5 | 4 | 1,490 | 328 | 58 | 5 | 2,000 | 7.4 |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30 | 6-23-65 | 50 | 1.0 | 1.0 | 296 | 85 | 111 | 15 | 731 | 0 | 750 | 10 | .3 | 0 | 1,970 | 1,080 | 18 | ... | 2,050 | 7.1 |
| T. 125 N., R. 75 W. | | | | | | | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2 | 6-24-65 | 80 | 9.4 | 0 | 80 | 19 | 60 | 11 | 329 | 0 | 160 | 10 | .2 | 4 | 568 | 279 | 31 | ... | 800 | 8.1 |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10 | 6-24-65 | 200 | 2.2 | 2.2 | 452 | 175 | 390 | 20 | 378 | 0 | 2,300 | 40 | .7 | 13 | 4,810 | 1,840 | 31 | 4 | 4,400 | 7.9 |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12 | 6-24-65 | 100 | 1.7 | 0 | 104 | 39 | 176 | 17 | 390 | 0 | 400 | 70 | .5 | 4 | 1,080 | 418 | 46 | ... | 1,450 | 8.0 |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18 1/2 | 6-7-67 | 209 | 2.2 | ... | 84 | 41 | 152 | 13 | 517 | 0 | 150 | 10 | ... | 2 | 751 | 380 | 58 | 4.4 | 1,100 | 7.8 |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21 | 6-24-65 | 14 | .08 | <.1 | 168 | 95 | 98 | 30 | 561 | 0 | 237 | 170 | .6 | 279 | 1,900 | 810 | 20 | 5.7 | 2,000 | 7.2 |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22 | 6-24-65 | 15 | .08 | .03 | 60 | 19 | 155 | 7 | 451 | 0 | 174 | 25 | .2 | 0 | 1,180 | 230 | 60 | 4.5 | 1,200 | 8.5 |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 25 | 6-25-65 | 100 | .17 | .4 | 84 | 7 | 115 | 9 | 488 | 0 | 133 | 30 | .2 | 0 | 812 | 240 | 52 | 2.9 | 1,050 | 7.5 |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29 | 6-25-65 | 102 | .03 | .9 | 124 | 24 | 50 | 7 | 390 | 0 | 227 | 5 | .2 | 0 | 880 | 410 | 21 | 1.1 | 950 | 7.3 |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30 | 6-25-65 | 135 | .06 | .8 | 184 | 24 | 168 | 5 | 549 | 0 | 350 | 20 | .2 | 128 | 1,680 | 560 | 39 | ... | 1,400 | 7.5 |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32 | 4-12-65 | 15 | 0 | ... | 160 | 78 | 42 | 17 | 317 | ... | 200 | 110 | .5 | 283 | 1,850 | 721 | 11 | .7 | ... | ... |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35 | 6-25-65 | 90 | .32 | .7 | 172 | 24 | 112 | 13 | 573 | 0 | 340 | 15 | .2 | 4 | 1,056 | 531 | 31 | ... | 1,400 | 7.5 |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) |
|-----------------------|-----------|-----|-----|-----|-----|-----|-------|-----|------|------|-------|------|------|------|-------|-------|------|------|-------|------|
| T. 125 N., R. 76 W. | | | | | | | | | | | | | | | | | | | | |
| NW¼NW¼NW¼ sec. 1 | Dugout | ... | ... | ... | 36 | 20 | 4 | 1 | 110 | 14 | 33 | 8 | ... | ... | 212 | ... | 5 | ... | 350 | 8.1 |
| SW¼NW¼SW¼ sec. 1 | 31 | 0 | ... | ... | 420 | 802 | 30 | 1 | 292 | ... | 3,900 | 30 | ... | 0 | ... | 4,350 | ... | ... | 8,400 | ... |
| SW¼NW¼SW¼ sec. 1 | 31 | .02 | ... | ... | 300 | 90 | 16 | 8 | 463 | ... | 100 | 135 | .1 | 575 | ... | 1,120 | 3 | ... | 2,410 | ... |
| SW¼SW¼SE¼ sec. 3 | 31 | .57 | <.1 | 124 | 29 | 10 | 11 | 11 | 353 | 0 | 134 | 30 | .2 | 71 | 912 | 430 | 5 | .2 | 900 | 7.3 |
| SW¼SW¼NW¼ sec. 6 | 15 | .15 | 1.7 | 276 | 282 | 240 | 500 | 500 | 805 | 0 | 1,750 | 150 | 1.1 | 469 | 5,040 | 1,850 | 17 | ... | 6,000 | 7.8 |
| SW¼SW¼SE¼ sec. 6 | 20 | .25 | <.1 | 72 | 35 | 11 | 60 | 11 | 414 | 0 | 87 | 5 | .6 | 40 | 632 | 320 | 6 | .3 | 850 | 7.4 |
| SW¼NE¼SE¼ sec. 13 | 98 | 11 | .12 | 348 | 111 | 176 | 19 | 19 | 268 | 0 | 1,500 | 20 | .4 | 4 | 2,840 | 1,330 | 21 | ... | 2,200 | 7.6 |
| SE¼SW¼SE¼ sec. 23 | 28 | .78 | .15 | 224 | 192 | 30 | 7 | 7 | 512 | 0 | 250 | 200 | .4 | 673 | 2,740 | 1,350 | 5 | ... | 2,700 | 7.6 |
| SE¼NE¼NW¼ sec. 25 | 150 | .05 | .3 | 280 | 29 | 115 | 12 | 12 | 524 | 0 | 703 | 15 | .3 | 0 | 2,030 | 820 | 23 | ... | 1,750 | 7.4 |
| SW¼SW¼SW¼ sec. 27 | 14 | 0 | <.1 | 76 | 10 | 2 | 2 | 2 | 280 | 0 | 27 | 15 | .2 | 22 | 436 | 230 | 2 | .1 | 450 | 8.1 |
| NE¼NE¼NE¼ sec. 28 | 205 | .04 | <.1 | 24 | 5 | 800 | 5 | 5 | 854 | 0 | 30 | 900 | .5 | 0 | 3,220 | 80 | 95 | ... | 3,800 | 7.8 |
| Sec. 30 | Sand Lake | ... | ... | ... | 273 | 557 | 1,440 | 171 | 308 | ... | 5,580 | 218 | ... | ... | 9,340 | 2,970 | 49 | ... | 9,100 | 7.9 |
| T. 125 N., R. 77 W. | | | | | | | | | | | | | | | | | | | | |
| NE¼NE¼NE¼ sec. 6 | 50 | .08 | .3 | 168 | 27 | 94 | 11 | 11 | 488 | 0 | 206 | 35 | .2 | 124 | 1,270 | 530 | 27 | ... | 1,400 | 8.0 |
| NW¼NE¼NW¼ sec. 15 | 25 | .20 | <.1 | 120 | 32 | 11 | 6 | 6 | 427 | 0 | 47 | 20 | .2 | 66 | 808 | 430 | 5 | .2 | 900 | 8.3 |
| SE¼NE¼SE¼ sec. 17 | 40 | .06 | 1.2 | 52 | 27 | 250 | 11 | 11 | 549 | 0 | 347 | 40 | .7 | 0 | 1,160 | 240 | 68 | ... | 1,600 | 8.3 |
| SW¼SW¼SE¼ sec. 18 | 100 | .6 | .65 | 272 | 48 | 280 | 20 | 20 | 793 | 0 | 900 | 30 | .4 | 0 | 2,220 | 870 | 44 | ... | 2,800 | 7.4 |
| NW¼NW¼NE¼ sec. 22 | 150 | .01 | 0 | 28 | 7 | 380 | 5 | 5 | 610 | 40 | 450 | 35 | .5 | 4 | 1,280 | 103 | 89 | ... | 1,900 | 7.6 |
| NE¼NW¼NE¼ sec. 25 | 260 | .08 | ... | 72 | 24 | 344 | 13 | 13 | 805 | 0 | 336 | 58 | ... | 0 | 1,360 | 279 | 72 | 9.0 | 2,140 | 7.6 |
| SW¼SW¼SE¼ sec. 25 | 120 | .02 | 1.1 | 108 | 24 | 140 | 10 | 10 | 549 | 40 | 305 | 20 | .4 | 9 | 976 | 370 | 44 | 3.2 | 1,250 | 7.8 |
| NE¼SE¼NW¼ sec. 28 | 26 | 0 | <.1 | 180 | 63 | 135 | 8 | 8 | 586 | 0 | 310 | 40 | .5 | 115 | 1,260 | 710 | 29 | ... | 1,500 | 7.4 |
| SE¼NW¼NE¼ sec. 30 | 65 | .02 | 0 | 192 | 49 | 58 | 10 | 10 | 390 | 0 | 300 | 85 | .3 | 88 | 1,130 | 681 | 15 | ... | 1,450 | 7.7 |
| SE¼NW¼NE¼ sec. 30 | 16 | .01 | .15 | 100 | 24 | 32 | 3 | 3 | 353 | 0 | 175 | 10 | .2 | 18 | 776 | 351 | 16 | ... | 700 | 7.5 |
| SW¼SW¼SE¼ sec. 31 | 65 | .06 | 0 | 104 | 17 | 14 | 6 | 6 | 232 | 0 | 55 | 15 | .2 | 0 | 780 | 330 | 8 | .3 | 700 | 7.4 |
| NW¼SE¼SE¼ sec. 34 | 165 | .09 | .45 | 32 | 0 | 445 | 6 | 6 | 768 | 20 | 360 | 85 | .5 | 9 | 1,520 | 80 | 92 | 22 | 2,000 | 7.4 |
| NW¼NW¼SW¼ sec. 36 3/4 | 126 | 2.1 | ... | 120 | 29 | 209 | 12 | 12 | 497 | 0 | 260 | 30 | ... | 0 | 1,010 | 420 | 45 | 4.4 | 1,340 | 7.7 |
| T. 125 N., R. 78 W. | | | | | | | | | | | | | | | | | | | | |
| NE¼SE¼SE¼ sec. 4 4/4 | 2,472 | .03 | .26 | 289 | 80 | 266 | 23 | 23 | 188 | 0 | 1,260 | 104 | 2.9 | 0 | 2,130 | 1,050 | ... | 3.6 | 2,690 | 7.6 |
| SE¼SE¼SE¼ sec. 4 | 62 | .01 | 0 | 128 | 39 | 8 | 10 | 10 | 390 | 0 | 145 | 10 | .4 | 0 | 740 | 480 | 3 | ... | 900 | 7.5 |
| NW¼SW¼SW¼ sec. 12 | 100 | .01 | .45 | 248 | 58 | 195 | 10 | 10 | 671 | 0 | 535 | 90 | .4 | 24 | 1,750 | 860 | 33 | ... | 2,100 | 7.0 |
| SW¼SW¼NW¼ sec. 13 | 50 | .01 | 0 | 124 | 97 | 185 | 13 | 13 | 464 | 40 | 670 | 30 | .5 | 80 | 1,610 | 710 | 36 | ... | 1,800 | 7.6 |
| NE¼SE¼SW¼ sec. 15 | 28 | .01 | 0 | 92 | 29 | 33 | 13 | 13 | 390 | 0 | 45 | 15 | .4 | 31 | 584 | 350 | 16 | ... | 750 | 7.8 |

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) |
|--|---------|--------|-----|-----|-----|-----|-----|-----|-------|------|-------|------|------|------|-------|-------|-------|------|------|-------|------|
| T. 125 N., R. 78 W. (continued) | | | | | | | | | | | | | | | | | | | | | |
| SW $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27 | 6-15-64 | 2,298 | .22 | ... | 152 | 36 | 620 | 10 | 232 | 0 | 1,250 | 315 | ... | 0 | ... | ... | ... | 71 | ... | 3,800 | ... |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32 | 6-29-65 | 110 | 1 | .3 | 24 | 0 | 160 | 4 | 500 | 0 | 65 | 30 | .8 | 9 | 640 | 60 | 84 | ... | ... | 900 | 7.4 |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33 | 3-17-64 | 28 | .04 | ... | 136 | 39 | 276 | 10 | 427 | ... | 670 | 60 | .5 | 0 | ... | ... | 500 | 54 | ... | 2,000 | ... |
| T. 125 N., R. 79 W. | | | | | | | | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22 | 6-29-65 | 80 | .46 | .8 | 80 | 27 | 26 | 4 | 367 | 0 | 45 | 35 | .2 | 4 | 372 | 310 | 15 | ... | ... | 700 | 7.3 |
| T. 126 N., R. 74 W. | | | | | | | | | | | | | | | | | | | | | |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6 | 6-23-65 | 40 | .18 | 0 | 457 | 224 | 57 | 14 | 488 | 0 | 1,180 | 160 | .6 | 381 | 3,510 | 2,060 | 6 | ... | ... | 4,380 | 7.0 |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6 | 6-23-65 | 202 | 6.3 | .45 | 76 | 7 | 470 | 10 | 1,080 | 0 | 315 | 90 | .5 | 0 | 1,760 | 220 | 82 | 14 | ... | 1,550 | 7.6 |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9 | 6-23-65 | 105 | .1 | 1.7 | 196 | 12 | 100 | 10 | 475 | 0 | 425 | 20 | .4 | 0 | 1,050 | 530 | 21 | ... | ... | 1,300 | 7.5 |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11 | 6-23-65 | 35 | 0 | 0 | 104 | 46 | 13 | 11 | 476 | 0 | 100 | 40 | .2 | 26 | 592 | 450 | 6 | ... | ... | 900 | 7.4 |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12 | 6-23-65 | 220 | 4.9 | 0 | 108 | 63 | 450 | 10 | 1,290 | 0 | 325 | 100 | .5 | 9 | 1,750 | 530 | 64 | ... | ... | 2,200 | 7.2 |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18 | 6-23-65 | 50 | 1.1 | .30 | 288 | 41 | 50 | 5 | 634 | 0 | 500 | 15 | .4 | 0 | 1,280 | 890 | 11 | ... | ... | 1,500 | 7.0 |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22 | 6-23-65 | 190 | .60 | <.1 | 152 | 34 | 116 | 10 | 488 | 0 | 330 | 10 | .3 | 0 | 912 | 520 | 32 | ... | ... | 1,300 | 7.4 |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23 | 6-23-65 | 50 | 1.2 | <.1 | 196 | 97 | 76 | 11 | 549 | 0 | 580 | 30 | .4 | 13 | 1,400 | 890 | 15 | ... | ... | 1,600 | 7.0 |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28 | 6-13-64 | 12 | 0 | ... | 136 | 107 | 207 | 9 | 512 | ... | 770 | 35 | .5 | 0 | ... | ... | 780 | 36 | 3.2 | 2,100 | ... |
| NE $\frac{1}{4}$ sec. 29 | 7-1-64 | Dugout | .01 | ... | 160 | 185 | 400 | 10 | 122 | ... | 1,850 | 20 | .7 | ... | ... | ... | 1,160 | 43 | ... | 3,600 | ... |
| T. 126 N., R. 75 W. | | | | | | | | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3 | 6-25-65 | 150 | .54 | .3 | 76 | 22 | 440 | 12 | 658 | 0 | 500 | 25 | .7 | 0 | 1,850 | 280 | 80 | 12 | ... | 2,200 | 7.8 |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4 | 1-29-65 | 30 | 0 | ... | 72 | 15 | 3 | 5 | 329 | ... | 0 | 5 | .4 | 13 | ... | ... | 240 | 3 | ... | 550 | ... |
| NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4 | 1-29-65 | 30 | 0 | ... | 68 | 19 | 4 | 7 | 305 | ... | 0 | 5 | .4 | 13 | ... | ... | 250 | 3 | ... | 550 | ... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | 6-24-65 | 80 | 2.2 | 1.7 | 252 | 63 | 106 | 11 | 549 | 0 | 655 | 10 | .5 | 9 | 1,530 | 890 | 20 | ... | ... | 1,700 | 6.9 |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15 | 6-24-65 | 80 | .06 | <.1 | 477 | 488 | 220 | 5 | 354 | 40 | 2,800 | 135 | 1.4 | 243 | 6,220 | 3,200 | 13 | ... | ... | 7,400 | 7.2 |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15 | 6-24-65 | 24 | .15 | .65 | 240 | 108 | 40 | 22 | 573 | 0 | 715 | 60 | 1.1 | 0 | 1,970 | 1,050 | 8 | ... | ... | 1,400 | 7.4 |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21 | 6-24-65 | 110 | 1.3 | 1.5 | 180 | 19 | 55 | 6 | 451 | 0 | 330 | 5 | .4 | 0 | 1,710 | 530 | 18 | ... | ... | 1,100 | 6.9 |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32 | 6-25-65 | 12 | .05 | .2 | 272 | 160 | 115 | 27 | 670 | 0 | 900 | 5 | .4 | 142 | 3,140 | 1,340 | 15 | ... | ... | 2,800 | 7.5 |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33 | 6-25-65 | 20 | .18 | 0 | 100 | 29 | 12 | 5 | 354 | 0 | 150 | 15 | .3 | 22 | 592 | 370 | 6 | ... | .3 | 800 | 7.3 |
| T. 126 N., R. 76 W. | | | | | | | | | | | | | | | | | | | | | |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3 | 6-12-64 | 30 | .04 | ... | 116 | 22 | 64 | 7 | 390 | ... | 200 | 10 | .1 | 0 | ... | ... | 380 | 26 | 1.4 | 1,000 | ... |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15 | 6-24-65 | 16 | 0 | 0 | 116 | 63 | 56 | 11 | 439 | 0 | 255 | 30 | .3 | 18 | 828 | 561 | 18 | 1.0 | 1.0 | 1,100 | 7.4 |
| NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 $\frac{5}{1}$ | 7-13-64 | 69 | .3 | .63 | 77 | 20 | 455 | 11 | 783 | ... | 529 | 54 | .3 | 0 | 1,640 | 278 | ... | ... | ... | 2,170 | 7.5 |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 $\frac{5}{1}$ | 7- -58 | 59 | .3 | .8 | 57 | 20 | 361 | 9 | 515 | ... | 518 | 31 | .5 | 0 | 1,310 | 226 | ... | ... | ... | ... | 7.5 |
| SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 | 3-18-64 | 22 | .01 | ... | 128 | 78 | 188 | 14 | 500 | ... | 460 | 60 | .2 | 80 | ... | ... | 640 | 38 | 3.2 | 1,800 | ... |

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) |
|--|--|---------|-------|-----|-----|-----|-----|-----|-----|-------|------|-------|------|------|------|-------|-------|-------|------|-------|------|
| T. 126 N., R. 76 W. (continued) | | | | | | | | | | | | | | | | | | | | | |
| | NE $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18 | 4-14-65 | 2,189 | .02 | ... | 280 | 73 | 230 | 21 | 256 | ... | 1,150 | 120 | .5 | 0 | ..... | 1,000 | 33 | ... | 2,600 | ... |
| | NE $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18 | 4- -66 | 2,189 | 4.3 | ... | 328 | 90 | 295 | 27 | ..... | ... | 1,170 | ... | ... | 0 | ..... | 1,200 | 34 | ... | ..... | ... |
| | SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 24 | 6-24-65 | 60 | .80 | 1.5 | 188 | 41 | 152 | 12 | 488 | 0 | 475 | 25 | .5 | 0 | 1,440 | 640 | 34 | 2.6 | 1,500 | 7.5 |
| T. 126 N., R. 77 W. | | | | | | | | | | | | | | | | | | | | | |
| | NE $\frac{1}{2}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 1 | 3-19-64 | 42 | 0 | ... | 128 | 54 | 56 | 5 | 439 | ... | 150 | 45 | .1 | 62 | ..... | 540 | 18 | ... | 1,200 | ... |
| | SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17 | 6-25-65 | 65 | .14 | .1 | 32 | 10 | 360 | 10 | 683 | 0 | 365 | 10 | .3 | 0 | 1,240 | 120 | 85 | ... | 1,700 | 7.9 |
| | NE $\frac{1}{4}$ sec. 23 | 6-7-65 | 45 | .15 | ... | 68 | 12 | 260 | 8 | 561 | ... | 250 | 5 | .6 | 4 | ..... | 222 | 71 | ... | 1,450 | ... |
| | SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24 | 3-18-64 | 100 | .13 | ... | 32 | 15 | 282 | 5 | 536 | ... | 285 | 5 | .4 | 0 | ..... | 140 | 81 | ... | 1,400 | ... |
| | SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24 | 9-17-64 | 100 | .01 | ... | 36 | 7 | 245 | 5 | 500 | ... | 190 | 25 | .5 | 9 | ..... | 120 | 80 | ... | 1,350 | ... |
| T. 126 N., R. 78 W. | | | | | | | | | | | | | | | | | | | | | |
| | NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3 | 6-29-65 | 46 | .28 | .9 | 136 | 41 | 50 | 5 | 390 | 0 | 340 | 30 | .2 | 0 | 892 | 510 | 17 | ... | 1,200 | 7.3 |
| T. 127 N., R. 74 W. | | | | | | | | | | | | | | | | | | | | | |
| | SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3 | 6-22-65 | 17 | .02 | <.1 | 168 | 61 | 49 | 10 | 512 | 0 | 340 | 5 | .3 | 4 | 1,030 | 671 | 13 | ... | 1,300 | 7.8 |
| | SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7 | 6-22-65 | 60 | 0 | <.1 | 184 | 34 | 52 | 14 | 561 | 0 | 250 | 10 | .2 | 4 | 856 | 603 | 15 | ... | 1,200 | 7.3 |
| | NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23 | 6-22-65 | 42 | 0 | .6 | 76 | 34 | 38 | 10 | 354 | 0 | 155 | 15 | .2 | 4 | 528 | 330 | 19 | ... | 700 | 7.4 |
| | SW $\frac{1}{4}$ sec. 28 | 10-8-64 | 30 | 0 | ... | 144 | 29 | 16 | 6 | 414 | ... | 150 | 25 | .4 | 0 | ..... | 480 | 7 | ... | 1,000 | ... |
| | SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29 | 10-8-64 | 60 | 0 | ... | 144 | 34 | 16 | 11 | 475 | ... | 100 | 5 | .5 | 9 | ..... | 500 | 6 | ... | 1,100 | ... |
| | SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29 | 10-8-64 | 56 | 0 | ... | 144 | 34 | 32 | 18 | 341 | ... | 278 | 20 | .4 | 40 | ..... | 500 | 12 | ... | 1,200 | ... |
| T. 127 N., R. 75 W. | | | | | | | | | | | | | | | | | | | | | |
| | NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6 | 6-22-65 | 41 | .25 | .9 | 128 | 29 | 34 | 17 | 463 | 0 | 205 | 30 | .5 | 31 | 820 | 442 | 14 | .7 | 1,120 | 7.2 |
| | NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7 | 6-22-65 | 32 | .04 | 0 | 204 | 68 | 92 | 8 | 439 | 0 | 500 | 50 | .3 | 106 | 1,720 | 791 | 20 | ... | 1,600 | 7.4 |
| | SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9 | 6-22-65 | 45 | .05 | .1 | 152 | 44 | 65 | 13 | 512 | 0 | 260 | 15 | .2 | 4 | 1,040 | 561 | 20 | ... | 1,200 | 7.4 |
| | NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13 | 6-22-65 | 80 | .08 | .9 | 192 | 17 | 190 | 5 | 585 | 0 | 450 | 5 | .5 | 71 | 1,290 | 551 | 43 | ... | 1,750 | 7.4 |
| | SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22 | 6-22-65 | 48 | .03 | 1.2 | 136 | 41 | 245 | 17 | 610 | 0 | 500 | 10 | .3 | 13 | 1,360 | 510 | 50 | ... | 1,800 | 7.8 |
| T. 127 N., R. 76 W. | | | | | | | | | | | | | | | | | | | | | |
| | SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2 | 6-22-65 | 50 | .26 | <.1 | 68 | 12 | 38 | 5 | 390 | 0 | 50 | 10 | .2 | 0 | 484 | 220 | 27 | 1.1 | 600 | 7.8 |
| | SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | 8-9-66 | 220 | .05 | ... | 34 | 7 | 365 | 9 | 697 | 0 | 255 | 39 | ... | 0 | 1,140 | 113 | 87 | 15 | 1,750 | 7.7 |
| | SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5 $\frac{5}{1}$ | 10- -65 | 20 | 0 | .3 | 54 | 39 | 7 | 4 | 317 | ... | 60 | 0 | .2 | ... | 382 | 299 | ... | ... | ..... | 8.3 |
| | SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 7 | 2-20-64 | 185 | .05 | ... | 324 | 175 | 430 | 18 | 585 | ... | 1,800 | 95 | .9 | 62 | ..... | 1,530 | 38 | 4.8 | 4,000 | ... |
| | NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7 $\frac{5}{1}$ | 10- -60 | 20 | 1.1 | .8 | 78 | 33 | 135 | 7 | 398 | ... | 265 | 38 | .2 | ... | 771 | 335 | 46 | 3 | ..... | 8.1 |
| | SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8 $\frac{5}{1}$ | 3- -54 | 27 | 3.0 | ... | 177 | 71 | 255 | ... | 547 | ... | 669 | 69 | ... | 1 | 1,610 | 742 | ..... | 3.8 | ..... | ... |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) |
|---|----------|--------|-----|-----|-----|-----|-----|-----|------|------|-------|------|------|------|-------|-------|------|------|-------|------|
| T. 127 N., R. 76 W. (continued) | | | | | | | | | | | | | | | | | | | | |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8 <u>5</u> / | 2- -57 | 26 | .9 | 1.1 | 83 | 36 | 105 | 6 | 500 | ... | 154 | 17 | ... | ... | 684 | 362 | 39 | 2 | ..... | 7.7 |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8 <u>5</u> / | 10- -60 | 26 | .1 | 3.0 | 63 | 23 | 82 | 8 | 358 | ... | 129 | 9 | .3 | 4 | 548 | 258 | 41 | ... | ..... | 8.4 |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14 | 6-22-65 | 50 | .02 | .1 | 128 | 34 | 30 | 4 | 366 | 0 | 180 | 50 | .1 | 71 | 756 | 460 | 12 | .6 | 950 | 7.1 |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19 | 8-10-66 | 237 | .53 | ... | 43 | 16 | 272 | 8 | 559 | 0 | 275 | 10 | ... | 4 | 904 | 172 | 77 | 8.3 | 1,440 | 7.8 |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25 | 6- -65 | 80 | .78 | <.1 | 84 | 46 | 220 | 5 | 536 | 0 | 345 | 20 | .3 | 57 | 1,300 | 400 | 55 | 4.8 | 1,500 | 7.8 |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30 | 8-10-66 | 224 | 1.6 | ... | 54 | 16 | 186 | 10 | 502 | 0 | 247 | 12 | ... | 6 | 844 | 201 | 66 | 9.0 | 1,380 | 7.8 |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31 | 8-10-66 | 243 | .99 | ... | 58 | 17 | 356 | 11 | 853 | 0 | 195 | 57 | ... | 5 | 1,200 | 217 | 77 | 10 | 2,080 | 7.7 |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | 8-10-66 | 236 | 1.2 | ... | 65 | 12 | 354 | 11 | 678 | 0 | 365 | 27 | ... | 3 | 1,240 | 214 | 81 | 12 | 1,850 | 7.6 |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | 6- -65 | 20 | .65 | <.1 | 116 | 32 | 16 | 6 | 512 | 0 | 57 | 5 | .1 | 62 | 896 | 420 | 8 | .3 | 650 | 7.8 |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | 6- -65 | 270 | 2.8 | .9 | 144 | 29 | 33 | 12 | 390 | 0 | 264 | 20 | .3 | 0 | 1,360 | 480 | 13 | .6 | 1,050 | 7.6 |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32 | 8-10-66 | 235 | 10 | ... | 57 | 15 | 190 | 11 | 507 | 0 | 217 | 8 | ... | 5 | 870 | 204 | 66 | 5.9 | 1,340 | 7.7 |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33 <u>6</u> / | 6-7-67 | 267 | 3.7 | ... | 120 | 24 | 346 | 12 | 902 | 0 | 140 | 138 | ... | 7 | 1,250 | 400 | 65 | 7.7 | 2,000 | 7.7 |
| T. 127 N., R. 77 W. | | | | | | | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4 | 8-10-66 | 212 | .80 | ... | 53 | 7 | 277 | 10 | 575 | 0 | 232 | 9 | ... | 0 | 931 | 162 | 79 | 8.3 | 1,470 | 7.8 |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | 8-10-66 | 200 | .14 | ... | 86 | 23 | 307 | 13 | 819 | 0 | 207 | 107 | ... | 0 | 1,240 | 308 | 68 | 7.6 | 2,030 | 7.7 |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5 | 12-11-64 | 25 | .01 | ... | 76 | 36 | 180 | 7 | 341 | 0 | 300 | 70 | ... | 0 | ..... | 340 | 53 | 4.3 | 950 | ... |
| SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10 | 11-25-64 | Dugout | .8 | ... | 68 | 17 | 11 | 21 | 317 | 0 | 50 | 5 | .4 | 2 | ..... | 240 | 9 | .3 | 575 | ... |
| NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 10 | 11-25-64 | 11 | 0 | ... | 152 | 78 | 114 | 11 | 341 | 0 | 400 | 30 | .4 | 64 | ..... | 700 | 26 | ... | 1,800 | ... |
| SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13 | 6- -65 | 223 | 3.0 | 0 | 96 | 5 | 335 | 10 | 866 | 60 | 255 | 75 | .4 | 0 | 1,440 | 260 | 73 | 9 | 1,750 | 8.1 |
| NW $\frac{1}{4}$ sec. 21 | 3- -68 | 2,266 | .62 | ... | 292 | 77 | 285 | 22 | 195 | 0 | 1,370 | 152 | ... | 2 | ..... | 1,050 | 37 | 3.8 | 2,860 | 7.2 |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21 | 6- 65 | 85 | .07 | 0 | 500 | 158 | 480 | 5 | 597 | 0 | 2,150 | 80 | 1.2 | 84 | 4,750 | 1,900 | 36 | ... | 5,400 | 7.6 |
| NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23 | 8-10-66 | 235 | .10 | ... | 38 | 11 | 511 | 8 | 780 | 0 | 400 | 85 | ... | 5 | 1,530 | 139 | 88 | 19 | 2,360 | 7.7 |
| T. 127 N., R. 78 W. | | | | | | | | | | | | | | | | | | | | |
| SW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5 | 6- -65 | 40 | .3 | 0 | 48 | 5 | 240 | 5 | 561 | 60 | 275 | 15 | 1.2 | 0 | 824 | 140 | 78 | ... | 1,250 | 8.2 |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5 | 8-24-66 | 2,362 | .17 | ... | 208 | 50 | 305 | 22 | 190 | 0 | 1,170 | 272 | ... | 0 | 2,300 | 724 | 47 | 4.9 | 3,020 | 7.5 |
| SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20 <u>7</u> / | 8-14-62 | 2,492 | 2.9 | .40 | 139 | 45 | 500 | 17 | 187 | 0 | 1,180 | 159 | 2.8 | 1 | 2,330 | 534 | 66 | 9.4 | 3,150 | 7.3 |
| T. 128 N., R. 74 W. | | | | | | | | | | | | | | | | | | | | |
| NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4 | 6- -65 | 70 | .24 | .9 | 60 | 24 | 400 | 12 | 671 | 60 | 535 | 40 | 0.8 | 0 | 1,550 | 250 | 77 | ... | 2,100 | 8.0 |
| SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28 | 6- -65 | 30 | .09 | <.1 | 184 | 122 | 115 | 10 | 354 | 0 | 335 | 155 | 0.5 | 407 | 2,100 | 960 | 20 | 1.6 | 2,200 | 7.0 |
| NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28 | 6- -65 | 100 | .5 | 0 | 72 | 29 | 450 | 17 | 683 | 40 | 650 | 70 | 0.5 | 0 | 1,890 | 300 | 75 | ... | 2,050 | 8.2 |

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) |
|---------------------|---|---------|-------|------|-----|-----|-----|-------|-----|-------|------|-------|-------|------|------|-------|-------|------|------|-------|------|
| T. 128 N., R. 75 W. | | | | | | | | | | | | | | | | | | | | | |
| | NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1 | 6- -65 | 65 | .7 | .45 | 124 | 71 | 160 | 12 | 585 | 0 | 395 | 35 | 0.4 | 0 | 1,280 | 600 | 36 | ... | 1,200 | 8.0 |
| | NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9 | 6- -65 | 70 | .80 | .6 | 28 | 2.4 | 15 | 5 | 146 | 0 | 45 | 5 | 0.4 | 8.8 | 232 | 80 | 27 | ... | 300 | 7.0 |
| | NE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21 | 6- -65 | 65 | .93 | .10 | 64 | 41 | 76 | 12 | 585 | 0 | 105 | 20 | 0.4 | 0 | 628 | 330 | 33 | ... | 1,000 | 7.7 |
| | NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21 | 6- -65 | 36 | 1.4 | 0 | 244 | 63 | 78 | 13 | 451 | 20 | 460 | 75 | 0.4 | 0 | 1,410 | 870 | 16 | ... | 1,550 | 7.8 |
| | SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33 | 6- -65 | 16 | .04 | 0 | 168 | 39 | 69 | 7 | 610 | 0 | 145 | 60 | 0.4 | 75 | 928 | 580 | 20 | 1.2 | 1,300 | 7.9 |
| T. 128 N., R. 76 W. | | | | | | | | | | | | | | | | | | | | | |
| | SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2 | 6- -65 | 65 | 3.4 | <.1 | 128 | 32 | 14 | 8 | 402 | 0 | 190 | 10 | 0.5 | 0 | 788 | 450 | 6 | ... | 1,000 | 7.5 |
| | NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5 | 1-21-65 | 116 | .02 | ... | 156 | 51 | 252 | 8 | 731 | ... | 500 | 5 | 0.3 | 22 | ... | 600 | 47 | ... | 1,900 | ... |
| | SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7 | 1-22-65 | 135 | .01 | ... | 84 | 15 | 432 | 6 | 975 | ... | 400 | 5 | 0.3 | 9 | ... | 269 | 77 | ... | 2,100 | ... |
| | NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19 | 6- -65 | 21 | 2.7 | 1.1 | 144 | 54 | 68 | 7 | 390 | 0 | 445 | 15 | 0.4 | 0 | 1,080 | 580 | 20 | ... | 1,400 | 7.2 |
| | NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27 | 6- -65 | 65 | 0.35 | .25 | 120 | 29 | 12 | 6 | 463 | 0 | 95 | 20 | 0.4 | 4 | 564 | 421 | 6 | .3 | 820 | 7.6 |
| | NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | 5-25-65 | 280 | ... | <.1 | 8 | 5 | 800 | 5 | 1,020 | 80 | 0 | 700 | ... | 0 | ... | 40 | 97 | ... | 3,400 | ... |
| | NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | 6- -65 | 280 | 1.7 | .1 | 16 | 0 | 840 | 8 | 963 | 60 | 50 | 800 | 0.6 | 0 | 2,270 | 39 | 97 | ... | 3,600 | 8.1 |
| T. 128 N., R. 77 W. | | | | | | | | | | | | | | | | | | | | | |
| | NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 1 | 6- -65 | 52 | 0 | 0.1 | 160 | 41 | 72 | 6 | 451 | 0 | 390 | 15 | 0.3 | 9 | 1,110 | 570 | 21 | ... | 1,270 | 7.4 |
| | SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9 | 6-1-64 | 50 | 0.07 | ... | 200 | 330 | 1,300 | 10 | 622 | 0 | 4,000 | 25 | 1.0 | 15 | ... | 1,860 | 60 | ... | 8,750 | ... |
| | SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27 | 8-10-66 | 165 | .17 | ... | 69 | 49 | 344 | 15 | 922 | 0 | 212 | 56 | ... | 3 | 1,160 | 376 | 65 | 7.7 | 1,780 | 7.4 |
| | NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36 | 6-14-60 | 10 | .4 | ... | 528 | 141 | 400 | 7 | 695 | 0 | 2,000 | 100 | ... | 0 | ... | 1,900 | ... | ... | 5,500 | ... |
| T. 128 N., R. 78 W. | | | | | | | | | | | | | | | | | | | | | |
| | SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3 | 6- -65 | 25 | 0 | <.1 | 176 | 55 | 110 | 6 | 500 | 0 | 505 | 5 | .4 | 0 | 1,370 | 650 | 26 | 1.9 | 1,400 | 7.9 |
| | SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10 | 6- -65 | 18 | 0 | .1 | 136 | 56 | 32 | 5 | 402 | 0 | 350 | 15 | .3 | 22 | 1,180 | 570 | 11 | .6 | 1,240 | 7.7 |
| | SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16 | 2- -57 | 198 | 2.8 | 0 | 73 | 33 | 368 | 13 | 915 | ... | 205 | 109 | .2 | 0 | 1,310 | 321 | 70 | 9 | ... | 7.8 |
| | SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16 | 6- -60 | 198 | 2.7 | 0 | 83 | 29 | 363 | 12 | 893 | ... | 233 | 110 | .3 | 0 | 1,300 | 331 | ... | ... | ... | 7.4 |
| | SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16 | 7- -61 | 232 | 2.0 | 0 | 80 | 28 | 352 | 12 | 872 | ... | 229 | 105 | .3 | 0 | 1,290 | 319 | 70 | ... | ... | 7.5 |
| | NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21 <u>8/</u> | 6-7-67 | 225 | 1.8 | ... | 92 | 17 | 308 | 10 | 683 | 0 | 355 | 40 | ... | 4 | 1,470 | 300 | 68 | 7.8 | 1,840 | 7.8 |
| | NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28 | 6- -65 | 35 | .24 | .1 | 204 | 29 | 20 | 6 | 414 | 0 | 265 | 115 | .5 | 17 | 1,100 | 633 | 6 | .3 | 1,270 | 7.4 |
| | NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31 | 6- -65 | 180 | 6.9 | .62 | 80 | 24 | 460 | 5 | 719 | 60 | 650 | 5 | .4 | 31 | 2,290 | 300 | 77 | 12 | 2,600 | 8.1 |
| | NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | 6- -65 | 42 | 0 | 0 | 408 | 112 | 310 | 5 | 585 | 0 | 500 | 810 | .4 | 155 | 3,610 | 1,480 | 31 | ... | 4,200 | 7.4 |
| | NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | 7-12-65 | 42 | ... | ... | 360 | 112 | 430 | 10 | 524 | 40 | 466 | 890 | ... | 27 | ... | 1,360 | 40 | ... | 4,400 | ... |
| | NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35 | 6- -65 | 2,300 | .61 | <.1 | 20 | 7 | 2,200 | 0 | 670 | 0 | 250 | 2,850 | .5 | 0 | 7,200 | 801 | 98 | ... | 8,800 | 8.0 |

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) |
|--|--------|-----|-----|-----|-----|-----|-----|-----|------|------|-------|------|------|------|-------|-------|------|------|-------|------|
| T. 128 N., R. 79 W. | | | | | | | | | | | | | | | | | | | | |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5 | 6- -65 | 50 | .17 | 2.0 | 92 | 34 | 22 | 6 | 427 | 0 | 104 | 5 | .3 | 0 | 724 | 370 | 11 | .5 | 750 | 8 |
| NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10 | 6- -65 | 100 | 4.0 | .1 | 328 | 66 | 184 | 7 | 914 | 0 | 710 | 25 | .5 | 35 | 2,110 | 1,090 | 26 | ... | 2,000 | 7.7 |
| SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11 <u>6/</u> | 6-7-67 | 170 | .27 | ... | 80 | 19 | 185 | 9 | 610 | 0 | 170 | 6 | ... | 0 | 924 | 280 | 58 | 4.8 | 1,260 | 7.6 |
| NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12 | 6- -65 | 40 | .44 | <.1 | 176 | 92 | 390 | 10 | 817 | 0 | 1,050 | 10 | .8 | 0 | 2,590 | 822 | 52 | ... | 2,900 | 8.0 |

¹Boron (B), 0.93

²Boron (B), 0.73

³Boron (B), 1.00

⁴Analysis by U. S. Geological Survey
Boron (B), .42

⁵Analysis by S. D. Department of Public Health

⁶Boron (B), 0.70

⁷Analysis by U. S. Geological Survey
Boron (B), .47

⁸Boron (B), 0.67

Table 4.--Logs of test holes and wells in Campbell County,
South Dakota

(for location see figure 2)

Abbreviations

USGS - United States Geological Survey
SDGS - South Dakota Geological Survey
USBR - United States Bureau of Reclamation
USCE - United States Army Corps of Engineers
WRC - South Dakota Water Resources Commission
P - Private well driller
RTH - Rotary test hole
ATH - Auger test hole

Drilled: First set of letters indicate who drilled the test hole or well. The second set of letters show type of drilling method, when known (See abbreviations above.)

Elevation: Given in feet above mean sea level and obtained by instrument, U. S. Geological Survey New Series 7½ minute topographic maps, or by altimeter.

The term "till" where used in the following logs refers to a heterogeneous mixture of clay, silt, sand, gravel, and boulders more commonly known as "boulder clay."

Location: SW¼SW¼SW¼NW¼ sec. 6, T. 125 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1731 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Road fill and coarse gravel | 0- 8 |
| Clay, light-brown | 8- 15 |
| Clay, gray, silty | 15-105 |
| Gravel, pea-size | 105-110 |
| Clay, gray | 110-150 |
| No sample; drills like gravel | 150-157 |
| Clay, gray, pebbly | 157-240 |
| Gravel, marble-size | 240-245 |
| Clay, gray, very pebbly | 245-260 |
| Gravel, very high shale pebble content and much coal | 260-290 |
| Gravel, higher shale pebble content than above | 290-320 |
| Shale, green clay, bentonite and limestone fragments from 340 to 360 feet; gray clay and white marl from 360 to 375 feet; (Pierre Shale) | 340-375 |

* * * * *

Location: SW¼SW¼SW¼SW¼ sec. 7, T. 125 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1753 feet (Altimeter)

| Material | Depth (feet) |
|-------------------|-----------------|
| Clay, light-brown | 0- 5 |

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 125 N., R. 74 W. (continued)

| | |
|---|---------|
| Sand | 5- 7 |
| Clay, brown, (till) | 7- 21 |
| Clay, gray, silty, (till) | 21- 79 |
| Gravel, pea-size, some coal | 79-111 |
| Clay, gray, (till) | 111-170 |
| Gravel, much clay, some laminated fine sands | 170-200 |
| Gravel, less clay | 200-240 |
| Gravel and some clay | 240-250 |
| Gravel, fine, well-sorted | 250-280 |
| Sand, coarse, well-sorted | 280-320 |
| Sand, coarse and fine gravel | 320-340 |
| Gravel and sand, clay stringers from 360-375 feet | 340-375 |
| Gravel and clay; rock at 390 feet | 375-390 |

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 125 N., R. 74 W.

Drilled: SDGS, ATH

Elevation: 1735 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, olive-brown, pebbly | 0- 2 |
| Sand, brown, fine to medium from 2 to 34 feet, medium to coarse from 34 to 74 feet | 2- 74 |
| Sand, gray, medium, becoming clayey | 74-104 |
| Clay, gray; much sand in samples | 104-129 |
| Clay, gray-brown, sandy | 129-144 |
| Clay, gray, pebbly | 144-149 |

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 125 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1773 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown | 0- 33 |
| Clay, gray, pebbly, silty from 33 to 80 feet and from 185 to 235 feet | 33-235 |
| Clay, black, sandy, and reddish-brown clay | 235-246 |
| Clay, pebbly, ("E" log shows sand and gravel from 293 to 324 feet but only a little gravel in cuttings); rock at 319 feet | 246-319 |
| Clay, pebbly | 319-325 |
| Clay, dark-gray, (Pierre Shale) | 325-335 |

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 125 N., R. 74 W.

Drilled: SDGS, ATH

Elevation: 1773 feet (Altimeter)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 125 N., R. 74 W. (continued)

| Material | Depth (feet) |
|--|-----------------|
| Clay, dark-brown at 14 feet, gray-brown at 33 feet; sandy, pebbly | 0- 39 |
| Clay, gray, pebbly; must have drilled through thin sand layers as fine sand in cuttings | 39-149 |

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 125 N., R. 74 W.
Drilled: SDGS, RTH
Elevation: 1757 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown | 0- 17 |
| Clay, gray | 17- 95 |
| Clay, brown (cavings from above) | 95-114 |
| Gravel | 114-120 |
| Clay, gray, pebbly, gravel stringers from 220 to 285 feet | 120-285 |
| Gravel, medium | 285-306 |
| Clay, gray, (till) | 306-346 |
| Gravel, very clayey, rock at 253 feet | 346-353 |
| Gravel and clay interbedded, and pebbly clay; cuttings mostly clay with some gravel from 365 to 380 feet, from 395 to 401 feet, from 419 to 422 feet, and from 430 to 435 feet; some white clay and sandy cuttings from 422 to 430 feet | 353-435 |
| Shale, black, waxy, very tough, (Pierre Shale) | 435-445 |

* * * * *

Location: NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T. 125 N., R. 74 W.
Drilled: SDGS, ATH
Elevation: 1772 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Silt, tan, contains small pebbles (looks like loess) | 1- 4 |
| Till, brown | 4- 9 |
| Till, dark-brown | 9- 24 |

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 125 N., R. 74 W.
Drilled: SDGS, ATH
Elevation: 1763 feet (Altimeter)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 125 N., R. 74 W. (continued)

| | |
|---|--------|
| Topsoil | 0- 2 |
| Clay, brown, pebbly, sandy | 2- 9 |
| Clay, brown, about 30 percent fine sand | 9- 29 |
| Clay, gray, pebbly, about 20 percent sand | 29-149 |

Depth to water: 9 feet

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 125 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1763 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown | 0- 15 |
| Clay, gray | 15- 35 |
| Sand, 50 percent shale, interbedded with gray sandy clay (lacustrine?) | 35- 50 |
| Clay, gray, silty | 50- 96 |
| Silt, gray, sandy, clay stringers from 107 to 120 feet | 96-120 |
| Clay, gray, silty | 120-170 |
| Silt, gray, sandy, with clay stringers | 170-201 |
| Gravel, pea-size | 201-215 |
| Clay, gray, tough | 215-235 |
| Gravel | 235-240 |
| Clay, gray, tough | 240-260 |
| Gravel | 260-287 |
| Clay, gray, many gravel stringers | 287-310 |
| Clay, light- to medium-gray, bentonite, (Pierre Shale) | 310-335 |

* * * * *

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27, T. 125 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1790 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Silt, black, topsoil | 0- 4 |
| Clay, light-gray | 4- 5 |
| Clay, brown, silty | 5- 20 |
| Clay, gray | 20- 35 |
| Clay, gray, silty | 35- 80 |
| Sand | 80- 90 |
| Clay, gray | 90-100 |
| Gravel, walnut-size | 100-133 |
| Clay, medium-gray, silty, (lacustrine?) | 133-170 |
| Clay, dark-gray, tough | 170-185 |
| Poor sample return; getting shale chips and gray clay; probably bedrock (see "E" log) | 185-310 |
| Clay, dark-gray, tough, (Pierre Shale) | 310-335 |

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 125 N., R. 74 W.
 Drilled: SDGS, ATH
 Elevation: 1763 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Sand, reddish-brown, well-sorted, fine to coarse; coarser from 4 to 9 feet | 0- 9 |
| Sand and gravel | 9- 14 |
| Gravel, very coarse, and sand | 14- 19 |

* * * * *

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 125 N., R. 74 W.
 Drilled: SDGS, RTH
 Elevation: 1845 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, gray-brown, from 19 to 24 feet | 0- 24 |
| Clay, gray, rocky | 24-103 |
| Clay, gray, slightly sandy, (shale) | 103-125 |

* * * * *

Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 125 N., R. 74 W.
 Drilled: SDGS, RTH
 Elevation: Not measured

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 2 |
| Clay, light-gray | 2- 5 |
| Clay, brown, tough | 5- 19 |
| Gravel, 5 percent shale pebbles | 19- 27 |
| Clay, gray, silty | 27- 34 |
| Sand, with clay stringers from 48 to 60 feet | 34- 60 |
| Clay, gray | 60-120 |
| Shale | 120-140 |

* * * * *

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 125 N., R. 75 W.
 Drilled: SDGS, RTH
 Elevation: 1810 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Till, oxidized, limestone boulder at 16 feet | 0- 20 |
| Sand, reddish-brown, coarse | 20- 30 |
| Till, oxidized | 30- 35 |
| Sand, oxidized, coarse | 35- 45 |
| Till, unoxidized | 45- 55 |

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 125 N., R. 75 W. (continued)

| | |
|--|---------|
| Sand, oxidized, medium, clean, well-sorted | 55- 70 |
| Till, unoxidized, sand stringers from 70 to 80 feet | 70- 95 |
| Sand, medium | 95-103 |
| Till, unoxidized | 103-117 |
| Gravel and rocks, loose coarse sand from 125 to 140 feet becoming gravelly near base and contains abundant shale pebbles, a little coal from 140 to 155 feet | 117-155 |
| Sand, coarse to fine gravel, coal abundant | 155-170 |
| Gravel, medium, more coal, large shale pebbles | 170-195 |
| Clay, gray, gravelly, and gravel stringers from 225 to 230 feet, and from 248 to 251 feet (till) | 195-260 |
| Sand, gray, very fine, silty, clayey, laminated, gravelly from 273 to 275 feet | 260-290 |
| Clay, from 290 to 297 feet; sand, very fine, silty from 297 to 305 feet | 290-305 |
| Clay, silty and sandy, some black, very fine sand; 320 to 335 feet has no black cuttings | 305-338 |
| Shale, medium-gray, silty, crumbly, (Pierre Shale) | 338-355 |

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 125 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1748 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil | 0- 2 |
| Clay, dark-brown, turning olive-gray at 44 feet and gray at 49 feet, pebbly, sandy | 2- 79 |
| Clay, gray, sand content about 20 per cent at 79 feet, increasing gradually to about 35 per cent at 147 feet | 79-147 |
| Gravel, gray-brown, clayey; (oxidized zone on older till?) | 147-149 |

* * * * *

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T. 125 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1818 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil, black | 0- 4 |
| Clay, brown, pebbly, sandy | 4- 24 |
| Clay, brown, silty, very few pebbles; samples show laminations but hard to tell if it is primary or from auger torsions; must be loess or lacustrine | 24- 44 |
| Clay, gray, pebbly, some sand; bit sample shows till | 44-149 |

Depth to water: 12 feet

* * * * *

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 125 N., R. 75 W.
 Drilled: SDGS, RTH
 Elevation: 1781 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown (till) | 0- 30 |
| Clay, gray, (till) | 30- 90 |
| Gravel, fine to medium, clayey | 90-100 |
| Clay, gray, gravel stringers, (till) | 100-130 |
| Sand, gray, fine, clayey and silty, a few gravel stringers | 130-166 |
| Clay, gray, sandy, silty below 200 feet; occasional small pebbles, (not till) | 166-233 |
| Gravel, fine to medium, coal and shale pebbles abundant; coarse, loose gravel from 375 to 393 feet, clay beds interbedded | 233-396 |
| Shale, medium-gray clay, (Pierre Shale) | 396-415 |

* * * * *

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 125 N., R. 75 W.
 Drilled: SDGS, ATH
 Elevation: 1797 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 2 |
| Clay, dark-brown, gray at 39 feet, pebbly, sandy, unoxidized at 39 feet | 2-119 |
| Clay, brown, gravelly; oxidized zone on older till? | 119-124 |

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 125 N., R. 75 W.
 Drilled: SDGS, ATH
 Elevation: 1744 feet (Altimeter)

| Material | Depth (feet) |
|---------------------------|-----------------|
| Sand, brown | 0- 4 |
| Clay, brown, pebbly | 4- 14 |
| Clay, gray, pebbly, sandy | 14-149 |

* * * * *

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15, T. 125 N., R. 75 W.
 Drilled: SDGS, RTH
 Elevation: 1746 feet (Altimeter)

| Material | Depth (feet) |
|---------------------|-----------------|
| Clay, brown, (till) | 0- 27 |
| Clay, gray, (till) | 27- 80 |

Location: NW¼NW¼NW¼NW¼ sec. 15, T. 125 N., R. 75 W. (continued)

| | |
|--|---------|
| Sand, gray, fine, (outwash) | 80-110 |
| Clay, gray, sandy, pebbly, (till) | 110-136 |
| Gravel, shale pebbles abundant | 136-156 |
| Clay, gray, sand, (till) | 156-216 |
| Gravel, fine, and some sand, clay interbedded; some fine black sand | 216-300 |
| Gravel, coal abundant, fine | 300-310 |
| Clay, gray, gravelly, sandy and pebbly; less clay towards bottom | 310-356 |
| Shale, light-gray, brittle, silty, may be reworked shale from 356 to 375 feet, (Pierre Shale) | 356-415 |

* * * * *

Location: SW¼SW¼SW¼SW¼ sec. 19, T. 125 N., R. 75 W.

Drilled: SDGS, RTH

Elevation: 1750 feet (Altimeter)

| Material | Depth (feet) |
|----------------------------|-----------------|
| Clay, brown, (till) | 0- 28 |
| Clay, gray, (till) | 28-140 |
| Clay, gray, (till) | 140-170 |
| Clay, gray, pebbly, (till) | 170-240 |
| Clay, gravelly, (till) | 240-243 |
| Shale, (Pierre Shale) | 243-260 |

* * * * *

Location: SW¼SW¼SW¼SW¼ sec. 22, T. 125 N., R. 75 W.

Drilled: SDGS, RTH

Elevation: 1785 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Till, unoxidized at 18 feet, gravel from 5 to 10 feet and from 18 to 24 feet | 0- 35 |
| Gravel, medium to coarse, sandy from 50 to 65 feet and from 105 to 130 feet, rocks from 75 to 80 feet, shale pebbles abundant | 35-130 |
| Till, gray, sandy | 130-174 |
| Shale, greenish, crumbly, (Pierre Shale) | 174-195 |

* * * * *

Location: SW¼SW¼NW¼SW¼ sec. 23, T. 125 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1758 feet (Altimeter)

| Material | Depth (feet) |
|----------|-----------------|
| Topsoil | 0- 1 |

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 125 N., R. 75 W. (continued)

| | |
|--|--------|
| Sand, brown, fine to coarse | 1- 4 |
| Sand, brown, fine to coarse, some clay | 4- 9 |
| Sand, brown, fine to coarse, some gravel | 9- 14 |
| Sand, light- to dark-gray, fine to coarse, some gravel | 14- 27 |
| Gravel, dark-gray, fine to coarse | 27- 29 |
| Clay, dark-gray, with fine to coarse sand, large rock from 70 to 71 feet, rock at 80 feet, gravel or rock from 94 to 96 feet | 29- 96 |
| Till, dark-gray, pebbly | 96-119 |

Depth to water: 7 feet

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 125 N., R. 75 W.
Drilled: SDGS, ATH
Elevation: 1755 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Sand, tan, fine to coarse | 1- 7 |
| Sand, black, fine to coarse | 7- 9 |
| Sand, light-gray, fine to coarse, clayey | 9- 14 |
| Sand, gray, very coarse, with rocks | 14- 32 |
| Clay, with fine to coarse sand | 32- 44 |
| Till, dark-gray | 44- 69 |

Depth to water: 7 feet

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T. 125 N., R. 75 W.
Drilled: SDGS, ATH
Elevation: 1770 feet (Altimeter)

| Material | Depth (feet) |
|-------------------------------------|-----------------|
| Sand, tan, silty | 0- 4 |
| Sand, reddish-brown, fine to coarse | 4- 16 |
| Large rock | 16- 17 |
| Clay, dark-gray, pebbly, sandy | 17- 24 |

* * * * *

Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 125 N., R. 75 W.
Drilled: SDGS, ATH
Elevation: 1786 feet (Altimeter)

| Material | Depth (feet) |
|------------------------------------|-----------------|
| Sand, brown, fine to coarse, silty | 0- 7 |

Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 125 N., R. 75 W. (continued)

| | |
|---|--------|
| Sand, dark-brown, fine to coarse, silty | 7- 9 |
| Sand, dark-brown, coarse, gravelly | 9- 14 |
| Gravel, dark-brown, coarse, gray at 29 feet | 14- 39 |
| Gravel, gray, very coarse, and rocks | 39- 42 |
| Sand, fine to coarse, with some gravel | 42- 51 |
| Gravel, dark-gray, coarse and sand | 51- 67 |
| Till, dark-gray, pebbly | 67- 99 |

Depth to water: 7 feet

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 125 N., R. 75 W.

Drilled: SDGS, RTH

Elevation: 1791 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Sand, coarser at bottom | 0- 27 |
| Clay, gray | 27- 32 |
| Sand, yellow, rocks and shale fragments | 32- 50 |
| Sand, gray, fine and gray clay, and silt stringers | 50- 96 |
| Clay, medium dark-gray, (reworked shale?) | 96-115 |
| Clay, dark-gray, bentonite, (Pierre Shale) | 115-140 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 125 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1722 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil | 0- 4 |
| Sand, brown, fine to medium | 4- 9 |
| Sand, brown, medium to coarse | 9- 19 |
| Sand, brown, coarse and gravel, gray at 39 feet | 19- 39 |
| No sample, drills like clay | 39- 84 |
| No sample, drills like sand | 84- 94 |
| No sample, drills like clay | 94-115 |
| Shale, (Pierre Shale) | 115-124 |

Depth to water: 7 feet

* * * * *

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 32, T. 125 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1752 feet (Altimeter)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 32, T. 125 N., R. 75 W. (continued)

| | |
|--|--------|
| Topsoil | 0- 1 |
| Gravel, brown, coarse and sand | 1- 21 |
| Sand, reddish-brown, coarse, gravelly | 21- 44 |
| Sand, light-brownish-gray, fine to coarse, dark-gray at 54 feet | 44- 64 |
| Sand, dark-gray, fine to coarse, rock at 77 feet | 64- 77 |
| Till, dark-gray clay, pebbly | 77- 97 |
| Shale, black, compact clay, (Pierre Shale) | 97-104 |

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 125 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1751 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Sand, dark-brown, fine | 0- 9 |
| Sand, gray, fine, clayey | 9- 17 |
| Gravel, light-gray, coarse, and sand, clayey 22 to 24 feet | 17- 24 |
| Gravel, light-brown, and fine to coarse sand | 24- 41 |
| Clay, dark-brown, gravel stringers and some fine to coarse sand | 41- 49 |
| Gravel, dark-brown and clay stringers | 49- 64 |
| Clay, light- to dark-gray, few rocks | 64-126 |
| Till, dark-gray, abundant shale pebbles | 126-132 |
| Shale, blue-black, compact | 132-136 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 125 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1800 feet (Altimeter)

| Material | Depth (feet) |
|---|--------------------|
| Topsoil | 0- $\frac{1}{2}$ |
| Gravel, fine to coarse and coarse sand | $\frac{1}{2}$ - 13 |
| Sand, reddish-brown, fine to coarse and gravel, some big rocks, clayey 29 to 34 feet | 13- 39 |
| Clay, dark-gray, sand and pebbles, (till?) | 39- 54 |
| Sand, dark-gray, fine to coarse | 54- 74 |
| Till, dark-gray, sandy clay | 74- 80 |
| Shale, black clay, compact, (Pierre Shale) | 80- 84 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 125 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: Not measured

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: NW¼NW¼NW¼NW¼ sec. 33, T. 125 N., R. 75 W. (continued)

| | |
|-----------------------------------|--------|
| Sand, highly oxidized, and gravel | 0- 9 |
| Gravel, coarse | 9- 14 |
| Rocks | 14- 17 |

* * * * *

Location: SE¼SE¼SE¼SE¼ sec. 33, T. 125 N., R. 75 W.
 Drilled: SDGS, ATH
 Elevation: 1867 feet (Altimeter)

| Material | Depth (feet) |
|--------------------------------|-----------------|
| Roadbed | 0- 4 |
| Gravel and rocks | 4- 6 |
| Till, yellow to tan | 6- 19 |
| Till, light-gray to dark-gray | 19- 44 |
| Till, dark-gray, shale, pebbly | 44- 59 |
| Shale, black, compact clay | 59- 79 |

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Location: SE¼SE¼SE¼NE¼ sec. 1, T. 125 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1866 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Gravel, oxidized, coarse | 0- 16 |
| Clay, tan, pebbly | 16- 18 |
| Silt, unoxidized, clayey | 18- 20 |
| Sand, coarse, and some fine gravel, clayey 35 to 50 feet | 20- 42 |
| Clay, gray-brown, sandy | 42- 65 |
| Clay, gray, sandy, pebbly, and a few rocks, gravelly 75 to 80 feet, (not till) | 65- 95 |
| Sand, very fine, "salt and pepper sand," clayey in spots | 95-110 |
| Clay, and very fine sand, silty, and occasionally gravelly | 110-260 |
| Sand, very fine, clayey, gravel 270 to 275 feet | 260-275 |
| Clay, gray, sandy, pebbly and gravel stringers, (till) | 275-295 |
| Shale, clay, green, (Pierre Shale) | 295-305 |

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Location: NW¼NW¼NW¼NW¼ sec. 2, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1786 feet (7½ minute topographic map)

| Material | Depth (feet) |
|-----------------------|-----------------|
| Till, brown, gravelly | 0- 23 |

Location: NW¼NW¼NW¼NW¼ sec. 2, T. 125 N., R. 76 W. (continued)

| | |
|-----------------------|---------|
| Silt, dark-brown | 23- 26 |
| Silt, gray | 26- 43 |
| Clay, gray, silty | 43-103 |
| Shale, (Pierre Shale) | 103-109 |

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Location: SE¼SE¼SE¼SW¼ sec. 2, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1789 feet (Altimeter)

| Material | Depth (feet) |
|---------------------------------------|-----------------|
| Topsoil | 0- 1 |
| Clay, yellow-brown, gravelly | 1- 7 |
| Sand, light-brown, fine to medium | 7- 12 |
| Gravel, light-brown, medium to coarse | 12- 27 |
| Sand, brown, fine to medium | 27- 44 |
| Sand, gray, very fine to fine, clayey | 44- 94 |
| Clay, gray and fine sand | 94-149 |

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Location: SW¼SW¼SW¼SE¼ sec. 2, T. 125 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1799 feet (7½ minute topographic map)

| Material | Depth (feet) |
|--------------------------------|-----------------|
| Gravel, brown | 0- 10 |
| Gravel, gray | 10- 20 |
| Gravel, gray, and coarse sand | 20- 37 |
| Sand, very fine to fine, clean | 37- 60 |

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Location: NW¼NW¼NE¼NW¼ sec. 4, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1730 feet (7½ minute topographic map)

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Till, dark-brown | 0- 44 |
| Till, dark-brown to light-gray | 44- 61 |
| Shale, dark-gray, (Pierre Shale) | 61- 66 |

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Location: NW¼NW¼NW¼NW¼ sec. 4, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1720 feet (7½ minute topographic map)

Location: NW¼NW¼NW¼NW¼ sec. 4, T. 125 N., R. 76 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Sand, dark-brown, fine to medium, silty | 0- 44 |
| Shale, (Pierre Shale) | 44- 49 |

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Location: SW¼SW¼SW¼SW¼ sec. 4, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1720 feet (7½ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, gray, silty | 0- 4 |
| Sand, brown, fine to medium | 4- 10 |
| Gravel, brown, some sand | 10- 14 |
| Sand, brown, medium to coarse, some gravel | 14- 34 |
| Sand, gray, fine to medium, clay stringers | 34- 54 |
| Clay, gray, silty, thin gravel streaks 74 to 85 feet | 54-100 |
| Shale, (Pierre Shale) | 100-109 |

Depth to water: 19 feet

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Location: SW¼SW¼SW¼SW¼ sec. 5, T. 125 N., R. 76 W.
 Drilled: USGS, ATH
 Elevation: 1700 feet (7½ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, medium to coarse, 5 percent gravel | 0- 12 |
| Sand, brown, medium to very coarse, 20 percent gravel | 12- 17 |
| Sand, gray, very fine to medium | 17- 22 |
| Sand, gray, very fine to fine | 22- 35 |
| Clay, sandy | 35- 62 |

Depth to water: 7 feet

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Location: NE¼NE¼NE¼NE¼ sec. 6, T. 125 N., R. 76 W.
 Drilled: USGS, ATH
 Elevation: 1699 feet (7½ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, medium, some coarse | 0- 7 |
| Sand, brown, medium to coarse, some gravel | 7- 12 |
| Sand, brown, coarse to gravel | 12- 20 |
| Clay, brown, sandy | 20- 27 |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 125 N., R. 76 W. (continued)

| | |
|---------------------|--------|
| Clay, gray | 27- 30 |
| Clay, grayish-black | 30- 47 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 125 N., R. 76 W.

Drilled: USGS

Elevation: 1709 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, medium to coarse, 20 percent gravel | 0- 7 |
| Sand, brown, coarse to very coarse, 30 percent gravel | 7- 22 |
| No sample; drilled like a soft clay or very fine sand with clay layers | 22- 87 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 125 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1717 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Silt, dark-brown | 0- 3 |
| Sand, brown, fine to coarse, some gravel | 3- 13 |
| Sand, brown, fine | 13- 18 |
| Sand, brown, fine to coarse, some gravel and clay, gray below 26 feet | 18- 38 |
| Sand, gray, fine, and silty | 38-103 |
| Sand, fine, silty and clayey | 103-129 |
| Clay, dark-gray, silty | 129-149 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 125 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1742 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, fine to medium, some clay | 0- 10 |
| Gravel, unoxidized at 16 feet | 10- 16 |
| Clay, light-gray, sandy, rock at 57 feet | 16- 65 |
| Shale, medium-gray, silty | 65- 80 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 125 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1820 feet (Altimeter)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 125 N., R. 76 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Till, oxidized | 0- 10 |
| Gravel, oxidized, medium to coarse, shale pebbles | 10- 30 |
| Till, oxidized | 30- 40 |
| Silt and clay, brown, some very fine sand | 40- 55 |
| Silt, light-gray, some clay and very fine sand, more clay 110 to 140 feet, silty 140 to 165 feet | 55-165 |
| Clay, sandy, pebbly, (till?); (samples mostly lacustrine) | 165-185 |
| Clay, sandy, occasional pebble | 185-215 |
| Gravel, fine to medium, clay interbedded, clean 230 to 245 feet | 215-314 |
| Clay, gray, sandy and pebbly, and gravel stringers, coal and black sand about 320 feet and increases downward | 314-350 |
| Gravel and some clay | 350-364 |
| Clay, gray to black, sandy | 364-378 |
| Gravel, fine to medium, shale and coal abundant | 378-385 |
| Shale, greenish-gray, bentonite, (Pierre Shale) | 385-405 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 125 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1765 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, medium to coarse | 0- 4 |
| Till, oxidized | 4- 15 |
| Gravel, oxidized, fine to medium, and coarse sand 20 to 35 feet | 15- 50 |
| Silt, light-gray, clayey in spots, some sand | 50-215 |
| Clay, black, sandy and pebbly | 215-230 |
| Gravel, fine, and coarse sand, shale pebbles, coal common, black sand, pebbly clay interbedded | 230-295 |
| Gravel, fine to medium, clean | 295-328 |
| Shale, greenish-gray, bentonite, (Pierre Shale) | 328-348 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 125 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1765 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------------|-----------------|
| Topsoil | 0- 2 |
| Clay, brown, pebbly | 2- 14 |
| Gravel, medium, some clay | 14- 29 |
| Clay, sandy, few pebbles | 29- 34 |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 125 N., R. 76 W. (continued)

| | |
|--|--------|
| Sand, brown, medium to coarse, "salt and pepper," sand finer 89 to 94 feet, clay content increases downward, gray at 94 feet | 34- 99 |
| Clay, gray, sandy (up to 30 percent sand) | 99-149 |

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15, T. 125 N., R. 76 W.
Drilled: SDGS, ATH
Elevation: 1791 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Clay, brown, moist; gravel or rock 14 to 16 feet (Hole so dry and tough that it was abandoned.) | 1- 52 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 125 N., R. 76 W.
Drilled: SDGS, RTH
Elevation: 1737 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Gravel, oxidized, medium to coarse | 0- 18 |
| Sand, gray, fine to very fine, well-sorted, coal common, "salt and pepper" sand) | 18- 70 |
| Clay, gray, laminated, silty, and some very fine sand, sandy 70 to 80 feet, more clay downward | 70-150 |
| Clay, gray, sandy and pebbly, few sand stringers, gravelly 200 to 220 feet (till and lacustrine?) | 150-265 |
| Gravel, medium, much coal, rock at 285 feet | 265-291 |
| Shale, greenish-gray, noncalcareous, crumbly, (Pierre Shale) | 291-305 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T. 125 N., R. 76 W.
Drilled: SDGS, RTH
Elevation: 1715 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Gravel, oxidized, medium | 0- 16 |
| Sand, gray, fine to very fine, clean, well-sorted, some coal, "salt and pepper" sand; clay stringers from 50 to 62 feet | 16- 62 |
| Clay, gray, laminated, sandy from 62 to 90 feet, silty and in places pure clay, occasional sand stringers | 62-150 |
| Clay, gray, sandy and pebbly, (till); sandy from 180 to 214 feet, (till and lacustrine?) | 150-245 |

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T. 125 N., R. 76 W. (continued)

| | |
|--|---------|
| Gravel, medium to coarse, abundant coal chips, rock at 255 feet | 245-267 |
| Shale, greenish-gray, crumbly, (Pierre Shale) | 267-275 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 125 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1717 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, medium to coarse, some gravel | 0- 27 |
| Sand, brown, very fine to fine, clayey; sand and clay layers; sand looks like "salt and pepper" sand | 27- 97 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18, T. 125 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1705 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Gravel | 0- 10 |
| Clay, gray, (lacustrine) | 10- 64 |
| Sand | 64- 87 |
| Gravel, much coal and many shale pebbles near base, clean gravel from 95 to 120 feet, clean gravel from 206 to 256 feet, clay breaks from 256 to 289 feet | 87-289 |
| Shale, light- to medium-gray, greenish tint, and bentonite, (Pierre Shale) | 289-320 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 125 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1717 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, fine to medium | 0- 7 |
| Sand, brown, medium | 7- 12 |
| Sand, brown, fine, some medium, clayey | 12- 17 |
| Sand, brown, medium to coarse, some gravel, slightly clayey | 17- 72 |
| Sand, coarse to gravel, gray clay layers | 72-120 |
| Clay, sandy, lignite | 120-122 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 125 N., R. 76 W.

Drilled: SDGS, ATH

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 125 N., R. 76 W. (continued)
Elevation: 1800 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, fine to medium, last 5 feet clayey | 0- 10 |
| Clay, brown, sandy and pebbly | 10- 24 |
| Sand, brown, fine, some clay | 24- 49 |
| Sand, gray, fine, little clay | 49- 73 |

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 125 N., R. 76 W.
Drilled: SDGS, ATH
Elevation: Not measured

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 4 |
| Clay, brown, sandy | 4- 49 |
| Clay, gray, sandy to 74 feet, silty 74 to 140 feet | 49-140 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 125 N., R. 76 W.
Drilled: SDGS, RTH
Elevation: 1748 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Till, unoxidized at 26 feet | 0-120 |
| Gravel, fine to medium, and sandy clay | 120-164 |
| Till, unoxidized, harder than till above, some sand and gravel stringers 215 to 245 feet | 164-275 |
| Sand, fine, a few black sandy particles | 275-290 |
| Gravel, fine to medium; clean, coal abundant, clay break 318 to 325 feet | 290-344 |
| Shale, greenish-gray and black; both types quite crumbly, (Pierre Shale) | 344-355 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 125 N., R. 76 W.
Drilled: SDGS, ATH
Elevation: 1740 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, fine to medium | 0- 7 |
| Sand, dark-brown, clayey, changing to gray | 7- 13 |
| Clay, gray | 13- 46 |
| Clay, gray or shale (?) | 46- 94 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1726 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, medium to coarse, gravelly from 5 to 10 feet | 0- 10 |
| Clay, brown, sandy | 10- 15 |
| Clay, blue, pebbles | 15- 36 |
| Shale (?) | 36- 69 |

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 29, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1702 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Sand, brown, medium to coarse, a few small pebbles | 1- 19 |
| Clay, gray, and coarse sand, (probably till) | 19- 24 |
| Clay, gray, sandy, pebbly | 24-108 |
| Shale, (Pierre Shale) | 108-109 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1705 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Till, dark-gray | 0- 14 |
| Silt, light-gray | 14- 19 |
| Sand, dark-gray, fine to very coarse | 19- 45 |
| Till, light- to dark-gray, silty, gravel stringers 126 to 129 feet | 45-129 |
| Sand, gray, silty, coarse | 129-134 |
| Till, dark-gray to light-gray | 134-149 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 125 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1712 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown | 0- 5 |
| Sand | 5- 36 |
| Sand, gray, very fine, few clay stringers | 36- 85 |

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 125 N., R. 76 W. (continued)

| | |
|---|---------|
| Clay, gray, sandy, (lacustrine?) | 85-118 |
| Clay, gray, (till?) | 118-180 |
| Clay, gravelly or gravel and clay interbedded | 180-196 |
| Gravel, clayey to 230 feet or clay and gravel interbedded | 196-260 |
| Shale, medium-gray clay, some bentonite, (Pierre Shale) | 260-275 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 125 N., R. 76 W.

Drilled: WRC

Elevation: 1711 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------|-------------------|
| Topsoil | 0- $\frac{1}{2}$ |
| Clay, tan | $\frac{1}{2}$ - 6 |
| Sand and gravel | 6- 24 |
| Clay, gray | 24- 41 |

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Location: SE $\frac{1}{2}$ SE $\frac{1}{2}$ SE $\frac{1}{2}$ SE $\frac{1}{2}$ sec. 31, T. 125 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1707 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------------------|--------------|
| Topsoil | 0- 5 |
| Sand, brown | 5- 10 |
| Clay, brown | 10- 12 |
| Clay, gray, (lacustrine) | 12- 86 |
| Silt, gray, clayey | 86-104 |
| Clay, gray | 104-122 |
| Silt, gray, clayey | 122-162 |
| Clay, gray, silty | 162-210 |
| Gravel, some coal and gray clay | 210-300 |
| Shale | 300-320 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 125 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1707 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------------|--------------|
| Till, brown | 0- 14 |
| Silt, dark-gray | 14-128 |
| Till, gray, rocks at 128 feet | 128-134 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 32, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1716 (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Roadbed | 0- 4 |
| Gravel, brown | 4- 9 |
| Sand, brown, coarse with fine gravel | 9- 14 |
| Sand, brown, coarse | 14- 19 |
| Sand, brown, with fine gravel | 19- 24 |
| Sand, dark-brown, and gravel, silty and clayey | 24- 39 |
| Till, gray | 39-104 |
| Shale, some appears reworked, (Pierre Shale) | 104-109 |

Depth to water: 14 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32, T. 125 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1715 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Roadbed | 0- 4 |
| Till, dark-brown | 4- 6 |
| Sand, yellow, silty | 6- 9 |
| Sand, light-brown, and gravel | 9- 14 |
| Sand, dark-brown, silty | 14- 25 |
| Sand, dark-brown to light-gray, and gravel, clay, silt | 25- 34 |
| Silt, dark-gray, fine sand | 34- 70 |
| Gravel, coarse | 70- 77 |
| Silt, dark-gray, with some fine sand | 77-144 |

Depth to water: 9 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 125 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1710 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, coarse, some medium | 0- 10 |
| Sand, gray, medium to coarse | 10- 20 |
| Sand, and gravel, gray | 20- 30 |
| Clay, gray | 30- 60 |
| Sand, gray, coarse | 60- 80 |
| Clay, gray | 80-170 |
| Clay and gravel, gray | 170-200 |
| Clay, gray, with gravel stringers | 200-220 |
| Sand and gravel, gray, clayey, some coal | 220-291 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 125 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1720 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------|-----------------|
| Sand, brown | 0- 24 |
| Clay, gray (lacustrine) | 24- 64 |
| Clay, gray, sandy | 64-107 |
| Shale, (Pierre Shale) | 107-125 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35, T. 125 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1722 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown | 0- 35 |
| Clay, gray | 35- 80 |
| Clay, sandy | 80- 90 |
| Sand | 90-125 |
| Clay, gray | 125-140 |
| Clay, gray | 140-220 |
| Gravel, clayey | 220-230 |
| Gravel, lots of coal, some clay layers | 230-320 |
| Shale, (Pierre Shale) | 320-335 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 125 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1722 feet (Altimeter)

| Material | Depth (feet) |
|------------------------|-----------------|
| Sand, brown | 0- 10 |
| Sand, coarser at depth | 10- 53 |
| Clay, gray, silty | 53- 95 |
| Silt, black | 95-110 |
| Sand (?), silty (?) | 110-153 |
| Shale, (Pierre Shale) | 153-170 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1, T. 125 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1687 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Sand, brown, medium, trace of gravel | 0- 12 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1, T. 125 N., R. 77 W. (continued)

| | |
|---|---------|
| Sand, brown, medium to coarse | 12- 17 |
| Sand, dark-brown, fine to medium | 17- 26 |
| Clay, grayish-black, sandy | 26- 42 |
| Sand, fine to medium, lignite, gray clay layers | 42-103 |
| No samples, hard drilling | 103-107 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2, T. 125 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1745 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, dark-brown | 0- 12 |
| Sand, brown, medium, gravel, clayey | 12- 17 |
| Clay, brown, trace of gravel | 17- 27 |
| Sand, brown, coarse, gravel | 27- 42 |
| Sand, grayish-brown, coarse to very coarse | 42- 49 |
| Clay, grayish-black | 49- 57 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 8, T. 125 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1924 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------|-----------------|
| Clay, brown, silty | 0- 7 |
| Clay, brown, sandy | 7- 19 |
| Shale | 19- 27 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11, T. 125 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1725 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil | 0- 1 |
| Silt, tan | 1- 4 |
| Till, brown, with some fine sand, rocks from 73 to 79 feet | 4- 88 |
| Till, gray, large rock at 91 feet | 88- 91 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 125 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1698 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 125 N., R. 77 W. (continued)

| Material | Depth (feet) |
|-----------------------------|-----------------|
| Topsoil | 0- 3 |
| Sand, brown, fine to medium | 3- 24 |
| Sand, gray, fine to medium | 24- 36 |
| Clay, silty | 36-125 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 125 N., R. 77 W.

Drilled: P

Elevation: 1725 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
| Sand | 0- 30 |
| Clay | 30- 75 |
| Sand | 75- 90 |
| Clay | 90- |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 125 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1725 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Silt, brown | 0- 19 |
| Sand, tan | 19- 24 |
| Till, brown | 24- 34 |
| Till, gray, with pebbles | 34- 44 |
| Sand, gray, fine | 44- 52 |
| Till, gray | 52- 54 |
| Sand and gravel, till from 60 to 64 feet, gravel from 64 to 68 feet | 54- 68 |
| Till, gray | 68- 78 |
| Shale, blue-black, (Pierre Shale) | 78- 84 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 125 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1885 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, trace of sand and gravel | 0- 27 |
| Clay, grayish-brown, with sand layers | 27- 32 |
| Sand, fine to coarse, clay layers | 32- 42 |
| Clay, black, trace of gravel, sand layers | 42- 57 |

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 125 N., R. 77 W. (continued)

| | |
|---|---------|
| Sand, gray, medium to coarse, some clay | 57-127 |
| Shale, (Pierre Shale) | 127-132 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 125 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1840 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------------------|-----------------|
| Clay, brown, silty to sandy | 0- 17 |
| Clay, black, trace of gravel | 17- 22 |
| Shale, (Pierre Shale) | 22- 27 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T. 125 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1840 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, trace of sand and gravel | 0- 17 |
| Clay, reddish-brown, trace of gravel and shale fragment | 17- 22 |
| Clay, grayish-brown, trace of gravel and shale fragments | 22- 32 |
| Clay, grayish-brown, trace of shale fragments | 32- 52 |
| Shale | 52- 57 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23, T. 125 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1782 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------|-----------------|
| Topsoil | 0- 1 |
| Till, olive-brown | 1- 29 |
| Till, dark-gray | 29- 80 |
| Shale, (Pierre Shale) | 80- 84 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 125 N., R. 77 W.

Drilled: SDGS

Elevation: 1745 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 125 N., R. 77 W. (continued)

| | |
|--|---------|
| Till (?), dark-brown | 0- 7 |
| Sand, brown, very silty | 7- 22 |
| Gravel, silty | 22- 24 |
| Sand, very fine | 24- 36 |
| Till, dark-gray | 36- 63 |
| Gravel, coarse, with dark brownish-gray sand | 63-101 |
| No sample, hard drilling | 101-103 |
| Gravel, coarse | 103-113 |
| Shale, reworked, with pebbles | 113-119 |

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 125 N., R. 77 W.

Drilled: P

Elevation: 1719 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------------------|-----------------|
| Silt | 0- 35 |
| Clay | 35-120 |
| Sand, fine and silt, (quick-sand) | 120-165 |
| Clay | 165-212 |
| Sand, coarse | 212-260 |
| Shale, (Pierre Shale) | 260-290 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 125 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1809 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------|-----------------|
| Till, brown | 0- 34 |
| Till, dark-gray, rocks at base | 34- 63 |
| Shale | 63- 64 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 125 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1755 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Roadbed | 0- 4 |
| Till, brown | 4- 14 |
| Sand, brown, clayey | 14- 17 |
| Till, gray, rocky from 24 to 34 feet | 17- 79 |
| Shale | 79- 84 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 125 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1837 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Till, dark-brown | 0- 41 |
| Sand, silty and clayey | 41- 49 |
| Till, light-gray | 49- 63 |
| Till, dark-gray | 63- 74 |
| Till, looks like reworked shale with pebbles in it | 74- 96 |
| Shale, (Pierre Shale) | 96- 99 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 29, T. 125 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1820 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, silty, with trace of gravel | 0- 25 |
| Shale | 25- 32 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 125 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1750 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------|-----------------|
| Clay, grayish-brown | 0- 14 |
| Shale, (Pierre Shale) | 14- 17 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 125 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1755 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (Feet) |
|-----------------------|-----------------|
| Clay, black | 0- 7 |
| Clay, brown | 7- 12 |
| Clay, brown, silty | 12- 17 |
| Shale, (Pierre Shale) | 17- 37 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 125 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1799 feet (7 $\frac{1}{2}$ minute topographic map)

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 125 N., R. 77 W. (continued)

| Material | Depth (feet) |
|--|-----------------|
| Silt, brown | 0- 7 |
| Clay, brown, trace of sand and gravel | 7- 45 |
| Clay, grayish-black, trace of gravel and lignite | 45- 62 |
| Sand, gray, fine | 62- 72 |
| Sand, fine to medium, clay layers | 72-107 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32, T. 125 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1772 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, trace of gravel | 0- 42 |
| Clay, grayish-black, trace of sand and gravel | 42- 53 |
| Sand, gray, medium to coarse | 53- 62 |
| Sand, gray, medium to fine gravel, layers of gray clay | 62- 67 |
| Sand, gray, medium to coarse, some clay streaks | 67- 72 |
| Sand, gray, medium to very coarse, silty | 72- 87 |
| Clay, silty to sandy | 87-107 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 125 N., R. 77 W.
 Drilled: SDGS, RTH
 Elevation: 1716 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------------------------|-----------------|
| Clay, brown, some sand | 0- 17 |
| Clay, gray, silty, (lacustrine?) | 17- 44 |
| Clay, gray, (till?) | 44- 54 |
| Clay, gray, no sand or pebbles | 54- 64 |
| Gravel | 64- 82 |
| Clay, gray, many sand stringers | 82-115 |
| Shale, black, clay, (Pierre Shale) | 115-140 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T. 125 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1742 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------|-----------------|
| Silt, brown | 0- 4 |
| Sand, dark-brown | 4- 9 |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T. 125 N., R. 77 W. (continued)

| | |
|-----------------------|--------|
| Till, brown | 9- 19 |
| Till, light-gray | 19- 29 |
| Till, dark-gray | 29- 35 |
| Shale, (Pierre Shale) | 35- 39 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35, T. 125 N., R. 77 W.
 Drilled: SDGS, RTH
 Elevation: 1700 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown to 16 feet, gray-brown to 24 feet, fat | 0- 24 |
| Sand (?), very fine or silt (only silt in cuttings, poor return) | 24- 85 |
| Clay, gray, (till?), and a few sand stringers (a shaley-looking clay also in samples but do not know what interval they are from) | 85-150 |
| Gravel | 150-156 |
| Clay, pebbly, sand stringers | 156-193 |
| Shale, medium-gray to greenish, much bentonite, (Pierre Shale) | 193-215 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 125 N., R. 77 W.
 Drilled: SDGS, RTH
 Elevation: 1710 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, fine to medium | 0- 10 |
| Sand, brownish-gray, medium to coarse | 10- 19 |
| Clay, gray, (lacustrine) | 19- 55 |
| Clay, gray, (till) | 55- 85 |
| Sand and gravel, gray | 85- 90 |
| Clay, gray, (till) | 90-105 |
| Sand, gray, coarse becoming gravel with depth | 105-163 |
| Sand, gray, clayey (till?) | 163-210 |
| Gravel, clay stringers in lower part | 210-283 |
| Shale, (Pierre Shale) | 283-305 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 125 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1715 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------------------|-----------------|
| Silt, with fine to coarse sand | 0- 4 |
| Sand, reddish-brown, fine to coarse | 4- 14 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 125 N., R. 77 W. (continued)

| | |
|---|---------|
| Sand, dark-brown, silty, clayey | 14- 18 |
| Sand, dark-brown, fine to coarse | 18- 29 |
| Sand, light-gray to dark-gray and silty | 29- 39 |
| Silt, with some fine sand | 39- 69 |
| Clay, dark-gray, silty | 69-110 |
| Sand, dark-gray | 110-122 |
| Till, dark-gray | 122-131 |
| Sand, dark-gray, fine to coarse | 131-133 |
| Till, dark-gray | 133-134 |
| Sand, dark-gray, fine to coarse | 134-148 |
| Till, dark-gray | 148-149 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 125 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1945 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, silty | 0- 12 |
| Clay, brown to grayish-brown, trace of shale fragments | 12- 42 |
| Clay, gray | 42- 52 |
| Shale | 52- 57 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, T. 125 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1977 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, trace of gravel | 0- 32 |
| Clay, grayish-black; trace of sand and gravel from 32 to 47 feet | 32- 67 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 125 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1922 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------------------------|-----------------|
| Clay, brown, trace of sand and gravel | 0- 34 |
| Clay, black, trace of gravel | 34- 67 |
| Shale | 67- 72 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16, T. 125 N., R. 78 W.
 Drilled: USGS, ATH

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16, T. 125 N., R. 78 W. (continued)
Elevation: 1900 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------------------|-----------------|
| Clay, brown to grayish-brown, silty | 0- 29 |
| Shale | 29- 37 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T. 125 N., R. 78 W.
Drilled: USGS, ATH
Elevation: 1910 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, brown, silty | 0- 12 |
| Clay, brown, trace of gravel | 12- 22 |
| Clay, grayish-black, trace of gravel | 22- 33 |
| Shale | 33- |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 23, T. 125 N., R. 78 W.
Drilled: USGS, ATH
Elevation: 1890 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown to reddish-brown, silty, trace of gravel, shale fragments from 27 to 52 feet | 0- 52 |
| Clay, dark-gray | 52- 57 |
| Shale | 57- 62 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 125 N., R. 78 W.
Drilled: USGS, ATH
Elevation: 1929 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, reddish-brown, trace of gravel | 0- 22 |
| Clay, brown to gray, trace of gravel and shale fragments | 22- 69 |
| Sand, fine to coarse, clay layers | 69-107 |

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 27, T. 125 N., R. 78 W.
Drilled: USGS, ATH
Elevation: 1788 feet (7 $\frac{1}{2}$ minute topographic map)

Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 27, T. 125 N., R. 78 W. (continued)

| Material | Depth (feet) |
|-------------------------------------|-----------------|
| Clay, brown, silty, trace of gravel | 0- 22 |
| Shale | 22- 27 |

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 125 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1814 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, brownish-gray, trace of gravel | 0- 12 |
| Shale | 12- 22 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28, T. 125 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1885 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, brown, silty, trace of gravel | 0- 32 |
| Clay, grayish-black, trace of gravel | 32- 42 |
| Shale | 42- 47 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 125 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1765 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Silt, brown, clayey | 0- 22 |
| Clay, brownish-gray, silty, gravelly | 22- 36 |
| Shale, (Pierre Shale) | 36- 37 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 125 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1865 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------|-----------------|
| Clay, brown | 0- 7 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 125 N., R. 78 W. (continued)

| | |
|--|--------|
| Clay, gravelly | 7- 8 |
| Clay, brown, trace of gravel and shale fragments | 8- 37 |
| Clay, grayish-black, trace of gravel and shale fragments | 37- 62 |

* * * * *

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 125 N., R. 78 W.

Drilled: USGS, ATH

Elevation: 1799 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (Feet) |
|--------------------------|-----------------|
| Clay, brown | 0- 7 |
| Clay, with coarse gravel | 7- 9 |
| Clay, grayish-brown | 9- 19 |
| Shale | 19- 27 |

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Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 125 N., R. 79 W.

Drilled: SDGS, ATH

Elevation: 1610 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Silt, brown | 0- 16 |
| Till, brown, silty | 16- 30 |
| Shale, weathered, (Pierre Shale) | 30- 39 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 125 N., R. 79 W.

Drilled: SDGS, ATH

Elevation: 1685 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------|-----------------|
| Silt, brown, few pebbles | 0- 18 |
| Gravel, coarse | 18- 28 |

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Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T. 125 N., R. 79 W.

Drilled: SDGS, ATH

Elevation: 1700 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------|-----------------|
| Silt, tan | 0- 4 |

Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T. 125 N., R. 79 W. (continued)

| | |
|--|--------|
| Sand, brown, fine to medium | 4- 18 |
| Sand, reddish-brown, fine to coarse | 18- 21 |
| Gravel, very coarse, rocks at 21 and 23 feet | 21- 23 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 125 N., R. 79 W.

Drilled: USGS, ATH

Elevation: 1790 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, brownish-gray, trace of gravel | 0- 27 |
| Clay, grayish-black, trace of gravel | 27- 57 |
| Clay, black, shale fragments | 57- 67 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 126 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1790 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown | 0- 3 |
| Clay, gray, pebbly | 3- 13 |
| Clay, brown, pebbly | 13- 19 |
| Clay, gray, pebbly, sand stringer from 57 to 62 feet; coal particles from 95 to 110 feet; very silty from 112 to 115 feet | 19-152 |
| Sand, clayey, and some coal | 152-165 |
| Shale, (Pierre Shale) | 165-185 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 126 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1855 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown | 0- 7 |
| Gravel | 7- 13 |
| Clay, silvery brown, (till) | 13- 17 |
| Clay, gray, (till) | 17-117 |
| Sand, coarse, many shale fragments | 117-125 |
| Gravel | 125-140 |
| Clay, gray, (lake bed deposits), gravel stringers near bottom | 140-155 |
| Clay, gray, (till?) | 155-215 |
| Gravel, some clay stringers | 215-238 |
| Clay, gray, silty in places, gravel stringers | 238-325 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 126 N., R. 74 W. (continued)

| | |
|--|---------|
| Silt, some gravel and clay | 325-335 |
| Sand, gray, very fine, silty to clayey | 335-473 |
| Gravel | 473-475 |

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 126 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1834 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Till, oxidized, sandy | 0- 28 |
| Sand, oxidized, coarse, and gravel | 28- 35 |
| Till, unoxidized | 35-134 |
| Sand, gray, fine, and laminated silts, gravelly or rocky from 142 to 148 feet | 134-160 |
| Sand and gravelly clay or gravel | 160-172 |
| Till, light-gray, sandy, tough | 172-185 |
| Clay, very sandy with pebbles and gravel stringers throughout; sand from 185 to 190 feet and abundant coal; also much very fine sand and silty sand in cuttings but do not know source for sure; (till and outwash) | 185-260 |
| Sand, gray, fine to very fine with finely disseminated coal and some silt and clay; black sand at 280 feet | 260-310 |
| Silt, sandy, clay content increasing downwards, (outwash) | 310-340 |
| Sand, fine to medium and very much coal | 340-364 |
| Silt, clayey and sandy; gravelly from 412 to 420 feet, getting white to cream to light-green soft marl from 420 to 424 feet | 364-424 |
| Gravel, very coarse, rocky in upper 15 feet; rock at 428 to 432 feet; more sand towards base | 424-460 |
| Shale, light-grayish-green, soft, silty and bentonite chunks, (Pierre Shale) | 460-465 |

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Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 126 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1732 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Till, oxidized to 20 feet, gravelly pebbly clay | 0-129 |
| Gravel, clayey? | 129-136 |
| Clay, and gravel stringers, and some sandy clay (till) | 136-170 |
| Gravel, medium to coarse | 170-206 |
| Clay, gravel stringers, sandy (till?) | 206-234 |
| Clay, (till) | 234-275 |
| Gravel, coal, and some clay | 275-321 |
| Shale, (Pierre Shale) | 321-325 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 126 N., R. 74 W.
 Drilled: SDGS, RTH
 Elevation: 1732 feet (Altimeter)

| Material | Depth (feet) |
|----------------------------|-----------------|
| Gravel | 0- 6 |
| Clay, yellow | 6- 9 |
| Clay, gray, very rocky | 9- 59 |
| Gravel, very coarse | 59-114 |
| Clay, gray, pebbly, (till) | 114-166 |
| Shale, (Pierre Shale) | 166-200 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 126 N., R. 74 W.
 Drilled: SDGS
 Elevation: 1732 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Sand and gravel, brown | 0- 17 |
| Till, gray; sand stringers from 35 to 50 feet | 17- 55 |
| Sand and gravel, clean, well-sorted | 55- 80 |
| Gravel, medium to coarse, clean; abundant shale pebbles | 80-110 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 126 N., R. 74 W.
 Drilled: SDGS, RTH
 Elevation: 1744 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Gravel | 0- 10 |
| Clay, gray, (till) | 10- 50 |
| Clay, gray, silty, few sand stringers, (till) | 50-150 |
| Gravel, walnut-size | 150-155 |
| Clay, gray, alternating hard and soft, (till) | 155-278 |
| Coal, some clay in sample, and gravel, mainly oxidized clay cuttings | 278-314 |
| Clay, gray, sandy; mostly clay from 340 to 360 feet | 314-390 |
| Clay, gray, fissile and light-gray calcareous cuttings (Pierre Shale) | 390-415 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 126 N., R. 74 W.
 Drilled: SDGS, RTH
 Elevation: 1783 feet (Altimeter)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 126 N., R. 74 W. (continued)

| | |
|--|---------|
| Gravel and sand | 0- 33 |
| Clay, gray, pebbly | 33- 50 |
| Clay, gray, sandy, silty, and sand stringers | 50-100 |
| Clay, gray, very silty, gravel stringers | 100-190 |
| Clay, gray, silty and pebbly | 190-230 |
| Rocks | 230-232 |
| Clay, black, (Pierre Shale) | 232-245 |

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 126 N., R. 75 W.

Drilled: SDGS, RTH

Elevation: 1790 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, gray, a few pebbles, (alluvium and colluvium?) | 0- 13 |
| Clay, brown, with pebbles | 13- 16 |
| Clay, gray, silty, no pebbles | 16- 19 |
| Clay, gray, pebbly | 19- 30 |
| Clay, gray, silty, abundant pebbles | 30-130 |
| Shale, medium-gray, silty; bit sample darker and less silty, non-calcareous, (Pierre Shale) | 130-170 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 126 N., R. 75 W.

Drilled: SDGS, RTH

Elevation: 1800 feet (Altimeter)

| Material | Depth (feet) |
|-------------------|-----------------|
| Gravel and sand | 0- 44 |
| Clay, gray, silty | 44- 45 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 126 N., R. 75 W.

Drilled: SDGS, RTH

Elevation: 1790 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Till, oxidized to 30 feet | 0- 60 |
| Clay, light-gray, silty | 60- 70 |
| Till, gray | 70- 75 |
| Clay and silt, light-gray, silty and sandy | 75-158 |
| Till and sand stringers; some oxidized till cuttings from 160 feet | 158-170 |
| Clay, silty, medium-gray, compact, brittle | 170-220 |
| Silt and very fine sand, gray, clay layers and clayey sand and silt; much oxidized clay at 270 feet and 360 feet but cannot be sure what depth oxidized material is from; black sand | |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 126 N., R. 75 W. (continued)

| | |
|---|---------|
| first appears at 230 feet and is abundant from 260 to 270 feet and from 320 to 330 feet; much coal throughout | 220-395 |
| Gravel, fine to medium, tight | 395-416 |
| Shale, light-greenish-gray, crumbly; also light-colored marl cuttings, (Pierre Shale) | 416-435 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 126 N., R. 75 W.
Drilled: SDGS, RTH
Elevation: 1780 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 3 |
| Clay, light-gray | 3- 6 |
| Clay, brown, (till) | 6- 15 |
| Clay, gray | 15- 21 |
| Gravel | 21- 24 |
| Clay, gray, sandy, some gravel near bottom | 24-168 |
| Shale, (Pierre Shale) | 168-185 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 126 N., R. 75 W.
Drilled: SDGS, RTH
Elevation: 1785 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown to 10 feet, then gray, medium to coarse from 0 to 10 feet and very coarse to gravel from 10 to 20 feet, clayey and rocky from 20 to 38 feet | 0- 38 |
| Till, gray | 38- 90 |
| Rock | 90- 95 |
| Clay, gray, sandy; sand increases downwards, (till) | 95-160 |
| Shale, (Pierre Shale) | 160-185 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 126 N., R. 75 W.
Drilled: SDGS, RTH
Elevation: 1810 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Till, unoxidized at 25 feet, sandy | 0- 36 |
| Clay, gray, (lacustrine?) | 36- 56 |
| Till, gray, a few sandy zones | 56- 98 |
| Sand, medium and some fine, clean | 98-120 |
| Sand, very fine, silty, and silt, clayey | 120-140 |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 126 N., R. 75 W. (continued)

| | |
|---|---------|
| Till, black, tough | 140-160 |
| Gravel (in stringers), medium | 160-180 |
| Shale, greenish, silty, crumbly, (Pierre Shale) | 180-200 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T. 126 N., R. 75 W.

Drilled: SDGS, RTH

Elevation: 1789 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Till, unoxidized at 30 feet; sandy from 0 to 20 feet, clayey from 20 to 35 feet, sandy from 35 to 65 feet | 0- 65 |
| Silt, gray, laminated, gravel stringers | 65- 95 |
| Sand, gray, very fine, silty and clayey | 95-112 |
| Clay, gray, and gravel stringers | 112-142 |
| Till, black, sandy | 142-154 |
| Gravel and gravelly clay; sandy in places | 154-196 |
| Clay, gray, very hard, (shale-like cuttings) | 196-220 |
| Gravel, medium, some coarse, clean, coal abundant and black sand | 220-240 |
| Sand, fine to very fine, clayey silt and gravelly stringers | 240-284 |
| Sand, very fine, and silty clay | 284-292 |
| Gravel, fine | 292-308 |
| Sand, very fine | 308-318 |
| Gravel, (poor sample return) | 318-330 |
| Sand, very fine, silt, silty clay | 330-375 |
| Sand, fine, silty in part | 375-412 |
| Shale, light-gray, hard, brittle, very tough, (Pierre Shale) | 412-432 |
| NOTE: From 300 feet sample return was poor; the whole section from 220 to 412 feet looks like lacustrine or river channel fine sand, silty clay with interbedded gravelly zones. | |

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 31, T. 126 N., R. 75 W.

Drilled: SDGS, RTH

Elevation: 1760 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, fine to medium, clean | 0- 5 |
| Till, gray at 15 feet | 5- 50 |
| Sand and gravel, upper 15 feet coarse sand and gravel with clay interbedded, lower 10 feet coarse, loose gravel | 50- 75 |
| Shale, medium-gray, (Pierre Shale) | 75-100 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 126 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1706 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Road fill | 0- 4 |
| Sand, yellowish-brown | 4- 14 |
| Silt, brown, laminated | 14- 19 |
| Sand, brown, very fine, with silt | 19- 24 |
| Sand, brown, very fine, little or no silt, gray at 29 feet | 24- 44 |
| Silt, dark-gray, with fine sand | 44- 62 |
| Till, dark-gray, rocks at 62 and 73 feet | 62- 89 |

Depth to water: 19 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T. 126 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1700 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------------|-----------------|
| Silt, tan | 0- 17 |
| Sand, yellow, very fine | 17- 19 |
| Sand, light-gray, very fine | 19- 24 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7, T. 126 N., R. 76 W.
 Drilled: USGS, ATH
 Elevation: 1730 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, grayish-brown, fine to medium, silty | 0- 8 |
| Clay, grayish-brown | 8- 31 |
| Clay, blue-gray | 31- 46 |
| Shale, (Pierre Shale) | 46- 56 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 126 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1682 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------------|-----------------|
| Till, brown | 0- 4 |
| Sand, tan, fine to medium | 4- 14 |

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 126 N., R. 76 W. (continued)

Sand, light-gray, fine to coarse 14- 24

Depth to water: 4 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 126 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1701 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, medium to coarse, some gravel | 0- 11 |
| Clay, blue-gray | 11- 36 |
| Clay, blue-gray, very gravelly | 36- 61 |

Depth to water: 6 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T. 126 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1682 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Roadbed | 0- 2 |
| Till, dark-brown | 2- 4 |
| Sand, light-gray, very fine | 4- 31 |
| Till, dark-gray, contains a lot of silty clay and numerous pebbles | 31- 59 |

Depth to water: 14 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T. 126 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1706 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil, black | 0- 2 |
| Gravel | 2- 16 |
| Clay, brown | 16- 18 |
| Silt, light-gray, sandy | 18- 80 |
| Till, gray | 80-100 |
| Gravel | 100-105 |
| Clay, gray, few gravel stringers from 105 to 125 feet, (till) | 105-195 |
| Clay, medium-gray, silty, very brittle, many shale chips; drills like shale | 195-222 |

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T. 126 N., R. 76 W. (continued)

| | |
|--|---------|
| Sand and gravel and abundant coal; boulder from 255 to 257 feet; many shale cuttings after 260 feet; could be bedrock, but drills like sand and gravel | 222-280 |
| Shale, (Pierre Shale) | 280-300 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 126 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1720 feet (Altimeter)

| Material | Depth (feet) |
|---|--------------|
| Rocks | 0- 7 |
| Clay, brown, gravelly, (till) | 7- 16 |
| Clay, gray, (till) | 16-110 |
| Sand | 116-128 |
| Clay, gray, sand layers, (till) | 128-136 |
| Sand, gray, very fine, silty; coal and black sand at 155 feet; clay and gravel stringers throughout | 136-275 |
| Clay and sand layers | 275-290 |
| Sand, and gravel; coal layers | 290-350 |
| Shale (Pierre Shale) | 350-355 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 126 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1755 feet (Altimeter)

| Material | Depth (feet) |
|---|--------------|
| Till, oxidized to 15 feet; very rocky from 0 to 15 feet | 0- 37 |
| Clay, dark-gray, (shale-like) | 37-63 |
| Till, gray | 63-138 |
| Shale, medium-gray, (Pierre Shale) | 138-155 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 14, T. 126 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1705 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|--------------|
| Topsoil | 0- 2 |
| Sand, brown, fine | 2- 13 |
| Sand, brown to light-gray, fine to coarse, much silty clay | 13- 38 |
| Clay, light-gray, silty, some fine sand | 38-117 |
| Till, gray | 117-129 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 126 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1688 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, clayey | 0- 15 |
| Sand, medium, some fine to coarse | 15- 25 |
| Sand, mostly coarse | 25- 35 |
| Clay, light-gray, sandy, (lacustrine) | 35-100 |
| Clay, brownish-gray to gray, sandy, (till) | 100-180 |
| Clay with sand and gravel layers, (till) | 180-212 |
| Clay, (till) | 212-222 |
| Gravel and coal | 222-262 |
| Shale, (Pierre Shale) | 262-275 |

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 126 N., R. 76 W.
 Drilled: P
 Elevation: 1710 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand and gravel, oxidized, medium, clean, moderate sorting | 0- 14 |
| Clay, gray, silty, laminated | 14- 32 |
| Till, gray | 32- 53 |
| Sand and gravel, medium to coarse; up to 50 percent shale particles; sand and gravel occurs loose in 1 to 2 foot layers between compact gravelly clay layers | 53- 66 |
| Shale, (Pierre Shale) | 66- 67 |

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Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T. 126 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1825 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Till, tan | 0- 9 |
| Silt, dark-brown, contains very few pebbles | 9- 14 |
| Till, dark-brown | 14- 17 |
| Rocks | 17- 19 |
| Till, dark-brown | 19- 23 |
| Rocks | 23- 25 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 126 N., R. 76 W.
 Drilled: SDGS, RTH
 Elevation: 1687 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 126 N., R. 76 W. (continued)

| Material | Depth (feet) |
|--|-----------------|
| Clay, yellow | 0- 5 |
| Sand, fine | 5- 14 |
| Clay, gray, fine sand, laminated | 14- 80 |
| Clay, gray, silty, several sand and gravel stringers with coal from 110 to 140 feet, (till) | 80-218 |
| Gravel, sand and coal; clay from 256 to 258 feet and a rock at 260 feet; coarse gravel from 250 to 270 feet | 218-270 |
| Shale, (Pierre Shale) | 270-280 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 126 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1740 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, yellow, fine | 0- 4 |
| Sand, light-gray, fine | 4- 19 |
| Sand, light-gray, fine to coarse | 19- 24 |
| Clay, light- to dark-gray, sandy | 24- 34 |
| Clay, dark-gray, pebbles and sand, (till) | 34- 53 |
| Sand, light-gray, fine to coarse, grades to a coarse sand | 53-104 |
| Sand, dark-gray, coarse, to fine gravel | 104-110 |
| Clay, dark-gray to light-gray, silty, sandy | 110-138 |
| Clay, dark-gray, numerous gravel stringers; rock from 147 to 148 feet; bit sample showed it was a very dark gray clay with numerous pebbles, (till) | 138-149 |

Depth to water: 14 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 27, T. 126 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1747 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, dark-brown, fine | 0- 9 |
| Clay, tan to brown, sandy, pebbly | 9- 17 |
| Clay, gray, silty, sandy, and contains pebbles | 17- 55 |
| Shale, (Pierre Shale) | 55- 67 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 126 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1685 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NW¼NW¼NW¼NW¼ sec. 28, T. 126 N., R. 76 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Clay, sandy, silty | 0- 4 |
| Sand, brown, fine to medium | 4- 29 |
| Sand, gray, fine to medium, silty | 29- 34 |
| Silt, gray, rock at 127 feet and 140 feet | 34-140 |
| Shale, (Pierre Shale) | 140-141 |

Depth to water: 9 feet

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Location: NE¼NE¼NE¼NE¼ sec. 30, T. 126 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1710 feet (7½ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, fine to medium, trace of gravel from 12 to 21 feet | 0- 22 |
| Sand, reddish-brown, very fine to medium, some coarse | 22- 35 |
| Clay, grayish-black | 35- 37 |
| Sand, very fine, salt and pepper appearance | 37- 64 |
| Clay, grayish-black | 64- 72 |

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Location: NE¼SE¼SE¼ sec. 30, T. 126 N., R. 76 W.

Drilled: WRC

Elevation: 1685 feet (7½ minute topographic map)

| Material | Depth (feet) |
|------------------------|-----------------|
| Topsoil | 0- ½ |
| Sand, fine | ½- 8 |
| Sand, medium to coarse | 8- 36 |
| Sand, fine | 36- 45 |
| Clay, gray | 45- 61 |

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Location: SE¼SE¼SE¼SE¼ sec. 30, T. 126 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1686 feet (7½ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, gray, fine to coarse | 0- 12 |
| Sand, gray, coarse, to gravel, lignite; stringers | |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 126 N., R. 76 W. (continued)

| | |
|-------------------------------|--------|
| of clay from 27 to 32 feet | 12- 49 |
| Clay, grayish-black, (shale?) | 49- 57 |

Depth to water: 7 feet

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 32, T. 126 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1700 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, oxidized, medium to coarse from 0 to 10 feet, fine to medium from 10 to 20 feet | 0- 20 |
| Sand, gray, very fine to fine, clean, (salt and pepper sand) | 20- 92 |
| Clay, gray, silty and sandy in part | 92-163 |
| Till, gray, sandy | 163-195 |
| Clay, medium-gray, silty and sandy, crumbly | 195-230 |
| Gravel, fine from 230 to 245 feet, coarse from 245 to 256 feet, coal abundant | 230-256 |
| Shale? | 256-260 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 126 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1712 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, fine to medium, clean, and brown laminated clay stringers | 0- 10 |
| Clay, gray at 25 feet, sandy in upper part, silty towards bottom, laminated | 10- 63 |
| Till, gray, sandy | 63- 94 |
| Shale, medium-gray, silty, crumbly, (Pierre Shale) | 94-140 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 126 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1698 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, brown, silty, sandy, pebbly | 0- 14 |
| Sand, gray at 39 feet, silty, clayey | 14- 44 |
| Clay, light- to dark-gray, silty | 44-149 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1, T. 126 N., R. 77 W.
 Drilled: SDGS, RTH
 Elevation: 1685 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, gray to black, contains shell fragments; alluvium or lacustrine | 0- 12 |
| Clay, cream colored, contains sand and pebbles | 12- 16 |
| Clay, brown and gray mottled to 27 feet, pebbly; changing to gray at 27 feet | 16- 50 |
| Clay, medium-gray, very little sand; sandy layer or rock from 57 to 59 feet; few pebbles in clay from 65 to 80 feet | 50-200 |
| Coal, gravel-size and sand and gravel; upper 10 feet mostly coal, lower 10 feet mostly gravel | 200-220 |
| Gravel, medium to coarse, clean except for abundant coal fragments; rock or concretion at 243 feet; coal could be cavings | 220-243 |
| Clay, greenish-gray, silty, has hard streaks, non- calcareous, (Pierre Shale) | 243-280 |
| Clay, dark-gray to black, bentonite coming up in chunks, noncalcareous, (Pierre Shale) | 280-287 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T. 126 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1724 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------------------------|-----------------|
| Clay, brown | 0- 17 |
| Sand, brown, fine to medium | 17- 22 |
| Sand, fine to coarse, trace of gravel | 22- 35 |
| Clay, grayish-black | 35- 37 |
| Shale, (Pierre Shale) | 37- 42 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 126 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1810 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------------|-----------------|
| Silt, dark-brown | 0- 4 |
| Silt, brown | 4- 19 |
| Silt, gray | 19- 29 |
| Silt, gray gravel stringers | 29- 34 |
| Gravel | 34- 38 |
| Silt, dark-gray | 38- 56 |
| Gravel | 56- 59 |

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 126 N., R. 77 W. (continued)

Silt, dark-gray 59-114

Depth to water: 19 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12, T. 126 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1832 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------------|-----------------|
| Clay, brown, trace of gravel | 0- 7 |
| Sand, clayey, trace of gravel | 7- 12 |
| Rocks | 12- 17 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 126 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1785 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------|-----------------|
| Till, brown | 0- 14 |
| Till, dark-gray | 14- 33 |
| Shale | 33- 44 |

Depth to water: 10 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 126 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1822 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Till, dark-brown, pebbly | 0- 34 |
| Clay, gray, compact; looks like weathered shale | 34- 46 |
| Rock | 46- 47 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 126 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1822 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
| Topsoil | 0- 1 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 126 N., R. 77 W. (continued)

| | |
|---|-------|
| Silt, yellowish | 1- 4 |
| Till, dark-brown, pebbly | 4- 9 |
| Till, olive-brown, silty, rock at 17 feet | 9- 17 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 126 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1929 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------|-----------------|
| Clay, brown, silty | 0- 43 |
| Clay, grayish-black | 43- 47 |
| Shale | 47- 52 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T. 126 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1888 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------------------|-----------------|
| Clay, brown to grayish-brown, silty | 0- 16 |
| Shale | 16- 22 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 126 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1833 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Silt, brown | 0- 9 |
| Till, brown | 9- 14 |
| Till, light-gray, lot of gypsum | 14- 19 |
| Shale, gray, reworked, few pebbles; brown streaks from 24 to 32 feet | 19- 32 |
| Shale, bluish-black | 32- 34 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 23, T. 126 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1830 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Roadbed | 0- 2 |
| Till, brown, rock from 21 to 22 feet | 2- 43 |

Location: NW¼NW¼NW¼NW¼ sec. 23, T. 126 N., R. 77 W. (continued)

| | |
|---|--------|
| Till, light-gray, pebbly | 43- 44 |
| Till, dark-gray, rocky from 59 to 74 feet | 44- 79 |
| Till, dark-gray | 79- 86 |
| Gravel | 86- 87 |
| Shale, (Pierre Shale) | 87- 89 |

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Location: NW¼NW¼NW¼NW¼ sec. 24, T. 126 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1762 feet (7½ minute topographic map)

| Material | Depth (feet) |
|------------------------------|-----------------|
| Till, brown, rock at 14 feet | 0- 24 |
| Till, gray | 24- 59 |
| Till, dark-gray, silty | 59-123 |
| Shale, slightly reworked | 123-129 |

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Location: SE¼SE¼SE¼SE¼ sec. 24, T. 126 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1702 feet (7½ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Silt, brown | 0- 4 |
| Till, olive-brown | 4- 15 |
| Sand, brown, silty | 15- 19 |
| Sand, brown to gray, fine, grading to coarse sand around 31 feet | 19- 33 |
| Till, dark-gray, pebbly | 33-109 |

Depth to water: 19 feet

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Location: NE¼NE¼NE¼NE¼ sec. 25, T. 126 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1702 feet (7½ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, silty, trace of gravel | 0- 14 |
| Sand, medium to coarse | 14- 17 |
| Sand, brownish-gray, fine to medium | 17- 27 |
| Sand, gray, medium to coarse | 27- 32 |
| Sand, medium to coarse, gray clay stringers | 32- 57 |
| No sample; drilling felt like clay with sand layers | 57- 92 |
| No sample; very hard drilling, (shale or hard till?) | 92-102 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 126 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1727 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Topsoil | 0- 1 |
| Till, tan, pebbly | 1- 9 |
| Till, reddish-brown | 9- 11 |
| Gravel | 11- 13 |
| Till, dark-brown | 13- 24 |
| Till, olive-brown to light-gray | 24- 34 |
| Till, dark-gray, shale fragments | 34- 47 |
| Shale, (Pierre Shale) | 47- 49 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27. T. 126 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1790 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, brown, silty, trace of gravel | 0- 22 |
| Clay, grayish-black, trace of gravel | 22- 52 |
| Shale, (Pierre Shale) | 52- 57 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 126 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1960 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, yellowish-brown, trace of gravel | 0- 17 |
| Clay, gray, trace of gravel and shale | 17- 35 |
| Shale | 35- 37 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 32, T. 126 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1940 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown to grayish-brown, trace of sand and gravel | 0- 20 |
| Shale | 20- 27 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 126 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1869 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown to grayish-brown, trace of sand and gravel | 0- 27 |
| Shale | 27- 37 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 126 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1732 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------------------------|-----------------|
| Clay, brown, silty | 0- 7 |
| Sand, coarse, silty to gravelly | 7- 12 |
| Clay, black, trace of sand and gravel | 12- 37 |
| Shale, (Pierre Shale) | 37- 42 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 126 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1706 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, medium to coarse, trace of gravel | 0- 7 |
| Clay, brown, sandy | 7- 12 |
| Clay, brown, trace of sand | 12- 17 |
| Clay, grayish-brown | 17- 27 |
| Clay, grayish-black | 27- 32 |
| Shale, (Pierre Shale) | 32- 37 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 126 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1689 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, medium to coarse, trace of gravel | 0- 12 |
| Sand, brown, fine to medium | 12- 17 |
| Sand, brown, medium to coarse | 17- 32 |
| Clay, grayish-black, trace of sand | 32- 42 |
| Shale, (Pierre Shale) | 42- 47 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 126 N., R. 77 W. (continued)

Depth to water: 7 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 126 N., R. 78 W.

Drilled: USGS, ATH

Elevation: 1982 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, trace of gravel, pebbles at 14 feet, shale fragments from 17 to 32 feet | 0- 32 |
| Clay, grayish-black, trace of sand from 32 to 42 feet | 32- 42 |
| Shale | 42- 47 |

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 127 N., R. 74 W.

Drilled: SDGS, ATH

Elevation: 1850 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Silt, yellow, and clay, sandy | 0- 4 |
| Silt, yellow, clayey, no pebbles and no sand slightly laminated | 4- 14 |
| Silt, dark-brown, clayey, some sand | 14- 49 |
| Silt, dark-reddish-brown, less clay, occasional pebble | 49- 59 |
| Silt, gray, some clay | 59- 69 |
| Till, dark-brown, numerous pebbles | 69- 74 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 127 N., R. 74 W.

Drilled: SDGS, ATH

Elevation: 1912 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Silt, tan | 1- 3 |
| Till, tan to yellow | 3- 29 |
| Till, light- to dark-gray | 29- 42 |
| Gravel | 42- 45 |
| Till, dark-gray, moist to dry | 45- 83 |
| Till, silty, pebbly, rocks from 99 to 104 feet | 83-104 |
| Till, dark-gray, silty | 104-109 |
| Shale | 109-114 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14, T. 127 N., R. 74 W.
 Drilled: SDGS, ATH
 Elevation: 1832 feet (Altimeter)

| Material | Depth (feet) |
|----------------------------|-----------------|
| Clay, tan to brown, pebbly | 0- 19 |
| Clay, gray, pebbly | 19- 64 |
| Clay, dark-brown, pebbly | 64- 74 |
| Shale, dark-gray | 74- 79 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T. 127 N., R. 74 W.
 Drilled: SDGS, ATH
 Elevation: 1850 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, very silty, pebbly | 0- 17 |
| Clay, gray, silty, pebbly | 17- 21 |
| Sand, olive-brown to light-gray, clayey | 21- 25 |
| Clay, gray, silty, sandy, pebbly | 25-126 |
| Shale, (Pierre Shale) | 126-129 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 127 N., R. 74 W.
 Drilled: SDGS, ATH
 Elevation: 1780 feet (Altimeter)

| Material | Depth (feet) |
|-----------------------------------|-----------------|
| Gravel | 0- 8 |
| Clay, brown | 8- 9 |
| Clay, gray, pebbly | 9- 31 |
| Gravel | 31- 34 |
| Sand, gray, fine to coarse, silty | 34- 39 |
| Clay, gray, pebbly | 39- 79 |
| Shale, (Pierre Shale) | 79- 94 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 127 N., R. 74 W.
 Drilled: SDGS, RTH
 Elevation: 1810 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, yellowish-brown, gravelly, (till) | 0- 15 |
| Clay, gray, gravelly, (till) | 15- 50 |
| Gravel, pea-size | 50- 58 |
| Clay, gray, gravelly, (till) | 58- 85 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 127 N., R. 74 W. (continued)

| | |
|--|---------|
| Clay, gray, lake-bed deposits | 85-118 |
| Clay, gray, some sand and gravel, (till) | 118-125 |
| Clay, gray, lake-bed deposits | 125-170 |
| Gravel, few clay layers | 170-184 |
| Shale, (Pierre Shale) | 184-200 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1, T. 127 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: Not measured

| Material | Depth (feet) |
|-------------------------------------|-----------------|
| Clay, tan to brown, pebbly | 0- 24 |
| Clay, gray, pebbly | 24- 55 |
| Silt, with some fine to coarse sand | 55- 59 |
| Clay, gray, rocks at 66 feet | 59- 76 |
| Gravel | 76- 82 |
| Till, gray | 82- 97 |
| Shale, slightly reworked | 97- 99 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3, T. 127 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1870 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown to reddish-brown, pebbly and sandy from 29 to 39 feet | 0- 39 |
| Sand, very fine to fine, and silt, few pebbles from 39 to 49 feet; fewer to no pebbles below 49 feet; gray at 54 feet | 39- 74 |
| Shale (Pierre Shale) | 74- 79 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T. 127 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1812 feet (Altimeter)

| Material | Depth (feet) |
|---------------------------|-----------------|
| Topsoil | 0- 1 |
| Clay, olive-brown, pebbly | 1- 20 |
| Clay, dark-brown, pebbly | 20- 27 |
| Clay, gray, pebbly | 27- 28 |
| Shale | 28- 29 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 127 N., R. 75 W.
 Drilled: SDGS, ATH
 Elevation: 1876 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Clay, brown, silty, pebbly, some fine sand | 1- 29 |
| Clay, gray, silty, pebbly, some fine sand | 29- 79 |
| Shale, reworked | 79- 84 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 16, T. 127 N., R. 75 W.
 Drilled: SDGS, ATH
 Elevation: 1844 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Clay, light- to dark-brown, silty, sandy, pebbly | 1- 23 |
| Clay, gray, pebbly, silty, sandy | 23- 34 |
| Sand, gray, fine | 34- 59 |
| Till, silty and fine sand | 59- 82 |
| Gravel | 82- 84 |
| Sand, brown to olive, clayey | 84- 87 |
| Shale, reworked | 87-105 |
| Shale, light- to medium-gray, silty | 105-109 |

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 18, T. 127 N., R. 75 W.
 Drilled: SDGS, ATH
 Elevation: 1829 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, to dark-brown, silty, some sand and gravel | 0- 27 |
| Sand, brown, fine to coarse | 27- 36 |
| Sand, gray, fine to coarse | 36- 42 |
| Shale, mostly reworked | 42- 59 |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 127 N., R. 75 W.
 Drilled: SDGS, ATH
 Elevation: Not measured

| Material | Depth (feet) |
|----------|------------------|
| Topsoil | 0- $\frac{1}{2}$ |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 127 N., R. 75 W. (continued)

| | |
|--|--------|
| Gravel | ½- 3 |
| Till, brown to olive-brown | 3- 34 |
| Till, light-gray to dark-gray, rocks from 37 to 39 feet and 64 to 65 feet | 34- 84 |
| Shale (?) | 84- 89 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 127 N., R. 75 W.
Drilled: SDGS, ATH
Elevation: 1746 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, silty, sandy, and pebbly | 0- 14 |
| Clay, gray, silty, sandy, and pebbly | 14- 27 |
| Gravel, gray, and coarse sand | 27- 32 |
| Clay, gray, silty, sandy, and pebbly | 32- 43 |
| Sand in clayey matrix, brown to olive, coarse | 43- 45 |
| Clay, gray, silty, sandy, and pebbly | 45- 66 |
| Sand, clayey | 66- 84 |
| Clay, sand and silty, (till?) | 84-148 |
| Shale, green, (Pierre Shale) | 148-149 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 127 N., R. 75 W.
Drilled: SDGS, RTH
Elevation: 1830 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, pebbly | 0- 15 |
| Clay, gray, sandy, and silty | 15- 73 |
| Clay, less sand and silt | 73- 95 |
| Clay, sandy, soft | 95-105 |
| Clay, less sand, hard | 105-110 |
| Clay, sandy, silty | 110-125 |
| Clay, less sand | 125-170 |
| Gravel fine | 170-185 |
| Gravel, fine, may have some clay, as above only fewer cuttings | 185-195 |
| Shale, (Pierre Shale) | 195-210 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T. 127 N., R. 76 W.
Drilled: USGS, ATH
Elevation: 1720 feet (7½ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 2, T. 127 N., R. 76 W. (continued)

| | |
|--|--------|
| Gravel | 0- 5 |
| Gravel, brown, some coarse sand, clayey | 5- 7 |
| Gravel, brownish-gray, clayey | 7- 12 |
| Sand, gray, very fine, trace of gravel | 12- 17 |
| Sand, gray, very fine, silty; (salt and pepper sand) | 17- 42 |

Depth to water: 5 feet

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 127 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1712 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, black, silty | 0- 11 |
| Sand, gray, coarse, and gravel | 11- 20 |
| Sand, gray, very fine, and some fine sand | 20- 27 |

Depth to water: 11 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 127 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1737 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, coarse, some gravel | 0- 10 |
| Clay, olive-green | 10- 12 |
| Clay, gray, silty | 12- 17 |
| Clay, gray | 17- 27 |
| Clay, gray, silty | 27- 32 |
| Sand, gray, very fine; clayey from 47 to 52 feet | 32- 72 |
| Silt, laminated; very tough drilling (old alluvium?) | 72- 77 |

Depth to water: 12 feet

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5, T. 127 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1731 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Gravel | 0- 3 |
| Sand, brown, fine, trace of gravel | 3- 7 |
| Sand, brown, very fine to fine | 7- 27 |
| Sand, gray, (salt and pepper sand); very fine clay layers below 72 feet | 27- 97 |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 5, T. 127 N., R. 76 W. (continued)

No sample; tough drilling, probably clay 97-107

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T. 127 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1690 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Gravel | 0- 7 |
| Clay, brown, pebbly | 7- 9 |
| Clay, gray, silty; tough | 9- 20 |
| Sand, fine, clayey, (salt and pepper sand) | 20- 38 |
| Clay, sandy, to pure clay at 50 feet | 38- 50 |
| Clay, gray, silty and some very fine sand | 50-193 |
| Gravel | 193-203 |
| Clay and coal interbedded; black fine sand in 220 to 240 foot samples | 203-259 |
| Shale, (Pierre Shale) | 259-280 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7, T. 127 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1692 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, medium, some gravel | 0- 2 |
| Sand, brown, fine | 2- 19 |
| Clay, brownish-gray, very silty, (lake-bed deposits) | 19- 27 |

Depth to water: 7 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T. 127 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1680 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, black | 0- 7 |
| Clay, gray to greenish-gray | 7- 15 |
| Sand, brown, coarse, clayey | 15- 22 |
| Clay, grayish-brown, trace of gravel, (till) | 22- 27 |
| Clay, gray, trace of gravel, (till) | 27- 32 |

Depth to water: 6 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 127 N., R. 76 W.
 Drilled: USGS, ATH
 Elevation: 1683 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, trace of gravel | 0- 7 |
| Clay, brown, trace of sand | 7- 12 |
| Clay and sand layers | 12- 17 |
| Sand, gray, coarse to very coarse, traces of gravel from 22 to 27 feet | 17- 27 |
| Gravel, gray, pea-size, and sand, medium to coarse; stringers of clay from 37 to 42 feet | 27- 42 |
| Clay, gray | 42- 47 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 127 N., R. 76 W.
 Drilled: USGS
 Elevation: 1683 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, trace of sand | 0- 7 |
| Sand, brown, coarse to very coarse, clayey | 7- 15 |
| Clay, grayish-brown, trace of sand | 15- 19 |
| Sand, gray, coarse to very coarse, trace of gravel | 19- 26 |

Cased well 27 feet. Depth to water: 17 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 8, T. 127 N., R. 76 W.
 Drilled: USGS
 Elevation: 1683 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, trace of sand | 0- 10 |
| Gravel, brown, fine to medium, and sand, coarse to very coarse, becoming gray at 12 feet | 10- 16 |
| Clay, gray | 16- 17 |
| Gravel, gray, and sand, coarse to very coarse, some clay layers | 17- 26 |

Cased well 26 feet.

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 127 N., R. 76 W.
 Drilled: USGS, ATH
 Elevation: 1732 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9, T. 127 N., R. 76 W. (continued)

| Material | Depth (feet) |
|--|-----------------|
| Gravel, dark-brown, clayey | 0- 5 |
| Sand, light-brown, fine to medium, trace of gravel | 5- 7 |
| Sand, brown, medium, some gravel | 7- 12 |
| Sand, brown, coarse to very coarse, some gravel | 12- 17 |
| Sand, brown, fine, some coarse sand | 17- 30 |
| Sand, gray, very fine to fine | 30- 37 |
| Sand, gray, very fine, slightly clayey | 37- 47 |
| Silt, gray | 47- 72 |
| Shale, reworked | 72- 82 |

Depth to water: 12 feet

* * * * *

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T. 127 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1693 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown | 0- 12 |
| Clay, with layers of gravel | 12- 17 |
| Gravel, brown, pea-size, some clay | 17- 27 |
| Sand, gray, very fine, silty ("salt and pepper" sand) | 27- 57 |

Depth to water: 10.38 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T. 127 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1772 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Silt, tan, some sand and a few pebbles | 0- 4 |
| Clay, brown, pebbly, sandy, (till) | 4- 11 |
| Gravel, brown, fine to medium, clayey | 11- 17 |
| Clay, brown, silty, and fine sand; (could be loess or lacustrine, only sand content is high for loess) | 17- 27 |
| No sample, (gravelly?) | 27- 29 |
| Clay, dark-brown, silty, and fine sand | 29- 34 |
| Sand, brown to 49 feet, then gray, fine to very fine, some clay | 34- 60 |
| Shale, gray-blue, slightly calcareous, (Pierre Shale) | 60- 65 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 127 N., R. 76 W.

Drilled: SDGS, ATH

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 127 N., R. 76 W. (continued)
Elevation: 1822 feet (Altimeter)

| Material | Depth (feet) |
|----------------------------|-----------------|
| Topsoil | 0- 2 |
| Clay, brown, silty, pebbly | 2- 37 |
| Clay, gray, pebbly | 37- 58 |
| Shale | 58- 59 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 15, T. 127 N., R. 76 W.
Drilled: SDGS, ATH
Elevation: 1722 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, tan, silty, sandy, few pebbles | 0- 4 |
| Clay, gray at 29 feet, silty, faint laminations; more compact from 34 feet; has silty layers and very fine sandy clay layers | 4- 44 |
| Silt and very fine sand, little clay; more clay from 54 to 61 feet | 44- 61 |
| No sample, gravelly (?) | 61- 64 |
| Shale, gray to blue-black, slightly calcareous, (Pierre Shale) | 64- 89 |

Note: Flow about 5 gpm from gravel-shale contact.

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 127 N., R. 76 W.
Drilled: SDGS, ATH
Elevation: 1686 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Clay, tan, silty | 1- 24 |
| Clay, medium-gray, silty | 24- 54 |
| Clay, gray with occasional brown streak, silty | 54- 74 |
| Sand, fine, silty | 74- 79 |
| Clay, gray, fine sand and silt | 79-104 |
| Sand, medium-gray, silt and some clay; (bit sample showed dark-gray clay) | 104-149 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16, T. 127 N., R. 76 W.
Drilled: SDGS, ATH
Elevation: 1671 feet (7 $\frac{1}{2}$ minute topographic map)

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16, T. 127 N., R. 76 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil | 0- 3 |
| Sand, brown, fine to medium with some coarse sand | 3- 34 |
| Sand, light-gray, fine to medium | 34- 64 |
| No samples, drilled harder than above | 64- 79 |
| Shale, (Pierre Shale) | 79- 89 |

Depth to water: 7 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T. 127 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1670 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, grayish-black, trace of gravel | 0- 11 |
| Sand, fine | 11- 20 |
| Clay, gray, (till) | 20- 39 |
| Clay, gray | 39- 42 |

Depth to water: 11 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 127 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1675 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil | 0- 2 |
| Silt, yellow, sandy and some clay | 2- 17 |
| Clay, gray, pebbles, slightly silty (till) | 17-140 |
| Clay, gray, pebbly, silty and sand content higher, (lacustrine?) | 140-183 |
| Coal, with very little sand | 183-200 |
| Sand, coarse, and gravel with much coal; less gravel from 220 to 240 feet | 200-260 |
| Coal and stringers of coarse gravel | 260-275 |
| Shale, (Pierre Shale) | 275-280 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 127 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1675 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 127 N., R. 76 W. (continued)

| | |
|-----------------------------------|--------|
| Till, yellow, silty | 0- 4 |
| Silt, red, some fine sand | 4- 19 |
| Silt, red, very fine sand | 19- 24 |
| Silt, light-gray, fine sand | 24- 28 |
| Till, dark-gray, numerous pebbles | 28- 49 |

Depth to water: 19 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21, T. 127 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1725 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Topsoil | 0- 2 |
| Clay, brown, silty, pebbly, moist | 2- 22 |
| Clay, gray, silty, pebbly, some sand | 22- 69 |
| Shale, (Pierre Shale) | 69- 74 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T. 127 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1827 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Silt, tan, powdery, sand and pebbles; (extremely powdery dry till) | 0- 9 |
| Clay, brown, sandy, turning gray at 36 feet | 9- 44 |
| Clay, gray, pebbly, silty | 44- 56 |
| No sample; gravelly (?) | 56- 58 |
| Sand, gray, coarse, in clay matrix | 58- 65 |
| Shale, highly calcareous | 65- 69 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 127 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1802 feet (Altimeter)

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Clay, brown, silty, pebbly | 0- 19 |
| Clay, gray, sandy, pebbly | 19- 59 |
| Clay, gray, very sandy, (till?) | 59- 72 |
| Shale, reworked | 72- 84 |
| Shale, unaltered, (Pierre Shale) | 84- 89 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28, T. 127 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1710 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------|-----------------|
| Till, brown | 0- 14 |
| Till, olive-brown | 14- 24 |
| Till, dark-gray | 24- 49 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 127 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1677 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Till, brown | 0- 4 |
| Till, brown, very silty | 4- 9 |
| Till, brown; hit rock at 12 feet; more rocks from 12 to 24 feet | 9- 24 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 127 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1704 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Roadbed | 0- 4 |
| Till, brown | 4- 19 |
| Till, dark-gray, very silty, but has pebbles | 19- 39 |
| Till, dark-gray, many pebbles | 39- 49 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32, T. 127 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1700 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, reddish-brown, very fine | 0- 4 |
| Sand, light-brown, fine | 4- 14 |
| Sand, reddish-brown, very fine | 14- 19 |
| Sand, light-gray, fine to coarse | 19- 24 |
| Sand, dark-gray, coarse | 24- 93 |
| Till, dark-gray, very silty clay, and has some coarse sand and large pebbles | 93-104 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32, T. 127 N., R. 76 W. (continued)

Depth to water: 14 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 127 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1700 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, yellow | 0- 5 |
| Clay, brown, sandy | 5- 15 |
| Sand, gray, fine to very fine, abundant coal at 90 feet; some clay from 95 to 125 feet | 15-125 |
| Sand, as above, clay content increasing and thin beds of sandy clay; some cuttings look like till, others definitely sand. Samples show oxidized till (125 to 140 feet), partly oxidized (140 to 155 feet) | 125-142 |
| Gravel | 142-145 |
| Clay, gray, sandy, compact, (till) | 145-214 |
| Gravel, mostly shale pebbles and some coal fragments | 214-230 |
| Gravel, finer | 230-250 |
| Gravel, medium to coarse, less coal and shale pebbles; 2 foot clay stringer from 257 to 259 feet | 250-280 |
| Shale, grayish-green, soft, and black brittle shale chips, few bentonite cuttings, (Pierre Shale) | 280-300 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35, T. 127 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1780 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, sandy and contains pebbles, (till) | 0- 8 |
| Clay, brown, compact and fat; no pebbles or sand; turning gray at 16 feet | 8- 20 |
| Clay, yellow, sandy and pebbly, (till) | 20- 45 |
| Clay, gray, silty, no pebbles or sand | 45- 50 |
| Clay, gray, silty in spots | 50- 65 |
| Clay, gray, sandy | 65- 88 |
| Gravel, medium to coarse, many shale pebbles; shale fragments very abundant from 110 to 125 feet | 88-132 |
| Sand, very fine, clayey, two thin gravel layers | 132-140 |
| Sand, very fine, clayey | 140-147 |
| Gravel, medium; fine to medium from 155 to 170 feet, clean, well sorted | 147-170 |
| Shale, (Pierre Shale) | 170-185 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 127 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1761 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 2 |
| Clay, brown, silty, sandy and pebbly; turning gray at 38 feet | 2- 54 |
| Clay, silty, (till?) | 54- 69 |
| Clay, gray, sandy, silty and pebbly | 69-107 |
| Shale, (Pierre Shale) | 107-114 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T. 127 N., R. 77 W.
 Drilled: SDGS, RTH
 Elevation: 1666 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand and gravel | 0- 19 |
| Clay, brown, (lacustrine) | 19- 26 |
| Clay, gray, silty, (lacustrine) | 26- 65 |
| Clay, dark-gray, pebbly, (till) | 65- 80 |
| Clay, gray, compact and tough, (lacustrine) | 80-120 |
| Silt, gray, sandy and some clay; small pebbles (lacustrine?) | 120-180 |
| Clay, medium-gray, compact, (lacustrine) | 180-193 |
| Sand and gravel with abundant coal; black sand in 200 foot sample | 193-220 |
| Coal and some sand | 220-250 |
| Shale, (Pierre Shale) | 250-260 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2, T. 127 N., R. 77 W.
 Drilled: SDGS, RTH
 Elevation: 1692 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil, black | 0- 5 |
| Clay, gray | 5- 7 |
| Gravel | 7- 15 |
| Clay, light-gray, silty, tough; drills easier from 50 to 65 feet, (lacustrine) | 15- 80 |
| Clay, light-gray, silty and contains few pebbles, (lacustrine?) | 80-198 |
| Sand, much coal | 198-230 |
| Gravel, coarse, large rocks or coal | 230-234 |
| Shale fragments and coal | 234-245 |
| Sand, coarse, and shale fragments | 245-280 |

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Location: SW¼SW¼SW¼SW¼ sec. 3, T. 127 N., R. 77 W.
 Drilled: SDGS, RTH
 Elevation: 1670 feet (7½ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil, black, sandy | 0- 3 |
| Clay, varicolored, grayish-brown to green | 3- 8 |
| Gravel and sand | 8- 27 |
| Clay, gray, silty, (lacustrine) | 27- 68 |
| Till, gray; pebbly clay | 68-178 |
| Coal; sand and gravel probably present but only receiving coal cuttings | 178-185 |
| Gravel and much coal | 185-243 |
| Shale, (Pierre Shale) | 243-260 |

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Location: SE¼SE¼SE¼SE¼ sec. 3, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1690 feet (7½ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, coarse, and gravel | 0- 12 |
| Sand, brown, coarse, and gravel, clayey | 12- 17 |
| Sand, light-brown, fine | 17- 25 |
| Sand, light-brown, fine to medium | 25- 27 |
| Sand, gray, fine to medium | 27- 42 |
| Sand, with clay layers | 42-127 |

Depth to water: 32 feet

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Location: NE¼NE¼NE¼NE¼ sec. 4, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1700 feet (7½ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, light-brown, fine | 0- 2 |
| Sand, light- to dark-brown, medium to coarse, with gravel | 2- 7 |
| Sand, light-brown, medium | 7- 12 |
| Sand, dark-brown, medium to very coarse, some gravel | 12- 17 |
| Sand, dark-brown, coarse, some gravel | 17- 22 |
| Sand, grayish-brown, medium to coarse, clayey | 22- 27 |
| Sand, brown, fine to medium | 27- 37 |
| Sand, gray, medium, becoming coarser with depth, some clay layers | 37-127 |

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Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1650 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, medium to coarse, some fine sand and gravel | 0- 11 |
| Sand, coarse, 20 percent gravel | 11- 16 |
| Sand, coarse, and gravel, some fine sand | 16- 21 |
| Gravel, some medium to very coarse sand | 21- 41 |
| Gravel, medium to very coarse, and sand | 41- 50 |
| Sand, clayey | 50- 51 |
| Sand, medium to very coarse, some gravel and clay | 51- 61 |
| Sand, medium to coarse, brown clay layers | 61- 63 |
| Clay, blue-gray, with sand and gravel layers | 63-119 |

Depth to water: 6 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 127 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1665 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, fine to coarse | 0- 24 |
| Sand, medium to coarse, and gray clay | 24- 54 |
| Clay, gray, silty and some sand; almost no sand below 69 feet | 54-149 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1690 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, fine to medium, some gravel | 0- 7 |
| Sand, brown, fine, some gravel | 7- 12 |
| Sand, brown, very fine to fine | 12- 22 |
| Sand, brown, fine, becoming gray with depth | 22- 27 |
| Sand, gray, very fine to fine | 27- 32 |
| Sand, gray, fine | 32- 37 |
| Sand, gray, fine, trace of medium sand | 37- 42 |
| Sand, gray, medium, trace of fine | 42- 47 |
| Sand, gray, medium | 47-100 |
| Sand, black and gray laminated, fine, clayey (old alluvium?) | 100-103 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9, T. 127 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1670 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Gravel, brown to reddish-brown, and coarse sand, some silt and clay | 0- 39 |
| Clay, brown to light-gray, and fine sand | 39- 59 |
| Clay, light-gray, with gravel | 59- 75 |
| Clay, light-gray, silty | 75- 89 |
| Sand, light- to dark-gray, silty and much clay | 89-123 |
| Shale, (Pierre Shale) | 123-134 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 12, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1670 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, black, becoming brown from 2 to 9 feet, trace of gravel, (till) | 0- 9 |
| Sand, brown, medium, some coarse | 9- 12 |
| Sand, brown, coarse, some gravel, clay layers | 12- 27 |
| Sand, coarse, some very coarse gravel | 27- 28 |
| Clay, gray, (till) | 28- 37 |

Depth to water: 2.91 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1675 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------|-----------------|
| Clay, brown, sandy | 0- 22 |
| Gravel, brown | 22- 32 |
| Gravel, gray | 32- 37 |
| Gravel, gray, some clay layers | 37- 58 |
| Clay, gray, (till) | 58- 62 |

Depth to water: 10.48 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1660 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 127 N., R. 77 W. (continued)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, sandy | 0- 7 |
| Clay, gray, sandy | 7- 12 |
| Sand, gray, medium to coarse, with trace of gravel from 17 to 22 feet | 12- 22 |
| Sand, gray, medium, clayey | 22- 27 |
| Sand, gray, medium, trace of gravel | 27- 32 |
| Sand, medium to very coarse, with some gravel and clay layers | 32- 52 |
| Clay, gray, some sand layers | 52- 67 |
| No samples; drilled like 52 to 67 foot interval | 67- 82 |

Depth to water: 7 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 127 N., R. 77 W.
Drilled: USGS, ATH
Elevation: 1744 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, light-brown, silty | 0- 11 |
| Clay, brownish-gray, trace of gravel | 11- 41 |
| Shale, (Pierre Shale) | 41- 46 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T. 127 N., R. 77 W.
Drilled: USGS, ATH
Elevation: 1670 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, black to brown | 0- 7 |
| Sand, brown, fine, clayey | 7- 12 |
| Clay, black, trace of gravel, (till) | 12- 32 |

Depth to water: 7 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T. 127 N., R. 77 W.
Drilled: USGS, ATH
Elevation: 1794 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------|-----------------|
| Clay, brown | 0- 16 |
| Shale | 16- 21 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1734 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------|-----------------|
| Clay, brown | 0- 21 |
| Clay, blue-black | 21- 71 |
| Depth to water: 16 feet | |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1730 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------|-----------------|
| Clay, brownish-gray | 0- 19 |
| Shale, (Pierre Shale) | 19- 21 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1788 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------|-----------------|
| Clay, grayish-brown | 0- 13 |
| Shale | 13- 16 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1706 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------------------|-----------------|
| Silt, brown | 0- 6 |
| Sand, brown, fine to medium | 6- 16 |
| Sand, medium to coarse, some gravel | 16- 31 |
| Clay, blue | 31- 65 |
| Gravel | 65- 66 |
| Shale, (Pierre Shale) | 66- 81 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1688 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 21, T. 127 N., R. 77 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Clay, grayish-black | 0- 6 |
| Sand, brown, fine to coarse, some gravel | 6- 9 |
| Clay, gray | 9- 11 |
| Sand, grayish-brown, fine to coarse, lignite | 11- 21 |
| Sand, gray, medium to coarse, some gravel and lignite, clay layers | 21- 56 |
| Sand, fine to coarse, clayey with many clay layers | 56-102 |
| Clay | 102-106 |

Depth to water: 6 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 22, T. 127 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1678 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Sand, brown, fine | 0- 12 |
| Clay, brown, trace of gravel, (till) | 12- 22 |
| Clay, gray, trace of gravel, (till) | 22- 42 |

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 127 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1688 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Silt and fine sand | 0- 4 |
| Sand, brown, fine to coarse | 4- 9 |
| Sand, brown to 24 feet and gray from 24 to 49 feet, silty and clayey | 9- 49 |
| Clay, light- to dark-gray, silty with some fine sand | 49- 77 |
| Shale, dark-gray, reworked | 77-113 |
| Shale, dark-gray, unaltered, (Pierre Shale) | 113-124 |

Depth to water: 9 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24, T. 127 N., R. 77 W.

Drilled: SDGS, RTH

Elevation: 1670 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: NW¼NW¼NW¼NW¼ sec. 24, T. 127 N., R. 77 W. (continued)

| | |
|--|---------|
| Clay, brown, pebbly | 0- 16 |
| Clay, gray, pebbly, some silt; sand stringer at 75 feet, (till) | 16-125 |
| Clay, gray; silt and gravel from 132 to 138 feet; thin stringers of gravel and coal from 155 to 170 feet | 125-170 |
| Clay, gray, silty, shale fragments, (lacustrine) | 170-185 |
| Gravel, coarse, contains some sand and coal | 185-238 |
| Shale, much bentonite in cuttings, (Pierre Shale) | 238-260 |

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Location: NE¼NE¼NE¼NE¼ sec. 25, T. 127 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1670 feet (7½ minute topographic map)

| Material | Depth (feet) |
|----------------------------|-----------------|
| Till, light-brown, pebbles | 0- 9 |
| Till, dark-brown, pebbles | 9- 14 |
| Till, olive-brown, pebbles | 14- 24 |

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Location: SW¼SW¼SW¼SW¼ sec. 25, T. 127 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1680 feet (7½ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, black | 0- 10 |
| Clay, light-gray, silty | 10- 16 |
| Sand, brown, very fine, some clay | 16- 21 |
| Clay, grayish-brown, trace of gravel and shale fragments | 21- 26 |
| Clay, blue-gray, trace of sand and gravel | 26- 51 |
| Sand, gray, clayey and coarse sand, clay layers | 51- 81 |
| Clay, black, trace of gravel | 81- 96 |

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Location: NE¼NE¼NE¼NE¼ sec. 26, T. 127 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1688 feet (7½ minute topographic map)

| Material | Depth (feet) |
|-----------------------------|-----------------|
| Clay, topsoil | 0- 7 |
| Clay, yellowish-brown | 7- 11 |
| Sand, yellowish-brown, fine | 11- 14 |
| Clay, brown, sandy | 14- 17 |
| Clay, brown, trace of sand | 17- 22 |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 26, T. 127 N., R. 77 W. (continued)

| | |
|--|--------|
| Rocks | 22- 23 |
| Clay, brown, trace of gravel, (till) | 23- 26 |
| Clay, gray, trace of gravel, (till) | 26- 67 |
| No sample, hard drilling as 23 to 67 foot interval | 67- 77 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 127 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1708 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil, silty clay | 0- 1 |
| Clay and silt, tan | 1- 29 |
| Clay, medium-gray, silty | 29- 39 |
| Clay, dark-gray, sand grains and rock fragments | 39- 44 |
| Clay, dark-gray, shell fragments | 44- 49 |
| Clay, tan and dark-gray, few sand grains | 49- 54 |
| Clay, dark-gray, (shale?) | 54- 59 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 127 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1745 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, brownish-gray, trace of gravel | 0- 7 |
| Clay, grayish-black | 7- 25 |
| Shale, (Pierre Shale) | 25- 27 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 32, T. 127 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1922 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, trace of sand and gravel | 0- 17 |
| Clay, grayish-brown with streaks of grayish-black, (colluvium?) | 17- 26 |
| Shale | 26- 32 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T. 127 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1735 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T. 127 N., R. 77 W. (continued)

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Silt, grayish-brown | 0- 6 |
| Clay, gray to brown, some gypsum | 6- 20 |
| Shale, (Pierre Shale) | 20- 21 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 127 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1690 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, light-gray to brown | 0- 21 |
| Clay, grayish-black, trace of sand | 21- 26 |
| Sand, gray, medium to very coarse, some gravel and lignite | 26- 86 |
| Clay | 86- 95 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 127 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1890 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Silt, light-brown, gravel layers at 5 feet | 0- 6 |
| Clay, red to gray-brown | 6- 10 |
| Gravel, clayey | 10- 11 |
| Clay, brownish-gray to gray, trace of gravel and gypsum | 11- 31 |
| Clay, gray | 31- 71 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 127 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1855 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown | 0- 11 |
| Sand, coarse, to gravel | 11- 21 |
| Clay, blue-gray, trace of sand and gravel | 21- 26 |
| Clay, silty, trace of gravel from 61 to 66 feet | 26- 76 |
| Clay, blue-black | 76- 96 |

Depth to water: 11 feet

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1, T. 127 N., R. 79 W.
 Drilled: USBR
 Elevation:

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, sandy | 0- 4 |
| Clay, brown to gray, weathered shale, numerous small gypsum crystals | 4- 35 |
| Shale, dark-gray | 35- 60 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1, T. 127 N., R. 79 W.
 Drilled: USBR
 Elevation:

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Clay, sandy | 0- 3 |
| Clay, brown | 3- 16 |
| Clay, dark-gray, weathered shale | 16- 23 |
| Shale, dark-gray | 23-110 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1, T. 127 N., R. 79 W.
 Drilled: USBR
 Elevation:

| Material | Depth (feet) |
|---------------------------|-----------------|
| Sand, brown, fine, clayey | 0- 3 |
| Shale, brown | 3- 16 |
| Shale, dark-gray | 16- 60 |

Elevation of water table 1581.7 on 9-1-65

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 1, T. 127 N., R. 79 W.
 Drilled: USBR, ATH
 Elevation: 1632 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, dark-brown, fine, silty, trace of clay | 0- 1 |
| Silt, tan, 25 percent very fine sand | 1- 5 |
| Sand, tan, fine, silty, moderate mica content | 5- 14 |
| Silt, tan, clayey, trace of very fine sand | 14- 24 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1, T. 128 N., R. 74 W.
 Drilled: SDGS, ATH
 Elevation: 1965 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Gravel and sand, brown, some silt and clay | 0- 6 |
| Till, light-yellowish-brown | 6- 9 |
| Till, olive-brown to dark-brown | 9- 21 |
| Till, light- to dark-gray | 21-111 |
| Sand and gravel, brown | 111-123 |
| Shale, dark-gray, reworked, has pebbles | 123-133 |
| Shale, dark-gray, consolidated hard clay, (Pierre Shale) | 133-137 |

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 128 N., R. 74 W.
 Drilled: SDGS, ATH
 Elevation: 1965 feet (Altimeter)

| Material | Depth (feet) |
|---------------------------|-----------------|
| Topsoil | 0- 1 |
| Clay, brown, sandy | 1- 9 |
| Till, light- to dark-gray | 9- 14 |
| Till, dark-gray | 14- 39 |
| Till, dark-gray | 39- 54 |
| Shale | 54- 64 |

Depth to water: 39 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T. 128 N., R. 74 W.
 Drilled: SDGS
 Elevation: 2017 feet (Altimeter)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Till, tan | 0- 9 |
| Till, light-gray, very silty | 9- 34 |
| Shale, light-brownish-gray, reworked | 34- 44 |
| Shale, dark-gray, contains marcosite | 44- 49 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 128 N., R. 74 W.
 Drilled: SDGS
 Elevation: 1950 feet (Altimeter)

| Material | Depth (feet) |
|----------|-----------------|
| Topsoil | 0- 1 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 128 N., R. 74 W. (continued)

| | |
|---|---------|
| Silt, yellow, small pebbles present | 1- 6 |
| Gravel, brown | 6- 7 |
| Till, oxidized | 7- 29 |
| Till, unoxidized | 29-104 |
| Shale, reworked, has numerous pebbles and coarse gravel | 104-111 |
| Shale | 111-117 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 128 N., R. 74 W.
 Drilled: SDGS, ATH
 Elevation: 1928 feet (Altimeter)

| Material | Depth (feet) |
|--------------------------|--------------|
| Topsoil | 0- 1 |
| Silt, yellow | 1- 7 |
| Till, oxidized | 7- 24 |
| Till, unoxidized | 24- 42 |
| Shale, slightly reworked | 42- 49 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20, T. 128 N., R. 74 W.
 Drilled: USGS, ATH
 Elevation: 1806 feet (Altimeter)

| Material | Depth (feet) |
|---|--------------|
| Clay, brown, trace of gravel | 0- 7 |
| Sand, brown, medium to coarse, trace of clay and gravel | 7- 12 |
| Sand, coarse to very coarse, 10 percent gravel | 12- 22 |
| Clay, gray | 22- 32 |

Depth to water: 7 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T. 128 N., R. 74 W.
 Drilled: SDGS, ATH
 Elevation: 1880 feet (Altimeter)

| Material | Depth (feet) |
|-----------------------------|--------------|
| Sand, brown, fine to coarse | 0- 14 |
| Gravel | 14- 15 |
| Shale | 15- 19 |

Depth to water: 9 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 23, T. 128 N., R. 74 W.
 Drilled: USGS, ATH
 Elevation: 1836 feet (Altimeter)

| Material | Depth (feet) |
|-------------------------------------|-----------------|
| Gravel and sand, brown | 0- 7 |
| Gravel, brown, trace of coarse sand | 7- 17 |
| Gravel, brown, trace of sand | 17- 22 |
| Gravel, brown | 22- 27 |
| Gravel, gray, clayey | 27- 32 |
| Clay, gray, gravelly | 32- 37 |
| Clay, gray, trace of gravel | 37- 42 |
| Clay; shale? | 42- 52 |

Depth to water: 17 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 128 N., R. 74 W.
 Drilled: USGS, ATH
 Elevation: 1903 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Clay, grayish-brown | 0- 12 |
| Clay, gray, trace of sand, (till) | 12- 27 |
| Clay, grayish-brown, trace of sand and shale | 27- 32 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 25, T. 128 N., R. 74 W.
 Drilled: USGS, ATH
 Elevation: 1843 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, coarse to very coarse, some silty, gravel layer at 4 feet | 0- 7 |
| Sand, brown, fine | 7- 13 |
| Gravel, one-half inch diameter | 13- 14 |
| Sand, brown, fine, layers of gravel | 14- 17 |
| Clay, brown, sandy, some gravel; becoming gray with depth | 17- 22 |
| Clay, dark-gray, trace of gravel and shale fragments, (till) | 22- 37 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27, T. 128 N., R. 74 W.
 Drilled: USGS, ATH
 Elevation: 1815 feet (Altimeter)

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 27, T. 128 N., R. 74 W. (continued)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown | 0- 7 |
| Clay, brownish-gray, sandy | 7- 12 |
| Clay, black, streaks of gray, trace of sand and gravel | 12- 15 |
| Gravel | 15- 17 |
| Gravel, abundant clay layers | 17- 27 |

Water level estimated at 7 to 10 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 128 N., R. 74 W.
 Drilled: USGS, ATH
 Elevation: 1811 feet (Altimeter)

| Material | Depth (feet) |
|-------------|-----------------|
| Clay, brown | 0- 7 |
| Clay, gray | 7- 32 |

Depth to water: 7 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 128 N., R. 74 W.
 Drilled: SDGS
 Elevation: 1943 feet (Altimeter)

| Material | Depth (feet) |
|-----------------------------------|-----------------|
| Topsoil | 0- 1 |
| Silt, gray | 1- 2 |
| Till, oxidized | 2- 19 |
| Till, gray | 19- 57 |
| Sand, dark-gray, fine | 57- 63 |
| Gravel, brown | 63- 66 |
| Till, dark-gray | 66- 99 |
| Shale, reworked, numerous pebbles | 99-112 |
| Shale | 112-119 |

Depth to water: 57 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 128 N., R. 74 W.
 Drilled: USGS, ATH
 Elevation: 1820 feet (Altimeter)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 128 N., R. 74 W. (continued)

| | |
|--------------------------------------|--------|
| Clay, grayish-black | 0- 7 |
| Clay, black | 7- 12 |
| Clay, black, trace of sand | 12- 17 |
| Clay, black, 10 percent gravel | 17- 27 |
| Clay, black, 25 percent gravel | 27- 32 |
| Clay, black, trace of gravel, (till) | 32- 37 |

Depth to water: 12 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 128 N., R. 75 W.

Drilled: SDGS

Elevation: 2082 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Silt, light-brown | 1- 3 |
| Till, oxidized | 3- 34 |
| Till, unoxidized | 34- 49 |
| Silt, dark-gray, few small pebbles present | 49- 64 |
| Silt to very fine sand, dark-gray | 64- 85 |
| Till, dark-gray; shale content increases downwards | 85-119 |
| Shale | 119-129 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T. 128 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1929 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Till, oxidized | 0- 34 |
| Till, dark-gray | 34- 84 |
| Till, dark-gray; may be reworked shale | 84-104 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 128 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1984 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Till, oxidized | 0- 32 |
| Till, dark-gray | 32- 51 |
| Sand, light-gray, gravel and rocks, some clay | 51- 54 |
| Shale, reworked, contains pebbles | 54- 59 |
| Shale | 59- 69 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T. 128 N., R. 75 W.
 Drilled: SDGS, ATH
 Elevation: 1919 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, silty and pebbly | 0- 21 |
| Clay, gray, sandy, silty, few pebbles present | 21- 29 |
| Clay, brownish-gray, pebbly | 29- 36 |
| Sand, brown, some clay and gravel | 36- 48 |
| Sand, gray, fine | 48- 56 |
| Shale | 56- 63 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 24, T. 128 N., R. 75 W.
 Drilled: USGS, ATH
 Elevation: 1814 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, grayish-brown | 0- 12 |
| Clay, brown, abundant gravel | 12- 15 |
| Sand, brown, medium to coarse, and gravel | 15- 17 |
| Sand, brown, coarse, some gravel | 17- 22 |
| Gravel and clay, dark-brown | 22- 27 |
| Clay, dark-brown, some gravel | 27- 32 |
| Gravel, brown, clayey | 32- 37 |
| Shale, reworked | 37- 47 |

Depth to water: 32 feet

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 128 N., R. 75 W.
 Drilled: USGS, ATH
 Elevation: 1802 feet (Altimeter)

| Material | Depth (feet) |
|-----------------------------|-----------------|
| Clay, black | 0- 6 |
| Sand, brown, medium, clayey | 6- 7 |
| Sand and gravel, brown | 7- 10 |
| Clay, gray | 10- 12 |
| Clay, gray, some gravel, | 12- 47 |

Depth to water estimated at 10 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 128 N., R. 75 W.
 Drilled: USGS, ATH
 Elevation: 1785 feet (Altimeter)

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 128 N., R. 75 W. (continued)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown | 0- 7 |
| Clay, brown | 7- 12 |
| Clay, brown, trace of gravel | 12- 17 |
| Clay, grayish-black, trace of gravel, (till) | 17- 32 |

Depth to water: 7 feet

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 128 N., R. 75 W.

Drilled: SDGS, ATH

Elevation: 1755 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Gravel, brown, coarse and sand | 0- 8 |
| Sand, gray at 14 feet, fine, a few pebbles, high clay content | 8- 24 |
| Sand, gray, fine, some clay, gravelly from 47 to 49 feet | 24- 47 |
| Gravel and sand, some clay | 47- 54 |
| Shale, (Pierre Shale) | 54- 59 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 128 N., R. 75 W.

Drilled: USGS, ATH

Elevation: 1764 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brownish-gray, fine to medium, clayey | 0- 7 |
| Sand, black, coarse to very coarse, clayey | 7- 12 |
| Gravel, pea-size | 12- 15 |
| Sand, gray, very fine; more clay at depth, "salt and pepper" sand) | 15- 46 |
| Rocks | 46- 47 |
| Shale, reworked (?) | 47- 57 |

Depth to water: 4.67 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 128 N., R. 75 W.

Drilled: USGS, ATH

Elevation: 1788 feet (Altimeter)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 128 N., R. 75 W. (continued)

| | |
|---|--------|
| Sand, brown, fine to medium | 0- 7 |
| Sand, brown, medium to coarse, 10 percent gravel | 7- 12 |
| Sand, medium to coarse, 10 percent gravel | 12- 22 |
| Sand, light-gray, medium to coarse, trace of gravel | 22- 27 |
| Sand, gray, very fine, (salt and pepper sand) | 27- 46 |
| Gravel | 46- 47 |
| Clay, gravelly | 47- 57 |
| Shale, (Pierre Shale) | 57- 62 |

Depth to water estimated at 20 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 35, T. 128 N., R. 75 W.

Drilled: USGS, ATH

Elevation: 1788 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, topsoil | 0- 1 |
| Sand, brown, coarse, and gravel | 1- 7 |
| Sand, brownish-gray, and gravel, clayey | 7- 12 |
| Clay, grayish-black | 12- 35 |

Depth to water: 7 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35, T. 128 N., R. 75 W.

Drilled: USGS, ATH

Elevation: 1815 feet (Altimeter)

| Material | Depth (feet) |
|-----------------------|-----------------|
| Clay, brown, gravelly | 0- 7 |
| Clay, gray | 7- 22 |

Depth to water: 7 feet

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 1, T. 128 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1935 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, tan, trace of gravel, (till) | 0- 17 |
| Sand, yellowish-brown, medium to coarse | 17- 27 |
| Silt, yellow, loess(?) | 27- 32 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 128 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1858 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil, black, clayey | 0- 2 |
| Till, yellow from 2 to 12 feet; dark-brownish-gray from 12 to 22 feet; gray from 22 to 57 feet | 2- 40 |
| Sand, coarse | 40- 57 |

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Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 4, T. 128 N., R. 76 W.
 Drilled: SDGS
 Elevation: 1840 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Till, oxidized to 35 feet, sand and gravel from 26 to 30 feet | 0- 77 |
| Sand, medium to coarse, gravelly near top and occasionally throughout section, coal common; (probably is coarser "salt and pepper" sand) | 77-172 |
| Shale, light-gray clay and bentonite, (Pierre Shale) | 172-200 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T. 128 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1850 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------|-----------------|
| Roadbed | 0- 4 |
| Till, tan | 4- 28 |
| Sand, tan | 28- 35 |
| Till, gray | 35- 84 |
| Sand, tan, silty | 84- 86 |
| Till, dark-gray | 86-149 |

Depth to water: 28 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 6, T. 128 N., R. 76 W.
 Drilled: SDGS
 Elevation: 1783 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Till, partly oxidized to 50 feet | 0- 82 |
| Sand, medium | 82- 88 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 6, T. 128 N., R. 76 W. (continued)

| | |
|--|---------|
| Clay, gray, massive | 88- 93 |
| Sand, medium to coarse, clean | 93-107 |
| Shale, light-gray, calcareous, bentonite, (Pierre Shale) | 107-125 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T. 128 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1728 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown | 0- 7 |
| Clay, dark-brown | 7- 12 |
| Clay, gray, (till) | 12- 57 |
| Sand, gray, very fine with some fine | 57- 67 |
| Sand, gray, fine | 67- 72 |
| Clay, gray, trace of sand, rock layer at 72 feet | 72-106 |
| Shale, reworked | 106-116 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T. 128 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1850 feet (Altimeter)

| Material | Depth (feet) |
|-----------------------------|-----------------|
| Topsoil | 0- 2 |
| Sand and gravel | 2- 14 |
| Till, unoxidized at 17 feet | 14- 40 |
| Shale | 40- 65 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 14, T. 128 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1861 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, silty | 0- 7 |
| Clay, brown, trace of gravel | 7- 12 |
| Clay, reddish-brown, few sand stringers | 12- 17 |
| Clay, brown, with streaks of gray, silty | 17- 22 |
| Clay, gray, (till) | 22- 27 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T. 128 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1770 feet (7 $\frac{1}{2}$ minute topographic map)

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T. 128 N., R. 76 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Till, oxidized | 0- 5 |
| Sand and gravel, many shale pebbles | 5- 15 |
| Till, partially oxidized to 43 feet, unoxidized from 43 to 58 feet | 15- 58 |
| Sand, fine | 58- 62 |
| Clay, gray, fat | 62- 84 |
| Sand, medium, and coal fragments; similar to "salt and pepper" sand | 84-106 |
| Clay, gray, silty | 106-116 |
| Sand, medium to coarse, and abundant coal; may be gravelly in upper part | 116-141 |
| Clay, silt, and silty clay; possibly some silty very fine sand | 141-216 |
| Sand, very fine to fine, (black sand) | 216-260 |
| Silt, gray, clayey, stiff | 260-272 |
| Gravel, medium to coarse and rocks | 272-300 |
| Shale, greenish tint, brittle, (Pierre Shale) | 300-315 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T. 128 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1725 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, trace of sand | 0- 7 |
| Sand, brown, coarse to very coarse | 7- 12 |
| Sand, gray, coarse to very coarse, trace of fine sand | 12- 17 |
| Sand, gray, medium to coarse | 17- 22 |
| Clay, gray, trace of gravel | 22- 60 |
| Rocks | 60- 62 |
| Sand and silt, laminated, (old alluvium?) | 62- 82 |

Depth to water: 7 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 128 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1716 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, medium to coarse | 0- 7 |
| Sand, brown, medium | 7- 12 |
| Sand, brown, fine | 12- 17 |
| Sand, brown, very fine to fine, becoming gray at 22 feet | 17- 25 |

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 128 N., R. 76 W. (continued)

| | |
|--|--------|
| Clay, gray, trace of sand | 25- 32 |
| No sample - drilling easy to hard, probably sand and clay layers | 32- 92 |
| Rock layers | 92- 97 |
| No sample - hard drilling | 97-107 |

Depth to water: 12 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 128 N., R. 76 W.

Drilled: SDGS, RTH

Elevation: 1773 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|--------------|
| Till, nearly unoxidized at 20 feet but highly oxidized at 30 feet; two tills (?); dark-gray from 35 to 58 feet | 0- 58 |
| Sand, gray, with light-colored laminae, fine to very fine | 58- 66 |
| Clay, gray, massive, some silt | 66- 82 |
| Sand, fine to medium and lignite, "salt and pepper" sand | 82-118 |
| Silt, gray, laminated, clayey and sandy | 118-130 |
| Sand, salt and pepper sand as from 82 to 118 feet | 130-148 |
| Clay, gray, soft to hard, silty in part and some very fine sand | 148-230 |
| Sand, very fine and black sand | 230-250 |
| Clay, gray, and some black sand | 250-282 |
| Clay, coal, and black sand; drills like clayey gravel | 282-302 |
| Shale, black, hard and brittle, (Pierre Shale) | 302-325 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31, T. 128 N., R. 76 W.

Drilled: USBR, ATH

Elevation: 1745 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|--------------|
| Clay, black, silty, damp, fine sand and gravel | 0- 1 |
| Clay, brown to gray, sandy, fine gravel, lenses of gypsum (till) | 1- 24 |

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Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 128 N., R. 76 W.

Drilled: USBR

Elevation: 1695 feet (Instrument)

| Material | Depth (feet) |
|----------|--------------|
|----------|--------------|

Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T. 128 N., R. 76 W. (continued)

| | |
|--|--------|
| Sand, brown, fine, silty, trace of clay | 0- 6 |
| Sand, tan to brown, fine to medium, trace of silt to silty | 6- 18 |
| Silt, light-gray to tan, varved | 18- 46 |
| Clay, dark-gray, varved, few thin laminae of silt | 46- 50 |

Elevation of water table 1679.8 feet on 8-27-65

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 32, T. 128 N., R. 76 W.

Drilled: USBR, ATH

Elevation: 1740 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|--------------|
| Sand, dark-brown to tan, silty, fine, 20 percent silt (fluvial) | 0- 3 |
| Sand, brown, clayey, fine, (fluvial) | 3- 6 |
| Sand, brown, fairly well graded, 5 to 10 percent fine gravel, (outwash) | 6- 12 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 128 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1734 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|--------------|
| Sand, brown, fine to medium | 0- 7 |
| Sand, brown, medium | 7- 12 |
| Sand, brown, fine to medium | 12- 27 |
| Sand, brown, fine | 27- 37 |
| Sand, gray, very fine, "salt and pepper" sand, clay layers from 67 to 127 feet | 37-127 |

Depth to water: 22 feet

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 128 N., R. 76 W.

Drilled: USBR, ATH

Elevation: 1740 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|--------------|
| Clay, black, silty fine sand from 0 to 1 foot, clay with some fine gravel from 1 to 3 feet, root fragments throughout | 0- 3 |
| Sand, brown, fine to medium, some coarse sand and fine gravel (outwash) | 3- 6 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 128 N., R. 76 W.

Sand, brown, well graded, 10 percent fine gravel,
(Outwash) 6- 12

Depth to water: 10 feet

* * * * *

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 128 N., R. 76 W.

Drilled: USBR, ATH

Elevation: 1760 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, black, sandy, fine sand, moist | 0- 1 |
| Sand, light grayish-brown, clayey, fairly well graded, 10 percent fine gravel, 20 percent silt to clay (fluvial) | 1- 3 |
| Sand, brown, dry, fairly well graded, 10 percent fine gravel, (outwash) | 3- 13 |

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 33, T. 128 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1741 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Gravel, brown, coarse | 0- 9 |
| Sand, brown, fine to medium, well-sorted, turning gray-brown at 39 feet | 9- 54 |
| Sand, gray, fine to very fine, contains much silt | 54-145 |
| Silt, laminated, very little sand; lower 2 $\frac{1}{2}$ feet more clayey | 145-149 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T. 128 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1754 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Gravel | 0- 5 |
| Sand, brown, coarse to very coarse, 15 percent gravel, silty | 5- 7 |
| Sand, brown, medium to coarse | 7- 12 |
| Sand, brown, medium, trace of fine sand | 12- 17 |
| Silt, gray | 17- 22 |
| Clay, gray, silty, trace of sand | 22- 27 |
| Clay, gray, trace of sand | 27- 67 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 34, T. 128 N., R. 76 W. (continued)

Depth to water: 12 feet

* * * * *

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 128 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1735 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Gravel, brown, and sand | 0- 9 |
| Sand, brown, fine, clayey | 9- 13 |
| Sand, gray, fine to very fine | 13- 73 |
| Gravel | 73- 84 |
| Shale, reworked | 84-100 |
| Shale, unaltered, (Pierre Shale) | 100-109 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 35, T. 128 N., R. 76 W.

Drilled: USBR, ATH

Elevation: 1740 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Silt, black, very fine sand, trace of clay, (loess) | 0- 4 |
| Sand, brown, fairly well graded, 20 percent fine gravel | 4- 10 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T. 128 N., R. 76 W.

Drilled: SDGS, ATH

Elevation: 1745 feet (Altimeter)

| Material | Depth (feet) |
|---------------------------------|-----------------|
| Gravel, brown, coarse, and sand | 0- 9 |
| Sand, brown, very fine, clayey | 9- 14 |
| Sand, gray, fine, few pebbles | 14- 89 |

Depth to water: 14 feet

* * * * *

Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 128 N., R. 76 W.

Drilled: USGS, ATH

Elevation: 1758 feet (Altimeter)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 36, T. 128 N., R. 76 W. (continued)

| | |
|---|--------|
| Clay, brownish-gray, trace of gravel | 0- 7 |
| Clay, brown, traces of gravel | 7- 10 |
| Clay, brown, 30 percent gravel | 10- 12 |
| Sand, brown, coarse to very coarse with clay layers | 12- 17 |
| Clay, gray, trace of gravel | 17- 37 |
| Shale, reworked | 37- 42 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 128 N., R. 76 W.
 Drilled: SDGS, ATH
 Elevation: 1742 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil | 0- 1 |
| Clay, yellowish-brown, few large pebbles and some sand | 1- 19 |
| Sand, gray, fine; clay content high | 19- 34 |
| Sand, brown, fine, very little clay, some gravel | 34- 61 |
| Gravel and rocks, fine sand | 61- 64 |
| Shale, (Pierre Shale) | 64- 69 |

Depth to water: 19 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2, T. 128 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1720 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------------------|-----------------|
| Gravel, brown, trace of sand | 0- 3 |
| Clay, brown to gray | 3- 7 |
| Clay, gray, shale (?) | 7- 12 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 11, T. 128 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1695 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, yellowish-brown, changing to gray at 7 feet | 0- 12 |
| Clay, gray, shale (?) | 12- 17 |

Depth to water: 12 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 18, T. 128 N., R. 77 W.
 Drilled: USBR, ATH
 Elevation: 1699 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, black to brown, sandy, moist, (lake deposit) | 0- 13 |
| Sand, brown, silty, very fine, 40 percent silt, (fluvial) | 13- 16 |
| Sand, brown, clayey, well-graded sand, 10 percent fine gravel, 25 percent silty to clayey, (fluvial) | 16- 20 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, T. 128 N., R. 77 W.
 Drilled: SDGS, ATH
 Elevation: 1672 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay and silt, medium-brown, sandy and pebbly | 0- 9 |
| Clay, dark-gray, silty | 9- 14 |
| Silt, medium-brown, clayey, some fine sand; turning gray at 44 feet | 14- 74 |
| Sand, gray, very fine, with silt and some clay | 74-149 |

Depth to water: 29 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T. 128 N., R. 77 W.
 Drilled: USBR, ATH
 Elevation: 1652 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, black, silty to sandy | 0- 3 |
| Clay, brown to reddish-brown, moist, (lake clay) | 3- 24 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, T. 128 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1678 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, yellowish-brown, trace of sand | 0- 12 |
| Clay, gray | 12- 27 |

Depth to water estimated at 5 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 25, T. 128 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1680 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, fine to medium | 0- 4 |
| Clay, olive-green, with streaks of gray | 4- 17 |
| Clay, gray | 17- 22 |
| Sand, gray, clayey, very fine, "salt and pepper" sand) | 22- 27 |
| Clay, gray | 27- 42 |

Depth to water: 17 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T. 128 N., R. 77 W.
 Drilled: SDGS, RTH
 Elevation: 1685 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, yellow, upper 5 feet sandy | 0- 20 |
| Clay, light-gray, silty and some very fine sand from 70 to 95 feet, (lacustrine) | 20- 95 |
| Till, unoxidized | 95-132 |
| Clay, medium-gray, laminated, very tough and brittle | 132-150 |
| Sand and gravel, shale pebbles, some clay | 150-170 |
| Shale, (Pierre Shale) | 170-185 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 128 N., R. 77 W.
 Drilled: USGS, ATH
 Elevation: 1687 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------|-----------------|
| Clay, olive-green | 0- 17 |
| Clay, gray | 17- 32 |

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Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 128 N., R. 77 W.
 Drilled: USBR, ATH
 Elevation: 1689 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, black, silty, fine | 0- 1 |
| Silt, tan to brown, 30 to 40 percent very fine sand, moist, (lake deposit) | 1- 6 |

Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 128 N., R. 77 W. (continued)

Clay, tan to brown, silty, stratified, 40 percent
sand in zones, (lake deposit) 6- 24

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 128 N., R. 77 W.

Drilled: USBR

Elevation: 1659.37 (Instrument)

| Material | Depth (feet) |
|---|-----------------|
| Clay, gray, sandy | 0- 13 |
| Silt, light-gray with alternating laminae of dark-gray, varved, (lacustrine) | 13- 38 |
| Clay, dark-gray | 38- 50 |

Elevation of water table: 1651.4 feet on 8-26-65

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 128 N., R. 77 W.

Drilled: USBR, ATH

Elevation: 1690 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, black becoming brown, silty, fine, some coarse sand, (fluvial) | 0- 8 |
| Silt, tan to buff, 30 percent very fine sand, (lake deposit) | 8- 20 |
| Clay, dark-gray with dark-reddish-brown iron stained zones, thinly laminated, (lake deposit) | 20- 24 |

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Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 128 N., R. 77 W.

Drilled: SDGS, ATH

Elevation: 1652 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Silt, dark-brown, sandy, clayey | 0- 19 |
| Sand, brown to tan, some clayey silt | 19- 29 |
| Clay, silty | 29- 47 |
| Sand, gray, silty, clayey | 47-149 |

Bit sample showed dark-gray clay (Pierre Shale?)

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30, T. 128 N., R. 77 W.

Drilled: P

Elevation: 1658.9 feet (Instrument)

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30, T. 128 N., R. 77 W. (continued)

| Material | Depth (feet) |
|-----------------------------------|-----------------|
| Topsoil | 0- 2 |
| Sand, medium | 2- 10 |
| Sand, very coarse | 10- 16 |
| Clay, yellow | 16- 57 |
| Shale | 57- 78 |
| Clay, blue, and fine sand mixture | 78- 85 |
| Sand, extremely fine, tight | 85-108 |
| Shale | 108-128 |
| Sand, fine | 128-156 |
| Shale or clay and sand streaks | 156-180 |
| Sand, fine, with coal streaks | 180-205 |

Casing 148 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30, T. 128 N., R. 77 W.

Drilled: P

Elevation: 1659 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil | 0- 3 |
| Gravel, coarse | 3- 8 |
| Clay, brown | 8- 35 |
| Clay, blue | 35- 67 |
| Sandstone layer, hard, with coal mixed in, also some blue clay | 67- 80 |
| Clay, blue | 80-130 |
| Shale | 130-150 |

No observation well—not cased

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 128 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1650 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Soil | 0- 3 |
| Sand, brown, coarse, clayey | 3- 7 |
| Sand, brown, medium to coarse | 7- 12 |
| Sand, grayish-brown, fine to medium, trace of coarse sand | 12- 17 |
| Sand, grayish-brown, coarse, trace of fine sand and gravel | 17- 27 |
| Sand, gray, very fine to fine | 27- 32 |
| No sample | 32- 37 |

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30, T. 128 N., R. 77 W. (continued)

Clay, gray, trace of sand 37- 47

Depth to water: 12 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 31, T. 128 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1630 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------------|-----------------|
| Clay, gray, trace of gravel | 0- 21 |
| Clay, brown, sandy | 21- 31 |
| Sand, brown, fine, clayey | 31- 36 |
| Clay, sandy | 36- 46 |
| Gravel | 46- 47 |
| Clay, gravelly | 47- 59 |
| Shale? | 59- 81 |

Depth to water: 11 feet

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32, T. 128 N., R. 77 W.

Drilled: SDGS, RTH

Elevation: 1660 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil, black, silty | 0- 4 |
| Clay, light-gray, silty, and medium to coarse sand | 4- 15 |
| Clay, light-gray to medium-gray, silty, (lacustrine) | 15-158 |
| Coal and fine sand in clayey matrix | 158-200 |
| Gravel | 200-212 |
| Shale, dark-gray, hard; much bentonite in cuttings | 212-220 |

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Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 128 N., R. 77 W.

Drilled: SDGS, RTH

Elevation: 1670 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil, black | 0- 4 |
| Clay, cream colored to yellow to brown, silty, (lacustrine) | 4- 29 |
| Clay, gray, silty, tough; some sand and coal from 70 to 75 feet | 29- 80 |
| Clay, gray, tough; many brown cuttings from 90 to 140 feet and decreasing in percent downward; lower part of interval | |

Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 128 N., R. 77 W. (continued)

| | |
|--|---------|
| from 80 to 176 feet sandier and slightly darker gray | 80-176 |
| Sand, fine, and coal | 176-187 |
| No cuttings—drills like gravel or large chunks of coal | 187-193 |
| Shale, (Pierre Shale) | 193-200 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 33, T. 128 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1700 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------------------|-----------------|
| Sand, brown, medium to coarse | 0- 7 |
| Sand, reddish-brown, fine | 7- 12 |
| Sand, light-brown, fine | 12- 22 |
| Sand, light-brown, fine to medium | 22- 32 |
| Sand, brown, medium | 32- 37 |
| Sand, gray, fine to medium | 37- 42 |
| Sand, gray, medium | 42-127 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 128 N., R. 77 W.

Drilled: USGS, ATH

Elevation: 1700 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, brown, trace of gravel, (till) | 0- 10 |
| Sand, light-brown, fine | 10- 14 |
| Clay, grayish-brown, sandy, (till) | 14- 17 |
| Clay, gray, trace of gravel, (till) | 17- 27 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T. 128 N., R. 77 W.

Drilled: USBR, ATH

Elevation: 1694 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, black, silty, fine, damp | 0- 1 |
| Clay, grayish-brown, silty, trace of fine sand, gypsum, moist, (loess and till) | 1- 4 |
| Clay, gray and brown, silty from 8 to 14 feet, trace of very fine sand, (lake deposit) | 4- 14 |

Depth to water: 8 feet

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 128 N., R. 77 W.
 Drilled: WRC
 Elevation: 1690 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------------------|-----------------|
| Topsoil | 0- 1 |
| Sand, medium | 1- 9 |
| Clay, gray, and fine sand streaks | 9- 21 |
| Casing 18 feet | |

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Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 128 N., R. 77 W.
 Drilled: USBR, ATH
 Elevation: 1698 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Silty to clayey, black, sandy | 0- 1 |
| Sand, brown, fairly well graded, (outwash) | 1- 11 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 2, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1658 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
| Clay | 0- 10 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 2, T. 128 N., R. 78 W.
 Drilled: P, ATH
 Elevation: 1650 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------|-----------------|
| Topsoil, black, silty | 0- 2 |
| Clay, brown | 2- 7 |
| Clay, gray-brown, (lacustrine) | 7- 27 |

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 128 N., R. 78 W.
 Drilled: SDGS, ATH
 Elevation: 1678 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 3, T. 128 N., R. 78 W. (continued)

| | |
|--|---------|
| Topsoil | 0- ½ |
| Clay, dark-brown, some pebbles and gravel | ½- 3 |
| Clay, reddish-brown to brownish-yellow, silty | 3- 34 |
| Silt, light-gray with brown stringers, some clay | 34- 39 |
| Silt, dark-gray, no pebbles | 39- 84 |
| Silt and clay, dark-gray, no pebbles | 84- 99 |
| Clay, dark-gray, silty | 99-145 |
| Sand, light-gray, fine | 145-149 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 128 N., R. 78 W.

Drilled: SDGS

Elevation: 1678 feet (7½ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, tan, (lacustrine?) | 0- 20 |
| Silt, brown, some clay, gray below 47 feet | 20- 64 |
| Clay, gray, silty in part | 64-145 |
| Sand, few pebbles, clayey | 145-178 |
| Shale, weathered and reworked, (colluvium?) | 178-180 |
| Shale, (Pierre Shale) | 180-275 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1675 feet (7½ minute topographic map)

| Material | Depth (feet) |
|-----------------------|-----------------|
| Clay, silty | 0- 5 |
| Clay | 5- 11 |
| Shale, (Pierre Shale) | 11- 12 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1646 feet (7½ minute topographic map)

| Material | Depth (feet) |
|-------------|-----------------|
| Clay | 0- 3 |
| Clay, sandy | 3- 10 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 128 N., R. 78 W.

Drilled: P, ATH

Elevation: 1645 feet (7½ minute topographic map)

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 3, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Clay, black, silty, (topsoil) | 0- 2 |
| Clay, gray-brown, stiff, calcareous, (lacustrine) | 2- 37 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 4, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1685 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------|-----------------|
| Clay | 0- 15 |
| Clay, silty | 15- 23 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4, T. 128 N., R. 78 W.
 Drilled: SDGS, ATH
 Elevation: 1680 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil | 0- 1 |
| Clay, brownish-yellow, no pebbles | 1- 9 |
| Clay, buff, silty | 9- 34 |
| Shale (?); partially weathered clay, compact; has gray and brown streaks | 34- 44 |
| Shale (?); dark-gray clay | 44- 54 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 7, T. 128 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1620 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, black to dark-brown, trace of gravel | 0- 11 |
| Clay, grayish-green to gray, trace of gravel | 11- 51 |
| Clay, black | 51- 86 |
| Clay, gravelly | 86-126 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T. 128 N., R. 78 W.
 Drilled: P, ATH
 Elevation: 1669 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|--------------------------------|-----------------|
| Topsoil | 0- 1 |
| Silt, light-brown, sandy | 1- 6 |
| Silt, tan, dry and powdery | 6- 16 |
| Clay, gray-brown, (lacustrine) | 16- 21 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1628 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--------------------------------------|-----------------|
| Clay, loam | 0- 12 |
| Clay, sandy, to clay | 12- 14 |
| Sand, coarse, loamy, and fine gravel | 14- 26 |
| Clay, silty | 26- 28 |

Depth to water: 16 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1658 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
| Clay | 0- 18 |

Depth to water: 16 feet

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Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1705 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------|-----------------|
| Clay, silty | 0- 3 |
| Sand, very fine | 3- 10 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 128 N., R. 78 W.

Drilled: USBR, ATH

Elevation: 1698 feet (7 $\frac{1}{2}$ minute topographic map)

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 12, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|--|-----------------|
| Clay, black, 10 percent fine gravel, (till) | 0- 3 |
| Sand, brown, silty, trace of clay, (fluvial) | 3- 12 |
| Silt, brown, 40 percent very fine sand, trace of clay, thinly laminated, (lake deposit) | 12- 24 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 128 N., R. 78 W.

Drilled: SDGS, RTH

Elevation: 1665 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, fine to very fine and clay | 0- 23 |
| Clay, oxidized to 45 feet, silty and sandy in spots, (lacustrine) | 23-171 |
| Sand, medium to coarse, and coal | 171-196 |
| Clay, coal and sand; rock from 204 to 205 feet | 196-216 |
| Shale, (Pierre Shale) | 216-230 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 13, T. 128 N., R. 78 W.

Drilled: SDGS, ATH

Elevation: 1665 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, sandy | 0- 23 |
| Clay, brown, rare sand grain and gypsum crystals | 23- 43 |
| Clay, medium-gray, silty; gypsum crystals from 43 to 53 feet | 43-148 |

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1665 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------|-----------------|
| Clay, sandy | 0- 3 |
| Sand, fine | 3- 10 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 128 N., R. 78 W.

Drilled: USBR, ATH

Elevation: 1663 feet (7 $\frac{1}{2}$ minute topographic map)

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 13, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Clay, black becoming dark-brown, silty, fine sand, (alluvium) | 0- 3 |
| Sand, brown, silty, fine, 30 to 40 percent silt, (fluvial) | 3- 13 |
| Sand, brown, fine, trace of silt (fluvial) | 13- 17 |

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Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 128 N., R. 78 W.

Drilled: USBR, ATH

Elevation: 1657 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, black to dark-gray, silty, (lake deposit) | 0- 6 |
| Sand, fine, with some medium to coarse sand and fine gravel, trace of silt, (outwash) | 6- 11 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 128 N., R. 78 W.

Drilled: SDGS, RTH

Elevation: 1650 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil, black | 0- 2 |
| Clay, light-gray | 2- 5 |
| Sand and gravel | 5- 8 |
| Clay, buff | 8- 30 |
| Clay, gray | 30-150 |
| Gravel, sand and coal; gravel coarser from 185 to 193 feet | 150-193 |
| Shale, (Pierre Shale) | 193-200 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14, T. 128 N., R. 78 W.

Drilled: USGS, ATH

Elevation: 1643 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------------|-----------------|
| Sand, brown, fine to medium | 0- 7 |
| Sand, medium, trace of gravel | 7- 12 |
| Sand, brown, medium to coarse | 12- 37 |
| Clay, gray, sand layers | 37- 82 |
| Clay | 82-107 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 14, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1642 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------------------|-----------------|
| Loam, medium to coarse, sandy | 0- 8 |
| Sand, coarse, loamy, to fine gravel | 8- 21 |
| Clay, silty | 21- 23 |

Depth to water: 13 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 14, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1640 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------------|-----------------|
| Loam, medium sandy | 0- 3 |
| Loam, sandy clay | 3- 4 |
| Gravel, coarse loamy sand | 4- 9 |
| Sand, medium loamy | 9- 13 |

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Location: NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 14, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1640 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------------|-----------------|
| Gravel, coarse loamy sand | 0- 5 |
| Loam, sandy clay | 5- 11 |
| Loam, clay | 11- 13 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 14, T. 128 N., R. 78 W.
 Drilled: USBR, ATH
 Elevation: 1660 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Silt, clayey, trace of sand and gravel, (alluvium) | 0- 3 |
| Sand, brown, fairly well graded, 5 percent silt, 10 percent subangular fine gravel, (outwash) | 3- 11 |

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Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1657 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|-----------------------|-----------------|
| Loam, silty | 0- 3 |
| Sand, fine | 3- 7 |
| Sand and fine gravel | 7- 15 |
| Sand, fine | 15- 17 |
| Sand | 17- 19 |
| Clay | 19- 20 |
| Shale, (Pierre Shale) | 20- |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1658 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Loam, sandy, fine to coarse | 0- 4 |
| Loam, sandy clay | 4- 9 |
| Sand, fine to coarse, some fine gravel | 9- 26 |
| Clay, silty | 26- 30 |

Depth to water: 20 feet

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Location: NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 128 N., R. 78 W.

Drilled: SDGS, RTH

Elevation: 1645 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand and gravel | 0- 13 |
| Clay, yellow | 13- 17 |
| Clay, gray | 17- 95 |
| Clay, gray, cuttings look like shale cuttings; are a hard dark, dry clay | 95-160 |
| Gravel, coarse, sand and coal | 160-200 |

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1634 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------|-----------------|
| Loam, sandy | 0- 9 |
| Sand, fine | 9- 13 |

Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 15, T. 128 N., R. 78 W. (continued)

| | |
|------------------------|--------|
| Gravel, fine, and sand | 13- 16 |
| Sand, fine | 16- 19 |

Depth to water: 18.5 feet

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Location: NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 15, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1623.8 feet (Instrument)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Sand, brown, fine to medium, small percent of fine gravel; clean to trace of silt | 1- 12 |
| Silt, tan, trace of fine sand, (lacustrine) | 12- 28 |
| Clay, gray, (till) | 28- 30 |
| Silt, tan to light-gray, trace of fine sand | 30- 50 |

Elevation of water table 1616.4 feet on 8-25-65

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Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1600 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Silt, brown, sandy, some clay | 0- 16 |
| Clay, brown, sandy, some gravel | 16- 30 |
| Clay, blue, some fine sand in top 4 feet | 30- 84 |
| Clay, blue, fine sand with lignite | 84- 86 |
| Clay, blue | 86- 88 |
| Clay, blue, fine sand | 88- 92 |
| Clay, blue | 92- 96 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1665 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Silt, dark-brown, clayey | 0- 2 |
| Sand, brown, silty, fine sand, some clay | 2- 4 |
| Sand, brown, fine | 4- 10 |
| Clay, brown, fine sand | 10- 14 |
| Sand, brown, gravelly | 14- 26 |
| Sand, brown, clayey, gravelly | 26- 30 |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16, T. 128 N., R. 78 W. (continued)

| | |
|---|------------------------|
| Clay, blue, some fine sand in streaks about 1/8 inch thick | 30-110 |
| Clay, blue, fine sand in streaks | 110-144 |
| Clay, blue | 144-157 $\frac{1}{2}$ |
| Sand, gray, fine, lignite present | 157 $\frac{1}{2}$ -174 |
| Sand, gray, medium, lignite | 174-176 |
| Sand, brown, gravelly, some coarse sand and clay | 176-196 |

Water level 80 feet below land surface from the sands at
157 $\frac{1}{2}$ feet to bottom of hole

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T. 128 N., R. 78 W.
Drilled: USGS, ATH
Elevation: 1630 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown | 0- 11 |
| Clay, grayish-brown | 11- 16 |
| Clay, gray; trace of gravel and shale fragments from 31 to 38 feet | 16- 38 |
| Shale, (Pierre Shale) | 38- 46 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 128 N., R. 78 W.
Drilled: USGS, ATH
Elevation: 1582 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown | 0- 11 |
| Sand, brown, medium | 11- 21 |
| Sand, brown, medium to coarse, silty | 21- 26 |
| Sand, gray, coarse to gravel, silty | 26- 31 |
| Clay, sandy, moist; black pebbles from 67 to 69 feet | 31-126 |

Depth to water: 11 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 128 N., R. 78 W.
Drilled: SDGS, RTH
Elevation: 1628 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------|-----------------|
| Topsoil, black | 0- 5 |
| Clay, yellow | 5- 12 |
| Sand and gravel | 12- 29 |

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 128 N., R. 78 W. (continued)

| | |
|---------------------------------------|---------|
| Clay, gray, silty | 29-117 |
| Sand and gravel, many shale fragments | 117-140 |
| Shale, (Pierre Shale) | 140-185 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1650 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------|-----------------|
| Loam, sandy clay | 0- 7 |
| Clay | 7- 16 |
| Sand, loamy, and gravel | 16- 28 |
| Clay | 28- 35 |

Depth to water: 18 feet

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T. 128 N., R. 78 W.

Drilled: USBR, ATH

Elevation: 1642 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, dark-gray, becoming tan at 3 feet, silty, (lake deposit) | 0- 5 |
| Sand, brown, fine to medium, some coarse sand, (outwash) | 5- 13 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1646 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------------|-----------------|
| Loam, clay | 0- 14 |
| Sand, loamy, fine to coarse | 14- 28 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 128 N., R. 78 W.

Drilled: USGS, ATH

Elevation: 1672 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------|-----------------|
|----------|-----------------|

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 128 N., R. 78 W. (continued)

| | |
|---|--------|
| Clay, black | 0- 6 |
| Clay, brown, trace of gravel | 6- 11 |
| Clay, brown, gravelly | 11- 16 |
| Sand, reddish-brown, medium, clayey, gravelly | 16- 21 |
| Clay, brown, trace of gravel | 21- 26 |
| Clay, brown to grayish-brown | 26- 46 |
| Clay, gray | 46- 76 |
| Clay, gray, with many sandy layers | 76-126 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 20, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1648 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------|-----------------|
| Clay, silty | 0- 3 |
| Clay, sandy | 3- 9 |
| Sand, fine | 9- 19 |
| Loam, sandy clay | 19- 20 |
| Clay, blue-gray | 20- |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1667 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------------|-----------------|
| Loam, sandy, very fine | 0- 22 |
| Clay, silty | 22- 30 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 20, T. 128 N., R. 78 W.

Drilled: USBR, ATH

Elevation: 1665 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, black to dark-brown, silty, trace of fine to coarse sand and gravel, (alluvium) | 0- 3 |
| Sand, brown, fine to medium, some coarse sand and gravel, trace of clay, 5 to 10 percent silt, (outwash) | 3- 4 |
| Clay, tan, silty and dark-gray clay, (lake deposit) | 4- 24 |

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Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1644.6 feet (Instrument)

Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, sand | 0- 3 |
| Sand, brown, silty, some clay and gravel | 3- 8 |
| Clay, light-brown | 8- 10 |

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1662.4 feet (Instrument)

| Material | Depth (feet) |
|------------------------------------|-----------------|
| Clay, brown, sandy | 0- 2½ |
| Sand, light-brown, clayey | 2½- 5½ |
| Sand, light-brown to reddish-brown | 5½- 20 |

Depth to water: 11 feet

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1662.9 feet (Instrument)

| Material | Depth (feet) |
|--|-----------------|
| Clay, dark-brown to light-gray, sandy | 0- 1 |
| Sand, dark-brown to light-gray, clayey | 1- 4½ |
| Sand, light-gray, silty | 4½- 18 |
| Clay, gray | 18- 26 |

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1662.1 feet (Instrument)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown, sand | 0- 4 |
| Sand, brown to gray, silty to gravelly | 4- 10½ |
| Silt, brown | 10½- 16 |
| Clay, brown | 16- 25 |

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1661.5 (Instrument)

Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|---|-----------------------|
| Clay, brown, sandy | 0- 4 |
| Sand, light- to reddish-brown, bottom 7 feet silty | 4- 13 $\frac{1}{2}$ |
| Clay, brown | 13 $\frac{1}{2}$ - 15 |
| Sand, dark-reddish-brown, silty | 15- 16 $\frac{1}{2}$ |
| Clay, brown to dark-gray, bottom 6 $\frac{1}{2}$ feet silty | 16 $\frac{1}{2}$ - 31 |
| Silt, dark-gray | 31- 40 |

Water level, 2-58, 33.6 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W.

Drilled: P

Elevation: 1653.17 feet (Instrument)

| Material | Depth (feet) |
|--|-----------------|
| No samples available | 0- 55 |
| Clay, gray, laminated, slightly silty | 55- 65 |
| Clay, gray, mostly massive, very little silt | 65-158 |
| Sand (gray with light colored laminae), fine to very fine, well sorted, chips of lignite common | 158-163 |
| Sand, light-gray to black, fine to very fine, laminated, some gravel near bottom, much coal | 163-173 |
| Coal and some gravel in the upper 2 feet; changes to much fine gravel with abundant coal; green sandstone pebbles up to 2 inches in diameter | 173-183 |
| Gravel, fine to medium with much coarse material | 183-215 |
| Mostly coal | 215-220 |
| Gravel, coarse, clean, not many coal fragments | 220-223 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21, T. 128 N., R. 78 W.

Drilled: P

Elevation: 1653.17 feet (Instrument)

| Material | Depth (feet) |
|---|-----------------|
| Sand, brown, medium | 0- 13 |
| Clay, gray | 13-157 |
| Sand, gray, very fine | 157-175 |
| Sand, gray, medium to coarse, some coal | 175-180 |
| Sand, gray, coarse to very coarse, some coal | 180-200 |
| Sand, gray, very coarse, some gravel, coal layers | 200-225 |
| Large rock | 225- |

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1650 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------|-----------------|
| Sand, fine, loamy | 0- 3 |
| Sand, fine, some clay | 3- 10 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1650 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------|-----------------|
| Loam, sandy | 0- 2 |
| Loam, clay | 2- 4 |
| Sand, fine | 4- 20 |

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1641.5 feet (Instrument)

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Clay, brown to dark-brown, sandy | 0- 4 |
| Sand, light-brown, silty | 4- 12 |

Water level 2-58, 10.3 feet

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1634.4 feet (Instrument)

| Material | Depth (feet) |
|--------------------------|-----------------------------------|
| Sand, dark-brown, clayey | 0- 3 $\frac{1}{2}$ |
| Sand, brown, silty | 3 $\frac{1}{2}$ - 5 $\frac{1}{2}$ |
| Clay, light-brown | 5 $\frac{1}{2}$ - 16 |

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Location: NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1627.3 feet (Instrument)

Location: NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|---------------------------|-----------------------|
| Clay, dark-brown, sandy | 0- 3 |
| Sand, brown | 3- 5 |
| Clay, brownish-gray | 5- 12 $\frac{1}{2}$ |
| Sand, brown, gravelly | 12 $\frac{1}{2}$ - 13 |
| Clay, light-brownish-gray | 13- 18 |

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1652.8 feet (Instrument)

| Material | Depth (feet) |
|---------------------|-----------------|
| Sand, brown, clayey | 0- 7 |
| Clay, brown | 7- 25 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.

Drilled: USBR

Elevation: 1680 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------------------|-----------------|
| Sand, fine, loamy | 0- 8 |
| Clay, silty | 8- 10 |
| Sand, fine to gravel | 10- 14 |
| Clay, yellow to gray | 14- 16 |

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1653.3 feet (Instrument)

| Material | Depth (feet) |
|------------------------------------|-----------------------------------|
| Clay, brown, sandy | 0- 4 $\frac{1}{2}$ |
| Sand, light-brown, clayey | 4 $\frac{1}{2}$ - 6 $\frac{1}{2}$ |
| Clay, light-brown to brownish-gray | 6 $\frac{1}{2}$ - 24 |

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Location: NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1653.9 feet (Instrument)

Location: NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|------------------------------------|-----------------|
| Clay, light-brown to brownish-gray | 0- 22 |
| * * * * * | |

Location: NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1634.3 feet (Instrument)

| Material | Depth (feet) |
|--|-----------------|
| Clay, brown to brownish-gray, sandy near top | 0- 16 |
| * * * * * | |

Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 22, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1626.2 feet (Instrument)

| Material | Depth (feet) |
|------------------------------------|-----------------|
| Sand, brown to gray, clayey, silty | 0- 28 |
| Depth to water: 5 feet | |
| * * * * * | |

Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T. 128 N., R. 78 W.
 Drilled: USBR, ATH
 Elevation: 1658 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, clayey, fine, (fluvial) | 0- 5 |
| Sand, brown, fine to medium, some coarse sand and fine gravel, (outwash) | 5- 13 |
| * * * * * | |

Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 24, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1666 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Sand, fine to coarse, loamy, and fine gravel | 0- 13 |
| Loam, silty | 13- 29 |
| Loam, very fine sandy | 29- 33 |
| * * * * * | |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1662 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-------------------------------|-----------------|
| Sand, medium to coarse, loamy | 0- 11 |
| Sand, fine | 11- 14 |
| Sand, coarse | 14- 17 |

Depth to water: 8.9 feet

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1656 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|-----------------------|-----------------|
| Sand, loamy | 0- 11 |
| Loam, fine sandy clay | 11- 15 |
| Loam, silty clay | 15- 17 |
| Loam, fine sandy | 17- 18 |

Depth to water: 8 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 24, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1658 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------------|-----------------|
| Loam, silty to sandy | 0- 2 |
| Sand, fine, and gravel | 2- 23 |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 25, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1649 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------|-----------------|
| Gravel | 0- 7 |
| Sand, fine | 7- 9 |
| Sand and gravel | 9- 23 |
| Shale, blue-gray | 23- |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T. 128 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1650 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|----------------------------------|-----------------|
| Clay, grayish-white | 0- 6 |
| Clay, brown, sandy to gravelly | 6- 11 |
| Clay, brown, trace of gravel | 11- 24 |
| Clay, blue-gray, trace of gravel | 24-106 |

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Location: NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1664.9 feet (Instrument)

| Material | Depth (feet) |
|--------------------------------------|----------------------|
| Sand, brown, silty, gravelly | 0- 9 $\frac{1}{2}$ |
| Clay, some sand layers in lower part | 9 $\frac{1}{2}$ - 24 |

Depth to water: 21.6 feet

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Location: SE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 25, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1632.4 feet (Instrument)

| Material | Depth (feet) |
|------------------------------------|----------------------|
| Gravel, dark-brown, clayey, sandy | 0- 4 |
| Sand, dark-brown, clayey, gravelly | 4- 9 $\frac{1}{2}$ |
| Clay, brownish-gray | 9 $\frac{1}{2}$ - 15 |

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Location: NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1677.6 feet (Instrument)

| Material | Depth (feet) |
|----------------------------------|-----------------------------------|
| Sand, gray, silty | 0- 3 $\frac{1}{2}$ |
| Sand, gray, clayey | 3 $\frac{1}{2}$ - 4 $\frac{1}{2}$ |
| Sand, brownish-gray, some gravel | 4 $\frac{1}{2}$ - 32 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1646.9 feet (Instrument)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Sand, black to dark-gray, silty, clayey from 4 $\frac{1}{2}$ to 6 feet | 0- 14 |

Depth to water: 6.1 feet

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Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1669.8 feet (Instrument)

| Material | Depth (feet) |
|-------------------------------------|---------------------|
| Sand, light-brown, clayey | 0- 2 $\frac{1}{2}$ |
| Sand, brown | 2 $\frac{1}{2}$ - 7 |
| Clay, brown | 7- 8 |
| Sand, gray, silty, thin clay layers | 8- 25 |

Depth to water: 22.7 feet

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1653.5 feet (Instrument)

| Material | Depth (feet) |
|---------------------------------------|-----------------|
| Clay, dark-brown | 0- 3 |
| Sand, brown to gray, clayey, gravelly | 3- 10 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1660.3 feet (Instrument)

| Material | Depth (feet) |
|------------------------------|----------------------|
| Sand, brown, silty, gravelly | 0- 4 $\frac{1}{2}$ |
| Clay, brownish-gray | 4 $\frac{1}{2}$ - 20 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1642.2 feet (Instrument)

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|---------------------|------------------------------------|
| Sand, brown, clayey | 0- 7 |
| Clay, silty | 7- 7 $\frac{1}{2}$ |
| Sand, brown, clayey | 7 $\frac{1}{2}$ - 10 $\frac{1}{2}$ |
| Clay, brown | 10 $\frac{1}{2}$ - 14 |

Depth to water: 4.5 feet

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Location: SE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1659.4 feet (Instrument)

| Material | Depth (feet) |
|---|----------------------|
| Sand, brown, clayey bottom 4 feet, silty to gravelly | 0- 9 $\frac{1}{2}$ |
| Clay, brownish-gray to gray | 9 $\frac{1}{2}$ - 28 |

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Location: NW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1632.1 feet (Instrument)

| Material | Depth (feet) |
|------------------------------|---------------------|
| Clay, black, sandy | 0- 4 |
| Sand, gravelly | 4- 4 $\frac{1}{2}$ |
| Clay, brown, some sand | 4 $\frac{1}{2}$ - 6 |
| Sand, brown | 6- 9 |
| Clay, brownish-gray, lignite | 9- 20 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1632.2 feet (Instrument)

| Material | Depth (feet) |
|----------------------------|-----------------|
| Clay, brown to gray, sandy | 0- 18 |

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Location: SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W.

Drilled: USCE

Elevation: 1662.9 feet (Instrument)

Location: SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|------------------------------|-----------------|
| Sand, brown, silty, gravelly | 0- 2½ |
| Clay, brownish-gray to gray | 2½- 28 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1630 feet (7½ minute topographic map)

| Material | Depth (feet) |
|-------------|-----------------|
| Clay, silty | 0- 10 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 27, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1645 feet (7½ minute topographic map)

| Material | Depth (feet) |
|-----------------------------------|-----------------|
| Clay, dark-brown, sandy | 0- 3 |
| Sand, light- to dark-brown, silty | 3- 12 |

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Location: SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 128 N., R. 78 W.
 Drilled: USBR
 Elevation: 1677 feet (7½ minute topographic map)

| Material | Depth (feet) |
|---------------------|-----------------|
| Clay, loam | 0- 5 |
| Loam, coarse, sandy | 5- 14 |
| Clay, silty | 14- 18 |

Depth to water: 11.25 feet

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Location: NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 28, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1664.9 feet (Instrument)

| Material | Depth (feet) |
|------------------------------|-----------------|
| Sand, brown, silty, gravelly | 0- 13 |
| Clay, brownish-gray to gray | 13- 32 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 128 N., R. 78 W.
 Drilled: SDGS, RTH
 Elevation: 1655 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---------------------------------------|-----------------|
| Topsoil, black | 0- 5 |
| Clay, yellow, (lacustrine) | 5- 13 |
| Sand and gravel | 13- 16 |
| Clay, light gray, silty, (lacustrine) | 16-162 |
| Gravel, sand, coal | 162-181 |
| Shale, (Pierre Shale) | 181-200 |

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Location: SW $\frac{1}{2}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 128 N., R. 78 W.
 Drilled; USBR
 Elevation: 1649 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------------------------|-----------------|
| Loam, clay to fine sandy clay loam | 0- 4 |
| Sand, fine | 4- 12 |
| Shale, blue-gray | 12- |

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Location: SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 29, T. 128 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1672 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, gray to grayish-brown, trace of sand | 0- 21 |
| Sand, light-brown, fine to very fine, clayey | 21- 26 |
| Sand, dark-brown, fine to medium, trace of gravel | 26- 40 |
| Clay, blue | 40- 42 |
| Sand, medium, clayey | 42- 46 |
| Clay, gray, sandy, trace of gravel | 46-126 |

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Location: NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29, T. 128 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1605 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, black | 0- 7 |
| Clay, brown to grayish-brown, trace of gravel | 7- 62 |
| Clay, gray, trace of gravel | 62-127 |

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 30, T. 128 N., R. 78 W.
 Drilled: USBR, ATH
 Elevation: 1647 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, dark-gray becoming brown 3 to 6 feet, silty, (lake deposit?) | 0- 6 |
| Clay, tan with brown oxidized loess, silty, (lake deposit) | 6- 24 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33, T. 128 N., R. 78 W.
 Drilled: USGS, ATH
 Elevation: 1724 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|------------------------------------|-----------------|
| Clay, brown, trace of sand | 0- 16 |
| Clay, grayish-brown, trace of sand | 16- 36 |
| Clay, brownish-gray, trace of sand | 36- 51 |
| Shale, (Pierre Shale) | 51- 56 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1624.9 feet (Instrument)

| Material | Depth (feet) |
|--|-----------------|
| Clay, black to gray, sand layers in lower part | 0- 12 |

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1626 feet (Instrument)

| Material | Depth (feet) |
|----------------|----------------------|
| Clay, black | 0- 9 $\frac{1}{2}$ |
| Sand, gravelly | 9 $\frac{1}{2}$ - 10 |

Depth to water: 5 feet

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1628.2 feet (Instrument)

Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 128 N., R. 78 W. (continued)

| Material | Depth (feet) |
|---------------------|-----------------|
| Clay, brownish-gray | 0- 10 |

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Location: NW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1633 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|----------------------|
| Sand, silty, clayey to gravelly in bottom one foot | 0- 8 $\frac{1}{2}$ |
| Clay, brown | 8 $\frac{1}{2}$ - 10 |

Depth to water: 7.3 feet

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Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1654.6 feet (Instrument)

| Material | Depth (feet) |
|--------------------------------|-----------------------|
| Sand, brown, silty to gravelly | 0- 13 $\frac{1}{2}$ |
| Clay, brownish-gray to gray | 13 $\frac{1}{2}$ - 30 |

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T. 128 N., R. 78 W.
 Drilled: USCE
 Elevation: 1658.5 feet (Instrument)

| Material | Depth (feet) |
|--|-----------------|
| Sand, brown, silty, gravelly | 0- 9 |
| Clay, gray, sand layers in middle part | 9- 30 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T. 128 N., R. 79 W.
 Drilled: SDGS, ATH
 Elevation: 1675 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, dark-brown to black, sandy, silty, compact; becomes lighter colored at depth | 0- 14 |

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T. 128 N., R. 79 W. (continued)

| | |
|---|---------|
| Sand, reddish-brown, medium, clean, well-sorted, lower 5 feet fine grained | 14- 29 |
| Sand, tan, fine, clean, well-sorted; dark-brown from 34 to 39 feet; medium to coarse from 39 to 44 feet | 29- 49 |
| Sand, black, coarse, to fine gravel, clean, well-sorted; (no samples from 54 to 64 feet but drilled the same) | 49- 64 |
| Gravel, reddish-brown, fine | 64- 73 |
| Clay, black, pebbly, (till) | 73- 99 |
| No sample | 99-109 |
| Sand, yellow-green, medium, well-sorted, clean; (Fox Hills slump) | 109-116 |
| Rock, could not penetrate; (probably Fox Hills sandstone ledge or concretion in slump block) | 116-118 |

Depth to water: 58 feet

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T. 128 N., R. 79 W.

Drilled: SDGS, ATH

Elevation: 1672 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Silt, tan, some very fine sand, (loess) | 0- 4 |
| Silt, light-brown, very fine sand | 4- 17 |
| Sand, reddish-brown, fine; fine to coarse sand from 24 to 29 feet | 17- 29 |
| Sand, reddish-brown, coarse, some gravel; has some shale clay balls; gravelly at depth | 29- 44 |
| Sand, light-brown, coarse and fine gravel, some silt, well sorted, clean | 44- 55 |
| Shale, black, clay, (Pierre Shale) | 55- 59 |

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Location: SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T. 128 N., R. 79 W.

Drilled: SDGS

Elevation: 1650 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Clay, gray | 0- 3 |
| Sand and gravel, much coal | 3- 44 |
| Clay, light-gray, silty and silty clay, (lacustrine) | 44-155 |
| Sand, fine to very fine and coal; coarser and cleaner from 190 to 208 feet | 155-208 |
| Shale, (Pierre Shale) | 208-230 |

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Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 128 N., R. 79 W.

Drilled: SDGS, ATH

Location: NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 128 N., R. 79 W. (continued)
Elevation: 1663 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, yellow, fine | 0- 7 |
| Silt, tan | 7- 9 |
| Sand, fine, clean; clay shale balls from 14 to 24 feet | 9- 24 |
| Sand, light-brown, fine to coarse, very clean and well-sorted | 24- 44 |
| Sand, coarse; has carbonaceous black material in it | 44- 48 |
| Sand, dark-brown, coarse, fine to coarse gravel | 48- 59 |
| Sand, gray, fine, fairly clean | 59- 64 |
| Clay, dark-gray | 64- 99 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T. 128 N., R. 79 W.
Drilled: SDGS, ATH
Elevation: 1641 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Silt, light-tan, (loess) | 0- 1 |
| Sand, light-brown, fine to coarse, well-sorted | 1- 4 |
| Sand, coarse, and fine to medium gravel, silty | 4- 9 |
| Sand, dark-brown, fine to coarse | 9- 16 |
| Shale, bluish-black clay, compact | 16- 24 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6, T. 128 N., R. 79 W.
Drilled: SDGS, ATH
Elevation: 1629 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, yellow, very fine | 0- 4 |
| Sand, light-tan, fine, silty | 4- 9 |
| Sand, light-tan, fine, less silt than above | 9- 24 |
| Sand, gray, very fine | 24- 54 |
| Sand, gray, very fine with silt | 54- 59 |
| Clay, gray, with some very fine sand | 59- 79 |
| Gravel | 79- 80 |
| Shale, dark-blue to very dark-gray, compact (Pierre Shale) | 80- 99 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T. 128 N., R. 79 W.
Drilled: P, ATH
Elevation: 1649 feet (7 $\frac{1}{2}$ minute topographic map)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T. 128 N., R. 79 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil | 0- 2 |
| Clay, medium-brown, sandy | 2- 7 |
| Sand, rusty-red, medium, well-sorted | 7- 15 |
| Clay, red, sandy | 15- 17 |
| Sand, red, medium, well-sorted | 17- 22 |
| Sand, dark-brown, and gravel; lower 5 feet mostly fine gravel | 22- 32 |
| Sand, black, coarse and fine gravel | 32- 37 |
| Gravel, medium- to dark-brown, fine and coarse sand | 37- 57 |
| Clay, gray, pebbly, (till) | 57- 67 |
| No samples from 67 to 127 feet but had no drilling change. Some fine sand came up but was probably from above. Tough gray-brown clay on augers when pulled from hole. Probably lacustrine. | 67-127 |

Depth to water: 37 feet

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T. 128 N., R. 79 W.

Drilled: SDGS, RTH

Elevation: 1630 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Gravel and sand, oxidized | 0- 24 |
| Silt, light-gray, sandy; some darker laminations | 24- 80 |
| Clay, gray, silty | 80- 90 |
| Gravel and sand, (outwash) | 90-104 |
| Clay, light- to medium-gray, silty in part to nearly pure clay, (lacustrine) | 104-154 |
| Sand, medium, some gravel in upper part; mostly fine to medium from 185 to 220 feet; much coal present throughout | 154-220 |
| Sandstone; (Fox Hills slump block) | 220-230 |
| Shale, dark-gray, (Pierre Shale) | 230-245 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T. 128 N., R. 79 W.

Drilled: SDGS, ATH

Elevation: 1625 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Sand, yellow, fine to medium | 0- 7 |
| Sand, and gravel, reddish-brown | 7- 13 |
| Sand, brown to black, coarse, and some fine gravel | 13- 24 |

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 8, T. 128 N., R. 79 W. (continued)

| | |
|--|--------|
| Clay, medium- to dark-gray, some fine sand from 29 to 39 feet; sandy from 64 to 69 feet | 24- 91 |
| Gravel coarse, rocks from 96 to 97 feet | 91- 98 |
| Clay, gray and light-green; very fine sand on auger and greenish clay on bit | 98-149 |

Depth to water: 14 feet

* * * * *

Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T. 128 N., R. 79 W.

Drilled: SDGS, RTH

Elevation: 1680 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, oxidized, sandy and pebbly, (probably mostly colluvium) | 0- 25 |
| Clay, oxidized to 35 feet, silty, (lacustrine) | 25- 60 |
| Till, gray | 60-140 |
| Sand, very fine, and clay, (alluvium?) | 140-180 |
| Clay, gray and very fine sand; (interval from 140 to 206 feet may be all same lacustrine unit?) | 180-206 |
| Sand, black zones, very fine to fine, and silty clay | 206-287 |
| Sandstone, greenish-yellow; (Fox Hills slump) | 287-289 |
| Shale, (Pierre Shale) | 289-300 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 11, T. 128 N., R. 79 W.

Drilled: USGS, ATH

Elevation: 1780 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Clay, light-brown | 0- 6 |
| Clay, grayish-brown, gravelly | 6- 16 |
| Sand, brown, medium, clayey | 16- 21 |
| Gravel, coarse, clayey | 21- 23 |
| Clay, gray, sandy | 23- 26 |
| Clay, gray to black, gravelly from 26 to 28 feet | 26- 51 |
| Shale, (Pierre Shale) | 51- 56 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11, T. 128 N., R. 79 W.

Drilled: SDGS, ATH

Elevation: 1730 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|-----------------|
| Silt, dark-brown from 0 to 9 feet, tan from | |

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 11, T. 128 N., R. 79 W. (continued)

| | |
|---|---------|
| 9 to 13 feet, and a few pebbles; (probably mostly loess) | 0- 13 |
| Rocks and gravel | 13- 16 |
| Clay, light-brown from 16 to 19 feet, reddish-brown from 19 to 22 feet, pebbly | 16- 22 |
| Silt, gray, clayey, few pebbles; samples come up in puffy appearance, may be due to lack of moisture; (till?) | 22- 69 |
| Till, puffy appearance as above | 69-127 |
| No samples, but drilled like gravel | 127-130 |
| Clay, blocky and pebbly (till) | 130-144 |

* * * * *

Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12, T. 128 N., R. 79 W.

Drilled: SDGS, RTH

Elevation: 1725 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|--------------|
| Silt, yellow, (loess) | 0- 5 |
| Gravel and clay, oxidized | 5- 8 |
| Till, oxidized to 35 feet | 8-140 |
| Clay, silty and sandy in spots, (mostly lacustrine) | 140-245 |

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Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 12, T. 128 N., R. 79 W.

Drilled: SDGS, RTH

Elevation: 1706 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|---|--------------|
| Topsoil, black, silty | 0- 5 |
| Clay, yellow-brown, some sand stringers | 5- 50 |
| Clay, gray, sandy and pebbly; lots of broken shale included; (could be colluvium) | 50- 65 |
| Till, gray | 65- 80 |
| Clay, gray, silty, and some very fine sand, (lacustrine) | 80-183 |
| Shale, black, (Pierre Shale) | 183-200 |

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Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 128 N., R. 79 W.

Drilled: USBR, ATH

Elevation: 1644 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|--------------|
| Silt, brown, clayey, trace of very fine sand, (loess?) | 0- 9 |
| Sand, brown, very fine, uniform, 30 to 40 percent | |

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 36, T. 128 N., R. 79 W. (continued)

| | |
|---|--------|
| silt, trace of clay | 9- 16 |
| Sand, grayish-brown, fairly well graded; 10 percent fine gravel, some pebbles up to 2 inches in diameter, trace of fine sand, (outwash) | 16- 20 |

Depth to water: 16 feet

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Location: NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 36, T. 128 N., R. 79 W.

Drilled: USBR, ATH

Elevation: 1639 feet (7 $\frac{1}{2}$ minute topographic map)

| Material | Depth (feet) |
|--|-----------------|
| Silt, tan, 40 percent very fine sand, moderate mica content | 0- 6 |
| Clay, tan, silty, 20 percent very fine sand, thinly laminated in zones (lake deposit) | 6- 24 |

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Table 5.—Logs of test holes and wells in Walworth
and McPherson Counties, South Dakota

(for location see figure 2)

Abbreviations

USGS - United States Geological Survey
SDGS - South Dakota Geological Survey
USBR - United States Bureau of Reclamation
USCE - United States Army Corps of Engineers
WRC - South Dakota Water Resources Commission
P - Private well driller
RTH - Rotary test hole
ATH - Auger test hole

Drilled: First set of letters indicate who drilled the test hole or well. The second set of letters show type of drilling method, when known (see abbreviations above).

Elevation: Given in feet above mean sea level and obtained by instrument, U. S. Geological Survey New Series 7½ minute topographic maps, or by altimeter.

The term "till" where used in the following logs refers to a heterogeneous mixture of clay, silt, sand, gravel, and boulders more commonly known as "boulder clay."

WALWORTH COUNTY

Location: NW¼NW¼NW¼NE¼ sec. 4, T. 124 N., R. 74 W.

Drilled: SDGS, RTH

Elevation: 1840 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Topsoil, black | 0- 2 |
| Clay, brown, (till?) | 2- 5 |
| Clay, black | 5- 6 |
| Clay, brown | 6- 15 |
| Clay, light-gray (lacustrine?) | 15- 20 |
| Clay, reddish-brown and gray, sandy | 20- 31 |
| Clay, brown | 31- 35 |
| Clay, gray | 35- 42 |
| Clay, gray, silty | 42- 65 |
| Sand, 50 percent shale pebbles | 65- 70 |
| Clay, gray | 70- 84 |
| Gravel and clay interbedded | 84- 92 |
| Clay, gray | 92-110 |
| Shale, dark-gray, upper 6 feet blocky and lower part dark-gray flaky shale chips | 110-140 |

* * * * *

Location: NE¼NE¼NE¼NE¼ sec. 2, T. 124 N., R. 79 W.

Drilled: USGS, ATH

Elevation: 1903 feet (7½ minute topographic map)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T. 124 N., R. 79 W. (continued)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, silty | 0- 7 |
| Clay, brown with gray streaks, gravelly | 7- 19 |
| Shale | 19- 32 |

* * * * *

McPHERSON COUNTY

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 7, T. 125 N., R. 73 W.
 Drilled: SDGS, RTH
 Elevation: 1784 feet (Altimeter)

| Material | Depth (feet) |
|---|-----------------|
| Clay, brown, pebbly, (till) | 0- 28 |
| Clay, gray, silty, pebbly, (till) | 28- 85 |
| Sand | 85- 90 |
| Clay, gray, pebbly, (till) | 90-175 |
| Gravel, peanut-size | 175-186 |
| Clay, gray | 186-204 |
| Gravel, pea-size | 204-218 |
| Clay, gray, pebbly, tough, gravel stringers | 218-270 |
| Gravel, medium to coarse | 270-285 |
| Clay, gray, and gravel stringers | 285-328 |
| Gravel and clay interbedded; fine black sand in samples from 320 to 390 feet; coarse gravel from 395 to 435 feet | 328-440 |
| Clay, medium-gray, bentonite, (Pierre Shale) | 440-475 |

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Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 19, T. 125 N., R. 73 W.
 Drilled: SDGS, RTH
 Elevation: 1785 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 2 |
| Clay, brown, gravel stringers | 2- 30 |
| Clay, gray, silty from 36 feet | 30- 70 |
| Sand, 50 percent shale pebbles | 70- 80 |
| Clay, gray | 80- 95 |
| Sand, clay from 102 to 105 feet | 95-112 |
| Clay, gray | 112-125 |
| Sand and clay interbedded | 125-134 |
| Clay, gray, silty from 200 to 290 feet; gravel stringers from 260 to 290 feet | 134-290 |
| Gravel and clay interbedded or gravelly clay | 290-325 |
| Clay, gray | 325-342 |
| Gravel and coal stringers | 342-358 |
| Clay and rocks; fewer rocks from 375 to 395 feet | 358-395 |

Location: NW¼NW¼NW¼NW¼ sec. 19, T. 125 N., R. 73 W. (continued)

| | |
|---------------------------|---------|
| Sand and coal | 395-410 |
| Clay, pebbly | 410-415 |
| Sand | 415-420 |
| Clay, gray (Pierre Shale) | 420-432 |

* * * * *

Location: SW¼SW¼SW¼SW¼ sec. 31, T. 128 N., R. 73 W.
Drilled: SDGS, ATH
Elevation: 1876 feet (Altimeter)

| Material | Depth (feet) |
|--|-----------------|
| Topsoil | 0- 1 |
| Sand and gravel, oxidized, grading from fine to coarse | 1- 24 |
| Sand and gravel, oxidized, clayey and silty | 24- 42 |
| Till, dark-gray, rocks and pebbles | 42- 55 |
| Shale | 55- 59 |

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