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SAND AND GRAVEL RESOURCES IN  
YANKTON COUNTY, SOUTH DAKOTA

by

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## CONTENTS

	Page
INTRODUCTION . . . . .	1
GEOLOGIC OVERVIEW . . . . .	1
Glacial till . . . . .	1
Glacial outwash . . . . .	2
Alluvium . . . . .	2
Terrace deposits . . . . .	2
Western sand . . . . .	2
Bedrock . . . . .	2
EXPLANATION OF TABLES . . . . .	3
EXPLANATION OF MAP . . . . .	3
Sand and gravel . . . . .	4
ECONOMIC CONSIDERATIONS . . . . .	5

## TABLES

1. List of test holes in Yankton County, South Dakota, which contain sand or gravel within 25 feet of the land surface . . . . .	6
2. List of sand and gravel pits in Yankton County which are on file at the District Office, South Dakota Department of Transportation, Division of Highways, Pierre, South Dakota . . . . .	41

## ILLUSTRATION

Map showing test holes, sand and gravel pits, and sand and gravel deposits in Yankton County . . . Following	46
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## INTRODUCTION

This pamphlet is one of a series of reports describing the geology and water resources of Yankton County. It is designed to be an uncomplicated, non-technical aid in the search for sand and gravel deposits.

Other reports in the series include:

- a. Major aquifers in Yankton County, South Dakota: South Dakota Geological Survey Information Pamphlet no. 28, Bugliosi, Edward F., U.S. Geological Survey, 1983.
- b. Water resources of Yankton County, South Dakota: U.S. Geological Survey Water Resources Investigations Report no. 84-4241, Bugliosi, Edward F., 1987.
- c. Geology of Yankton County, South Dakota: South Dakota Geological Survey Bulletin no. 34, Johnson, Gary D. (in preparation).

Report (a.) describes the availability, quality, and location of major aquifers (water-bearing deposits) in a short, easy to read, pamphlet. Report (b.) is a more technical and somewhat more exhaustive investigation of the water resources of the County. Report (c.) is a scientific investigation of the geology of Yankton County.

## GEOLOGIC OVERVIEW

Most of the sand and gravel deposits found in Yankton County were deposited by glacial ice or meltwater that covered the region thousands of years ago. Some sand and gravel has been deposited by streams since the retreat of the glaciers. A short description of geologic terms used in this text follows.

### Glacial Till

The glaciers were large masses of ice that thousands of years ago, originated from snow accumulations to the north. These glaciers flowed southward to the area that is now Yankton County, picking up earth debris as they went. Some of this debris, a mixture of clay, silt, sand, gravel, and boulders was redeposited directly from the ice. Till, the term used to describe this mixture, is also often called "blue clay" or "boulder clay." In the Yankton County area the till is made up primarily of clay and is not considered a source of sand and gravel. However, small isolated sand and gravel hills or lenses may occur.

### Glacial Outwash

Glacial outwash is the term used to describe any deposit of glacial debris which has been washed and sorted by water flowing from melting glacier ice. The grain size of these deposits depends upon the velocity of the water which deposited them and upon the type of material. Deposits left by slow flowing streams are made up primarily of silts and clays. Very fast flowing streams may have left streambeds composed entirely of boulders. Most glacial outwash, however, is made up of an assortment of sand and gravel, with minor amounts of finer and coarser materials. Deposits of glacial outwash are a major source of sand and gravel in Yankton County.

### Alluvium

Alluvium is the term used to describe the material deposited by streams since the retreat of the glaciers. Grain size of the alluvial deposits is determined by the same factors as glacial outwash. Alluvium is found in the valleys of present-day streams and can often be a good source of sand and gravel.

### Terrace Deposits

Terrace deposits are flat-topped alluvial or outwash deposits that are remnants of former flood plains. The streams which made them have since cut their channels deeper and developed new flood plains at lower levels. Some of the sand and gravel found in Yankton County occurs in this type of deposit.

### Western Sand

Western Sand is an informal term used to describe sand and gravel deposited by non-glacial streams other than the present-day streams. Because these deposits are derived from non-glacial sources, they contain less silt and clay, and are well-sorted when compared to other aggregate sources in Yankton County.

### Bedrock

Bedrock refers to the consolidated rocks underlying the glacial deposits. In Yankton County the bedrock consists primarily of shales and chalk. Bedrock crops out along the Missouri River and along several other creeks in Yankton County. No sand or gravel exists below bedrock found at the surface or encountered in test holes.

## EXPLANATION OF TABLES

Table 1 is a list of only those test holes in which sand or gravel was encountered within 25 feet of the land surface. This table gives the locations of the test holes, and the depths and descriptions of the sand and gravel deposits. The complete logs of all the test holes drilled in Yankton County are on file at the South Dakota Geological Survey in Vermillion, South Dakota.

Table 2 is a list of sand and gravel pits on file with the South Dakota Department of Transportation, Division of Highways in Pierre, South Dakota. Where possible, this table gives the landowner, location, thickness of overburden, thickness of sand and gravel being mined, and type of aggregate deposit for each pit. The actual thickness of a deposit may be greater than that which is listed in the table as being mined.

## EXPLANATION OF MAP

The map shows the location of the test holes and sand and gravel pits. It also shows the towns, major highways, and major lakes, rivers, and creeks.

Test-hole data are shown on the map using three types of map symbols. A dot (●) represents a test hole in which sand or gravel was found within 25 feet of the land surface, with 0 to 5 feet of overburden. A square (■) indicates that sand or gravel was found within 25 feet of the land surface but greater than 5 feet of overburden was encountered. These two types of symbols are numbered and the pertinent test-hole information is listed in table 1. The third symbol is an open circle (○), which indicates that no sand or gravel was found within 25 feet of the land surface. Logs of these test holes are available at the South Dakota Geological Survey in Vermillion, South Dakota. Locations of the sand and gravel pits are indicated by a crossed pick and shovel (⌘). The pits which are numbered are listed in table 2, and additional information is on file at the Department of Transportation, Division of Highways, in Pierre, South Dakota. No attempt was made to distinguish the inactive pits from the actively mined pits.

To aid in the delineation of the most promising areas of finding sand and gravel, the map has been divided into three area types, "good," "fair," and "poor." These three types of areas were differentiated using test-hole data, sand and gravel pit locations, soil survey information, topographic map and aerial photograph interpretation, and field observations. Areas with a "good" or "fair" probability of finding sand and gravel have been assigned a letter on the map and are discussed further in the following section.

Sand and gravel deposits found in the "good" areas are generally thick, have very little overburden, and cover a broad area. In these areas, much mining for sand and gravel has already

occurred and is occurring at the present time. Sand and gravel deposits found in the "fair" areas are generally thinner, have more overburden, or are laterally discontinuous. There are sand and gravel deposits in the "poor" areas, but a very expensive and exhaustive exploration program would be needed to locate all of these deposits.

### Sand and Gravel

The areas, marked "A," consist of outwash and alluvial deposits located within the James River valley. Although a large number of "good" portions are found within these areas, they have been designated as "fair" because of their lack of lateral and vertical continuity. Much of the sand and gravel has been removed and replaced by silty alluvium, due to erosion by the James River.

Area "B," designated as "good," located in the northwest part of the County, is associated with a large highland known as the James Ridge. The deposits contain up to several hundred feet of poorly sorted sands and gravels, which are not laterally continuous over the entire area. The thickness of overburden is highly variable over the area, but averages about 5 feet for all test holes drilled.

Area "C," designated as "fair," contains remnant terrace deposits within the Mud Creek valley. The deposits of sand and gravel found there are thin and discontinuous.

Area "D," designated as "fair," consists of outwash and alluvial deposits located within the Turkey Creek valley. The sand and gravel is found in remnant terrace deposits along the valley walls and in isolated patches along the valley floor.

Area "E," designated as "fair," contains significant quantities of western sand. The deposits are discontinuous due to post-depositional erosion. Much sand and gravel has been mined from this area.

Area "F," designated as "good," consists of sand and gravel deposits found within the downstream portion of the Turkey Creek valley. Thick and continuous terrace deposits are found along the valley walls. Much mining for sand and gravel has occurred within this area.

Area "G," is located on the flood plain of the Missouri River. It has been designated as "fair" because the sand found there is very fine and contains much silt and clay. Large amounts of silty, alluvial overburden cover any good deposits of sand and gravel.

Area "H," designated as "fair," contains discontinuous remnant terrace deposits along the walls of the Marne Creek valley.

Area "I," designated as "good," contains thick deposits of sand and gravel within the James River valley. This portion of the James River valley differs from the portions marked "A" in that there is very little overburden and less erosion by the James River has occurred.

The areas marked "J" and "K" contain outwash deposits within the valley of Beaver Creek. Sand and gravel deposits found in the areas marked "J" are discontinuous due to post-depositional erosion. Sand and gravel deposits found in the areas marked "K" are thick and continuous. Much mining for sand and gravel has occurred and is occurring in the areas marked "K."

Area "L," is a small body of outwash located just east of Lesterville. It has been designated as "fair," because of the large amounts of overburden covering much of the area.

Area "M," designated as "good," is a small isolated deposit of sand and gravel located on a hilltop just north of Yankton.

Area "N," designated as "fair," and located in the southwest part of the County, contains scattered deposits of western sand, named the Bon Homme Gravel. Test holes, gravel pits and outcrops reveal material ranging from medium sand to medium gravel. Test holes drilled in Area "N" encountered up to 36 feet of western sand but the deposits are discontinuous due to post-depositional erosion.

#### ECONOMIC CONSIDERATIONS

It should be emphasized that this study is quite general and should be used only as a guide to further exploration and development of the sand and gravel resources. The development of a specific site will depend upon material specifications for the desired use, development costs, transportation costs, and future markets.

TABLE 1. LIST OF TEST HOLES IN YANKTON COUNTY, SOUTH DAKOTA,  
WHICH CONTAIN SAND OR GRAVEL WITHIN 25 FEET OF THE  
LAND SURFACE.

LITHOLOGIC DESCRIPTIONS, AS LISTED, HAVE BEEN CONDENSED FROM  
DATA CONTAINED IN LOGS ON FILE AT THE SOUTH DAKOTA GEOLOGICAL  
SURVEY OFFICE, VERMILLION, SOUTH DAKOTA, AND CONTAIN ONLY  
INFORMATION WHICH HAS BEEN DEEMED MOST USEFUL FOR THIS STUDY.  
NUMERICAL VALUES INDICATE DEPTH IN FEET BELOW LAND SURFACE.

TEST HOLE NUMBER: 1  
LOCATION: 093N-54W-08DD  
LEGAL LOCATION: SE SE SEC. 08, T. 093 N., R. 54 W.

14 - 64 SAND, FINE

\* \* \* \*

TEST HOLE NUMBER: 2  
LOCATION: 093N-54W-20AA  
LEGAL LOCATION: NE NE SEC. 20, T. 093 N., R. 54 W.

9 - 14 SAND, FINE, CLAYEY  
14 - 79 SAND, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 3  
LOCATION: 093N-54W-22AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 22, T. 093 N., R. 54 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

5 - 40 SAND, BROWN, FINE TO MEDIUM; WITH THIN  
LAYERS OF GRAY-BROWN SILT

\* \* \* \*

TEST HOLE NUMBER: 4  
LOCATION: 093N-54W-35ADCC  
LEGAL LOCATION: SW SW SE NE SEC. 35, T. 093 N., R. 54 W.

0 - 55 SAND, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 5  
LOCATION: 093N-54W-35CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 35, T. 093 N., R. 54 W.



8 - 21 SAND, DARK-BROWN, MEDIUM  
21 - 25 SAND, GRAY, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 6  
LOCATION: 093N-55W-02CADC  
LEGAL LOCATION: SW SE NE SW SEC. 02, T. 093 N., R. 55 W.

0 - 33 SAND, FINE; MOIST (ALLUVIUM)

\* \* \* \*

TEST HOLE NUMBER: 7  
LOCATION: 093N-55W-02DADD  
LEGAL LOCATION: SE SE NE SE SEC. 02, T. 093 N., R. 55 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

3 - 86 SAND, FINE TO MEDIUM, VERY WELL SORTED

\* \* \* \*

TEST HOLE NUMBER: 8  
LOCATION: 093N-55W-06DAAC  
LEGAL LOCATION: SW NE NE SE SEC. 06, T. 093 N., R. 55 W.

9 - 29 GRAVEL, REDDISH-BROWN, COARSE, COBBLY,  
SANDY

\* \* \* \*

TEST HOLE NUMBER: 9  
LOCATION: 093N-55W-08BBBC  
LEGAL LOCATION: SW NW NW NW SEC. 08, T. 093 N., R. 55 W.

5 - 15 GRAVEL, REDDISH-BROWN, SANDY; DRY  
15 - 33 GRAVEL, REDDISH-BROWN, SANDY, COBBLY;  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 10  
LOCATION: 093N-55W-10CB  
LEGAL LOCATION: NW SW SEC. 10, T. 093 N., R. 55 W.

12 - 69 SAND, FINE

\* \* \* \*

TEST HOLE NUMBER: 11  
LOCATION: 093N-55W-11DD  
LEGAL LOCATION: SE SE SEC. 11, T. 093 N., R. 55 W.

12 - 26 SAND, FINE

\* \* \* \*

TEST HOLE NUMBER: 12  
LOCATION: 093N-55W-12ADBB  
LEGAL LOCATION: NW NW SE NE SEC. 12, T. 093 N., R. 55 W.

7 - 85 SAND, FINE; SAMPLED AT 65 FEET

\* \* \* \*

TEST HOLE NUMBER: 13  
LOCATION: 093N-55W-16AA  
LEGAL LOCATION: NE NE SEC. 16, T. 093 N., R. 55 W.

0 - 19 SAND, FINE  
19 - 59 SAND, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 14  
LOCATION: 093N-56W-01DDBA  
LEGAL LOCATION: NE NW SE SE SEC. 01, T. 093 N., R. 56 W.

0 - 6 SAND, REDDISH-BROWN, PEBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 15  
LOCATION: 093N-56W-02DAAA  
LEGAL LOCATION: NE NE NE SE SEC. 02, T. 093 N., R. 56 W.

8 - 10 GRAVEL, SILTY, SANDY

\* \* \* \*

TEST HOLE NUMBER: 16  
LOCATION: 093N-56W-10CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 10, T. 093 N., R. 56 W.

PRELIMINARY LOG -- SUBJECT TO CHANGE

13 - 18 SAND, BROWN, VERY ARGILLACEOUS; SOME  
PEBBLES (OXIDIZED TILL)

\* \* \* \*

TEST HOLE NUMBER: 17  
LOCATION: 093N-56W-12BADC  
LEGAL LOCATION: SW SE NE NW SEC. 12, T. 093 N., R. 56 W.

11 - 48 GRAVEL, SANDY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 18  
LOCATION: 093N-56W-13CCBC  
LEGAL LOCATION: SW NW SW SW SEC. 13, T. 093 N., R. 56 W.

1 - 15 SAND, BROWN, FINE  
15 - 22 SAND, COARSE  
22 - 28 SAND, COARSE; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 19  
LOCATION: 093N-56W-16ACAB  
LEGAL LOCATION: NW NE SW NE SEC. 16, T. 093 N., R. 56 W.

18 - 28 SAND, BROWN, FINE, SILTY, PEBBLY;  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 20  
LOCATION: 093N-56W-21ADDD  
LEGAL LOCATION: SE SE SE NE SEC. 21, T. 093 N., R. 56 W.

0 - 15 SAND, LIGHT-BROWN, FINE; DRY  
15 - 28 SAND, GRAY, FINE, CLAYEY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 21  
LOCATION: 093N-57W-01AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 01, T. 093 N., R. 57 W.

1 - 3 SAND, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 22  
LOCATION: 093N-57W-02BAAB  
LEGAL LOCATION: NW NE NE NW SEC. 02, T. 093 N., R. 57 W.

24 - 25 SAND, BROWN, GRAVELLY  
25 - 26 SAND, BROWN, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 23  
LOCATION: 093N-57W-03DADA  
LEGAL LOCATION: NE SE NE SE SEC. 03, T. 093 N., R. 57 W.

1 - 10 SAND, BROWN, PEBBLY  
22 - 24 GRAVEL, SANDY  
24 - 28 SAND, BROWN

\* \* \* \*

TEST HOLE NUMBER: 24  
LOCATION: 093N-57W-07CCBD  
LEGAL LOCATION: SE NW SW SW SEC. 07, T. 093 N., R. 57 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

0 - 12 SAND, LIGHT-BROWN TO YELLOW-BROWN, FINE  
TO MEDIUM, SILTY

\* \* \* \*

TEST HOLE NUMBER: 25  
LOCATION: 093N-57W-10CBCC  
LEGAL LOCATION: SW SW NW SW SEC. 10, T. 093 N., R. 57 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

0 - 24 SAND, LIGHT-TAN, FINE TO MEDIUM (WESTERN-  
DERIVED SAND; BON HOMME GRAVEL)  
24 - 36 SAND, LIGHT-TAN TO REDDISH, FINE TO  
MEDIUM, BUT SOME IS COARSE (BON HOMME  
GRAVEL)

\* \* \* \*

TEST HOLE NUMBER: 26  
LOCATION: 093N-57W-11CBDB  
LEGAL LOCATION: NW SE NW SW SEC. 11, T. 093 N., R. 57 W.

0 - 28 SAND, BROWN, FINE

\* \* \* \*

TEST HOLE NUMBER: 27  
LOCATION: 093N-57W-16CAAA  
LEGAL LOCATION: NE NE NE SW SEC. 16, T. 093 N., R. 57 W.

5 - 20 SAND, BROWN, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 28  
LOCATION: 093N-57W-23BADD  
LEGAL LOCATION: SE SE NE NW SEC. 23, T. 093 N., R. 57 W.

0 - 28 SAND, BROWN, PEBBLY

\* \* \* \*

TEST HOLE NUMBER: 29  
LOCATION: 094N-54W-04CBCB  
LEGAL LOCATION: NW SW NW SW SEC. 04, T. 094 N., R. 54 W.

10 - 15 SAND, LIGHT-BROWN, COARSE, GRAVELLY,  
CLAYEY; MOIST, CHALK PEBBLES

\* \* \* \*

TEST HOLE NUMBER: 30  
LOCATION: 094N-54W-04CC 1  
LEGAL LOCATION: SW SW SEC. 04, T. 094 N., R. 54 W.

0 - 4 SAND, FINE, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 31  
LOCATION: 094N-54W-04DDCD  
LEGAL LOCATION: SE SW SE SE SEC. 04, T. 094 N., R. 54 W.

12 - 18 SAND, LIGHT-BROWN, CLAYEY, PEBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 32  
LOCATION: 094N-54W-08DCCC

LEGAL LOCATION: SW SW SW SE SEC. 08, T. 094 N., R. 54 W.

1 - 15 SAND, BROWN, COARSE, GRAVELLY; DRY  
15 - 24 SAND, BROWN, COARSE; MOIST  
24 - 28 SAND, BROWN; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 33  
LOCATION: 094N-54W-09CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 09, T. 094 N., R. 54 W.

10 - 35 GRAVEL, RED-BROWN, COARSE; CLEAN

\* \* \* \*

TEST HOLE NUMBER: 34  
LOCATION: 094N-54W-11DCDD  
LEGAL LOCATION: SE SE SW SE SEC. 11, T. 094 N., R. 54 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

6 - 21 SAND, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 35  
LOCATION: 094N-54W-12BABB  
LEGAL LOCATION: NW NW NE NW SEC. 12, T. 094 N., R. 54 W.

0 - 4 GRAVEL, SANDY, SILTY, CLAYEY  
4 - 16 SAND, VERY CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 36  
LOCATION: 094N-54W-12DCDC  
LEGAL LOCATION: SW SE SW SE SEC. 12, T. 094 N., R. 54 W.

6 - 25 SAND, BROWN, CLAYEY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 37  
LOCATION: 094N-54W-13CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 13, T. 094 N., R. 54 W.

8 - 16 GRAVEL, COARSE, VERY SILTY; DRY

\* \* \* \*

TEST HOLE NUMBER: 38  
LOCATION: 094N-54W-14AAAB  
LEGAL LOCATION: NW NE NE NE SEC. 14, T. 094 N., R. 54 W.

11 - 21 SAND, LIGHT-BROWN, MEDIUM, SILTY,  
GRAVELLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 39  
LOCATION: 094N-54W-16AABA  
LEGAL LOCATION: NE NW NE NE SEC. 16, T. 094 N., R. 54 W.

18 - 26 SAND, BROWN, CLAYEY, GRAVELLY; VERY  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 40  
LOCATION: 094N-54W-16BB  
LEGAL LOCATION: NW NW SEC. 16, T. 094 N., R. 54 W.

14 - 49 GRAVEL, FINE, SILTY

\* \* \* \*

TEST HOLE NUMBER: 41  
LOCATION: 094N-54W-16CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 16, T. 094 N., R. 54 W.

15 - 60 SAND, FINE TO MEDIUM, VERY WELL SORTED  
DESPITE SOME MINOR GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 42  
LOCATION: 094N-54W-18AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 18, T. 094 N., R. 54 W.

0 - 12 SAND, BROWN, CLAYEY, SILTY, PEBBLY  
12 - 15 GRAVEL, SANDY, SILTY, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 43  
LOCATION: 094N-54W-21DD  
LEGAL LOCATION: SE SE SEC. 21, T. 094 N., R. 54 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

21 - 80 GRAVEL, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 44  
LOCATION: 094N-54W-21DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 21, T. 094 N., R. 54 W.

21 - 80 GRAVEL, PEA-SIZE; CAVING, SAMPLED AT  
60 FEET

\* \* \* \*

TEST HOLE NUMBER: 45  
LOCATION: 094N-54W-23DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 23, T. 094 N., R. 54 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

22 - 38 SAND, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 46  
LOCATION: 094N-54W-30BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 30, T. 094 N., R. 54 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

16 - 42 SAND, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 47  
LOCATION: 094N-54W-32AA  
LEGAL LOCATION: NE NE SEC. 32, T. 094 N., R. 54 W.

7 - 93 SAND, FINE

\* \* \* \*

TEST HOLE NUMBER: 48  
LOCATION: 094N-54W-33CC  
LEGAL LOCATION: SW SW SEC. 33, T. 094 N., R. 54 W.

4 - 9 SAND, FINE, CLAYEY



9 - 79 SAND, FINE

\* \* \* \*

TEST HOLE NUMBER: 49  
LOCATION: 094N-54W-35AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 35, T. 094 N., R. 54 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

23 - 42 SAND, COARSE

\* \* \* \*

TEST HOLE NUMBER: 50  
LOCATION: 094N-54W-35CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 35, T. 094 N., R. 54 W.

5 - 23 SAND, LIGHT-BROWN, MEDIUM  
23 - 33 SAND, LIGHT-BROWN, MEDIUM; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 51  
LOCATION: 094N-55W-05AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 05, T. 094 N., R. 55 W.

0 - 2 SAND, YELLOW, PEBBLY; DRY  
5 - 19 SAND, RED, MEDIUM, PEBBLY; MOIST  
19 - 21 GRAVEL, RED, SANDY  
21 - 29 SAND, RED, MEDIUM TO COARSE, PEBBLY; DRY

\* \* \* \*

TEST HOLE NUMBER: 52  
LOCATION: 094N-55W-05BABB  
LEGAL LOCATION: NW NW NE NW SEC. 05, T. 094 N., R. 55 W.

0 - 11 SAND, FINE TO MEDIUM; MINOR GRAVEL  
11 - 67 SAND, FINE TO COARSE; COARSENS TO GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 53  
LOCATION: 094N-55W-05CAAC  
LEGAL LOCATION: SW NE NE SW SEC. 05, T. 094 N., R. 55 W.

9 - 15 SAND, YELLOW, SILTY, PEBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 54  
LOCATION: 094N-55W-07CCBB  
LEGAL LOCATION: NW NW SW SW SEC. 07, T. 094 N., R. 55 W.

9 - 125 SAND, FINE TO COARSE; GRADING DOWNWARD  
INTO MEDIUM SAND TO COARSE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 55  
LOCATION: 094N-55W-08ABCB  
LEGAL LOCATION: NW SW NW NE SEC. 08, T. 094 N., R. 55 W.

0 - 2 SAND, BROWN, COARSE (ROADFILL)  
15 - 21 SAND, REDDISH-BROWN, FINE  
21 - 27 SAND, REDDISH-BROWN, SILTY, PEBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 56  
LOCATION: 094N-55W-12ABAA  
LEGAL LOCATION: NE NE NW NE SEC. 12, T. 094 N., R. 55 W.

0 - 14 SAND, BROWN, SILTY; DRY  
14 - 28 SAND, BROWN, SILTY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 57  
LOCATION: 094N-55W-12BAAA  
LEGAL LOCATION: NE NE NE NW SEC. 12, T. 094 N., R. 55 W.

1 - 28 SAND, BROWN, SILTY

\* \* \* \*

TEST HOLE NUMBER: 58  
LOCATION: 094N-55W-17AACC  
LEGAL LOCATION: SW SW NE NE SEC. 17, T. 094 N., R. 55 W.

1 - 3 SAND, COARSE, GRAVELLY, COBBLY  
3 - 4 GRAVEL, RED, SILTY, SANDY

\* \* \* \*

TEST HOLE NUMBER: 59  
LOCATION: 094N-55W-17ADCC

LEGAL LOCATION: SW SW SE NE SEC. 17, T. 094 N., R. 55 W.

1 - 3 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 60

LOCATION: 094N-55W-17DDDC

LEGAL LOCATION: SW SE SE SE SEC. 17, T. 094 N., R. 55 W.

1 - 5 SAND, YELLOW, MEDIUM TO COARSE, PEBBLY;  
DRY  
5 - 10 SAND, RED, COARSE, COBBLY; DRY  
10 - 20 GRAVEL, REDDISH-BROWN, COARSE, COBBLY  
20 - 38 GRAVEL, REDDISH-BROWN, COARSE; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 61

LOCATION: 094N-55W-21CCCD

LEGAL LOCATION: SE SW SW SW SEC. 21, T. 094 N., R. 55 W.

9 - 20 GRAVEL, SAMPLED AT 20 FEET  
20 - 42 GRAVEL, PEA-SIZE

\* \* \* \*

TEST HOLE NUMBER: 62

LOCATION: 094N-55W-34BABB

LEGAL LOCATION: NW NW NE NW SEC. 34, T. 094 N., R. 55 W.

2 - 38 GRAVEL, SANDY, COBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 63

LOCATION: 094N-55W-34CC

LEGAL LOCATION: SW SW SEC. 34, T. 094 N., R. 55 W.

24 - 39 SAND, VERY FINE

\* \* \* \*

TEST HOLE NUMBER: 64

LOCATION: 094N-55W-34DADA

LEGAL LOCATION: NE SE NE SE SEC. 34, T. 094 N., R. 55 W.

6 - 11 SAND, REDDISH-BROWN, FINE; MOIST  
13 - 20 GRAVEL, REDDISH-BROWN, SANDY, COBBLY

\* \* \* \*

TEST HOLE NUMBER: 65  
LOCATION: 094N-55W-36DADD 1  
LEGAL LOCATION: SE SE NE SE SEC. 36, T. 094 N., R. 55 W.

20 - 114 SAND, FINE TO MEDIUM; COARSE IN LOWER  
FEW FEET (INCLUDING FINE GRAVEL)

\* \* \* \*

TEST HOLE NUMBER: 66  
LOCATION: 094N-55W-36DADD 2  
LEGAL LOCATION: SE SE NE SE SEC. 36, T. 094 N., R. 55 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

19 - 50 SAND, FINE TO MEDIUM; SOME PEBBLES

\* \* \* \*

TEST HOLE NUMBER: 67  
LOCATION: 094N-56W-01CCDC  
LEGAL LOCATION: SW SE SW SW SEC. 01, T. 094 N., R. 56 W.

20 - 25 GRAVEL, SANDY, SILTY  
25 - 28 SAND, FINE; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 68  
LOCATION: 094N-56W-02DAAA  
LEGAL LOCATION: NE NE NE SE SEC. 02, T. 094 N., R. 56 W.

5 - 13 SAND, DARK-YELLOW, SILTY, PEBBLY; DRY  
18 - 48 SAND, COARSE, GRAVELLY

\* \* \* \*

TEST HOLE NUMBER: 69  
LOCATION: 094N-56W-02DDAD  
LEGAL LOCATION: SE NE SE SE SEC. 02, T. 094 N., R. 56 W.

5 - 128 SAND AND GRAVEL, MEDIUM SAND AND VERY  
COARSE GRAVEL; COARSENS DOWNWARD EXCEPT  
FOR FINE GRAVEL AT 72 TO 77 FEET

\* \* \* \*

TEST HOLE NUMBER: 70  
LOCATION: 094N-56W-12ABAB  
LEGAL LOCATION: NW NE NW NE SEC. 12, T. 094 N., R. 56 W.

24 - 33 SAND, GRAVELLY

\* \* \* \*

TEST HOLE NUMBER: 71  
LOCATION: 094N-56W-12BBCB  
LEGAL LOCATION: NW SW NW NW SEC. 12, T. 094 N., R. 56 W.

0 - 4 SAND, YELLOWISH-BROWN, FINE; DRY

\* \* \* \*

TEST HOLE NUMBER: 72  
LOCATION: 094N-56W-13AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 13, T. 094 N., R. 56 W.

3 - 22 SAND, SILTY, PEBBLY  
22 - 29 GRAVEL, SILTY, SANDY

\* \* \* \*

TEST HOLE NUMBER: 73  
LOCATION: 094N-56W-18CCCC  
LEGAL LOCATION: NW SW SW SW SEC. 18, T. 094 N., R. 56 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

2 - 8 GRAVEL, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 74  
LOCATION: 094N-56W-25ABCB  
LEGAL LOCATION: NW SW NW NE SEC. 25, T. 094 N., R. 56 W.

5 - 10 SAND, LIGHT-BROWN, FINE, SILTY; DRY  
10 - 17 GRAVEL, DARK-BROWN, SANDY; DRY  
17 - 27 GRAVEL, COARSE, SANDY; DRY

\* \* \* \*

TEST HOLE NUMBER: 75

LOCATION: 094N-56W-25ACAD

LEGAL LOCATION: SE NE SW NE SEC. 25, T. 094 N., R. 56 W.

17 - 20 SAND, LIGHT-BROWN, FINE; MOIST, CLEAN  
20 - 26 SAND, YELLOWISH-BROWN, FINE; MOIST,  
CLEAN

\* \* \* \*

TEST HOLE NUMBER: 76

LOCATION: 094N-56W-31BAAC

LEGAL LOCATION: SW NE NE NW SEC. 31, T. 094 N., R. 56 W.

23 - 30 GRAVEL, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 77

LOCATION: 094N-57W-05CCCC

LEGAL LOCATION: SW SW SW SW SEC. 05, T. 094 N., R. 57 W.

4 - 22 SAND, BROWN, SILTY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 78

LOCATION: 094N-57W-05CDCC

LEGAL LOCATION: SW SW SE SW SEC. 05, T. 094 N., R. 57 W.

3 - 13 GRAVEL, SANDY  
13 - 23 SAND, PEBBLY

\* \* \* \*

TEST HOLE NUMBER: 79

LOCATION: 094N-57W-07ADAA

LEGAL LOCATION: NE NE SE NE SEC. 07, T. 094 N., R. 57 W.

13 - 23 SAND, GRAY, CLAYEY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 80

LOCATION: 094N-57W-07ADDA

LEGAL LOCATION: NE SE SE NE SEC. 07, T. 094 N., R. 57 W.

2 - 15 SAND AND GRAVEL, MEDIUM SAND TO MEDIUM  
GRAVEL; COARSENING DOWNWARD

\* \* \* \*

TEST HOLE NUMBER: 81  
LOCATION: 094N-57W-07BCCC  
LEGAL LOCATION: SW SW SW NW SEC. 07, T. 094 N., R. 57 W.

2 - 10 SAND, BROWN, CLAYEY, PEBBLY

\* \* \* \*

TEST HOLE NUMBER: 82  
LOCATION: 094N-57W-07CDDD  
LEGAL LOCATION: SE SE SE SW SEC. 07, T. 094 N., R. 57 W.

0 - 12 GRAVEL, SILTY, SANDY  
12 - 16 GRAVEL, VERY SANDY, SILTY  
16 - 20 GRAVEL, VERY SANDY, SILTY; MOIST  
20 - 32 SAND, PEBBLY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 83  
LOCATION: 094N-57W-30CBCC  
LEGAL LOCATION: SW SW NW SW SEC. 30, T. 094 N., R. 57 W.

1 - 12 SAND, BROWN, CLAYEY; DRY  
12 - 16 SAND, BROWN, CLAYEY; MOIST  
16 - 28 SAND, BROWN, CLAYEY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 84  
LOCATION: 095N-54W-02CBCC  
LEGAL LOCATION: SW SW NW SW SEC. 02, T. 095 N., R. 54 W.

16 - 28 SAND, BROWN, CLAYEY, PEBBLY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 85  
LOCATION: 095N-54W-07BCCB  
LEGAL LOCATION: NW SW SW NW SEC. 07, T. 095 N., R. 54 W.

12 - 28 SAND, BROWN, CLAYEY, PEBBLY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 86  
LOCATION: 095N-54W-12DCDD  
LEGAL LOCATION: SE SE SW SE SEC. 12, T. 095 N., R. 54 W.

0 - 8 SAND, GRAVELLY

\* \* \* \*

TEST HOLE NUMBER: 87  
LOCATION: 095N-54W-13ADAD  
LEGAL LOCATION: SE NE SE NE SEC. 13, T. 095 N., R. 54 W.

8 - 10 SAND, LIGHT-BROWN, COARSE, SILTY,  
PEBBLY; DRY

\* \* \* \*

TEST HOLE NUMBER: 88  
LOCATION: 095N-54W-14DDAD  
LEGAL LOCATION: SE NE SE SE SEC. 14, T. 095 N., R. 54 W.

15 - 18 SAND, BROWN, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 89  
LOCATION: 095N-54W-24BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 24, T. 095 N., R. 54 W.

3 - 12 SAND, COARSE  
24 - 44 SAND AND GRAVEL, COARSE SAND TO MEDIUM  
GRAVEL (MOSTLY CHALK FRAGMENTS)

\* \* \* \*

TEST HOLE NUMBER: 90  
LOCATION: 095N-54W-32ABBA  
LEGAL LOCATION: NE NW NW NE SEC. 32, T. 095 N., R. 54 W.

7 - 9 SAND, LIGHT-BROWN, SILTY, PEBBLY; DRY

\* \* \* \*

TEST HOLE NUMBER: 91



LOCATION: 095N-54W-34ADDC  
LEGAL LOCATION: SW SE SE NE SEC. 34, T. 095 N., R. 54 W.

21 - 86 SAND, GRAY, FINE TO MEDIUM, CLAYEY;  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 92  
LOCATION: 095N-55W-03DDDC  
LEGAL LOCATION: SW SE SE SE SEC. 03, T. 095 N., R. 55 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

4 - 8 GRAVEL, FINE  
10 - 13 GRAVEL, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 93  
LOCATION: 095N-55W-04CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 04, T. 095 N., R. 55 W.

2 - 4 GRAVEL, GRAYISH-BROWN, SANDY, COBBLY;  
DRY

\* \* \* \*

TEST HOLE NUMBER: 94  
LOCATION: 095N-55W-07CBBB  
LEGAL LOCATION: NW NW NW SW SEC. 07, T. 095 N., R. 55 W.

17 - 24 SAND, GRAYISH-BROWN, SILTY; SATURATED  
24 - 33 GRAVEL, MEDIUM, SANDY, WELL SORTED

\* \* \* \*

TEST HOLE NUMBER: 95  
LOCATION: 095N-55W-08AABA  
LEGAL LOCATION: NE NW NE NE SEC. 08, T. 095 N., R. 55 W.

0 - 1 GRAVEL, LIGHT-BROWN, SANDY; DRY  
(ROADFILL)

\* \* \* \*

TEST HOLE NUMBER: 96  
LOCATION: 095N-55W-10CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 10, T. 095 N., R. 55 W.

4 - 7 GRAVEL, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 97  
LOCATION: 095N-55W-18BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 18, T. 095 N., R. 55 W.

12 - 15 SAND, FINE; WITH CLAM SHELLS  
18 - 37 SAND, FINE

\* \* \* \*

TEST HOLE NUMBER: 98  
LOCATION: 095N-55W-18BCCB  
LEGAL LOCATION: NW SW SW NW SEC. 18, T. 095 N., R. 55 W.

0 - 4 SAND, SILTY, PEBBLY

\* \* \* \*

TEST HOLE NUMBER: 99  
LOCATION: 095N-55W-20AAAB  
LEGAL LOCATION: NW NE NE NE SEC. 20, T. 095 N., R. 55 W.

0 - 15 GRAVEL, SANDY; DRY

\* \* \* \*

TEST HOLE NUMBER: 100  
LOCATION: 095N-55W-20DAAC  
LEGAL LOCATION: SW NE NE SE SEC. 20, T. 095 N., R. 55 W.

0 - 7 GRAVEL, COBBLY; ABANDONED HOLE

\* \* \* \*

TEST HOLE NUMBER: 101  
LOCATION: 095N-55W-21BBBA  
LEGAL LOCATION: NE NW NW NW SEC. 21, T. 095 N., R. 55 W.

0 - 5 GRAVEL, BROWN, SANDY  
5 - 17 GRAVEL, COARSE, COBBLY

\* \* \* \*

TEST HOLE NUMBER: 102  
LOCATION: 095N-55W-29BADD  
LEGAL LOCATION: SE SE NE NW SEC. 29, T. 095 N., R. 55 W.

2 - 13 GRAVEL, BROWN, COARSE, SILTY, SANDY; DRY  
13 - 27 GRAVEL, BROWN, COARSE, SILTY, SANDY;  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 103  
LOCATION: 095N-55W-29BBAB  
LEGAL LOCATION: NW NE NW NW SEC. 29, T. 095 N., R. 55 W.

2 - 10 GRAVEL, YELLOW, COARSE, SANDY  
10 - 18 GRAVEL, RED, VERY COARSE  
18 - 20 GRAVEL, COBBLY; ABANDONED HOLE

\* \* \* \*

TEST HOLE NUMBER: 104  
LOCATION: 095N-55W-32ADBA  
LEGAL LOCATION: NE NW SE NE SEC. 32, T. 095 N., R. 55 W.

10 - 18 SAND, YELLOW, MEDIUM, PEBBLY  
18 - 20 GRAVEL, BROWN, SANDY

\* \* \* \*

TEST HOLE NUMBER: 105  
LOCATION: 095N-55W-32CCBB  
LEGAL LOCATION: NW NW SW SW SEC. 32, T. 095 N., R. 55 W.

0 - 3 SAND, LIGHT-BROWN, FINE, PEBBLY; DRY  
3 - 33 SAND, BROWN, FINE, PEBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 106  
LOCATION: 095N-55W-32DACB  
LEGAL LOCATION: NW SW NE SE SEC. 32, T. 095 N., R. 55 W.

6 - 9 SAND, LIGHT-BROWN, SILTY, PEBBLY  
9 - 15 SAND, REDDISH-BROWN, FINE TO MEDIUM  
15 - 20 GRAVEL, REDDISH-BROWN, FINE

\* \* \* \*

TEST HOLE NUMBER: 107  
LOCATION: 095N-55W-32DDCD 2  
LEGAL LOCATION: SE SW SE SE SEC. 32, T. 095 N., R. 55 W.

12 - 78 SAND AND GRAVEL, COARSE SAND TO FINE  
GRAVEL; CHANGING TO COARSE GRAVEL AND  
COBBLES WITH DEPTH

\* \* \* \*

TEST HOLE NUMBER: 108  
LOCATION: 095N-55W-32DDDC 1  
LEGAL LOCATION: SW SE SE SE SEC. 32, T. 095 N., R. 55 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

24 - 78 GRAVEL, MEDIUM TO VERY COARSE

\* \* \* \*

TEST HOLE NUMBER: 109  
LOCATION: 095N-56W-03BBBB 2  
LEGAL LOCATION: NW NW NW NW SEC. 03, T. 095 N., R. 56 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

0 - 8 SAND, FINE, CLAYEY  
14 - 19 SAND, FINE

\* \* \* \*

TEST HOLE NUMBER: 110  
LOCATION: 095N-56W-03CCDC  
LEGAL LOCATION: SW SE SW SW SEC. 03, T. 095 N., R. 56 W.

12 - 15 SAND, LIGHT-BROWN, SILTY

\* \* \* \*

TEST HOLE NUMBER: 111  
LOCATION: 095N-56W-05CBBC  
LEGAL LOCATION: SW NW NW SW SEC. 05, T. 095 N., R. 56 W.

6 - 7 SAND, YELLOW, MEDIUM, PEBBLY

\* \* \* \*

TEST HOLE NUMBER: 112  
LOCATION: 095N-56W-06BAAA  
LEGAL LOCATION: NE NE NE NW SEC. 06, T. 095 N., R. 56 W.

8 - 18 SAND, LIGHT-BROWN, SILTY, PEBBLY; MOIST  
25 - 27 GRAVEL, LIGHT-BROWN, COARSE, SANDY

\* \* \* \*

TEST HOLE NUMBER: 113  
LOCATION: 095N-56W-06BCBB  
LEGAL LOCATION: NW NW SW NW SEC. 06, T. 095 N., R. 56 W.

5 - 10 SAND, REDDISH-BROWN, MEDIUM  
10 - 18 SAND, DARK-BROWN, COARSE, PEBBLY  
18 - 28 GRAVEL, DARK-BROWN, FINE

\* \* \* \*

TEST HOLE NUMBER: 114  
LOCATION: 095N-56W-08DDDA  
LEGAL LOCATION: NE SE SE SE SEC. 08, T. 095 N., R. 56 W.

2 - 31 SAND, FINE TO MEDIUM; WITH MINOR GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 115  
LOCATION: 095N-56W-09DCCC  
LEGAL LOCATION: SW SW SW SE SEC. 09, T. 095 N., R. 56 W.

0 - 5 SAND, LIGHT-BROWN, FINE TO MEDIUM; SOME  
MINOR SILT

\* \* \* \*

TEST HOLE NUMBER: 116  
LOCATION: 095N-56W-12BACC  
LEGAL LOCATION: SW SW NE NW SEC. 12, T. 095 N., R. 56 W.

0 - 4 SAND, LIGHT-BROWN, FINE, SILTY; DRY

\* \* \* \*

TEST HOLE NUMBER: 117  
LOCATION: 095N-56W-16CCCD  
LEGAL LOCATION: SE SW SW SW SEC. 16, T. 095 N., R. 56 W.

2 - 118 GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 118  
LOCATION: 095N-56W-17ADAA  
LEGAL LOCATION: NE NE SE NE SEC. 17, T. 095 N., R. 56 W.

6 - 28 SAND, REDDISH-BROWN, CLAYEY, PEBBLY

\* \* \* \*

TEST HOLE NUMBER: 119  
LOCATION: 095N-56W-17DAAD  
LEGAL LOCATION: SE NE NE SE SEC. 17, T. 095 N., R. 56 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 28 SAND, MEDIUM; WITH MINOR GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 120  
LOCATION: 095N-56W-18AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 18, T. 095 N., R. 56 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

2 - 6 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 121  
LOCATION: 095N-56W-18AAAA 3  
LEGAL LOCATION: NE NE NE NE SEC. 18, T. 095 N., R. 56 W.

0 - 6 SAND, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 122  
LOCATION: 095N-56W-18ADAA  
LEGAL LOCATION: NE NE SE NE SEC. 18, T. 095 N., R. 56 W.

5 - 9 SAND, REDDISH-BROWN, SILTY  
9 - 37 GRAVEL, REDDISH-BROWN, SANDY; ABANDONED  
HOLE

\* \* \* \*

TEST HOLE NUMBER: 123  
LOCATION: 095N-56W-19ABBA  
LEGAL LOCATION: NE NW NW NE SEC. 19, T. 095 N., R. 56 W.

0 - 4 GRAVEL, SILTY, SANDY

\* \* \* \*

TEST HOLE NUMBER: 124  
LOCATION: 095N-56W-20BAAB  
LEGAL LOCATION: NW NE NE NW SEC. 20, T. 095 N., R. 56 W.

14 - 15 SAND, REDDISH-BROWN

\* \* \* \*

TEST HOLE NUMBER: 125  
LOCATION: 095N-56W-21AABB 1  
LEGAL LOCATION: NW NW NE NE SEC. 21, T. 095 N., R. 56 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

15 - 48 SAND AND GRAVEL, MEDIUM SAND AND MEDIUM  
GRAVEL; INTERBEDDED WITH CLAY LAYERS

\* \* \* \*

TEST HOLE NUMBER: 126  
LOCATION: 095N-56W-21AABB 3  
LEGAL LOCATION: NW NW NE NE SEC. 21, T. 095 N., R. 56 W.

22 - 55 GRAVEL, FINE; WITH FINE SAND AND THIN  
LAYERS OF CLAY

\* \* \* \*

TEST HOLE NUMBER: 127  
LOCATION: 095N-56W-21BAAB  
LEGAL LOCATION: NW NE NE NW SEC. 21, T. 095 N., R. 56 W.

2 - 48 SAND, BROWN, MEDIUM, CLAYEY, PEBBLY;  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 128  
LOCATION: 095N-56W-21DCDC  
LEGAL LOCATION: SW SE SW SE SEC. 21, T. 095 N., R. 56 W.

5 - 20 SAND, BROWN, MEDIUM TO COARSE; MOIST  
20 - 22 SAND, DARK-BROWN, FINE; MOIST  
22 - 63 SAND, BROWN, MEDIUM; SOME GRAVEL,  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 129  
LOCATION: 095N-56W-28AABA  
LEGAL LOCATION: NE NW NE NE SEC. 28, T. 095 N., R. 56 W.

10 - 11 GRAVEL, REDDISH-BROWN, SANDY; MOIST  
11 - 30 SAND, DARK-REDDISH-BROWN, COARSE,  
PEBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 130  
LOCATION: 095N-56W-31BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 31, T. 095 N., R. 56 W.

20 - 25 GRAVEL, CLAYEY, SANDY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 131  
LOCATION: 095N-56W-32BCCC  
LEGAL LOCATION: SW SW SW NW SEC. 32, T. 095 N., R. 56 W.

20 - 22 GRAVEL, LIGHT-BROWN, COARSE, SANDY;  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 132  
LOCATION: 095N-56W-34ABCA  
LEGAL LOCATION: NE SW NW NE SEC. 34, T. 095 N., R. 56 W.

0 - 4 SAND, LIGHT-BROWN, VERY SILTY, PEBBLY;  
DRY (ROADFILL)  
14 - 15 SAND, COARSE, PEBBLY; DRY  
15 - 28 GRAVEL, MEDIUM, SANDY, POORLY SORTED

\* \* \* \*

TEST HOLE NUMBER: 133  
LOCATION: 095N-56W-36CCBC 3  
LEGAL LOCATION: SW NW SW SW SEC. 36, T. 095 N., R. 56 W.

5 - 7 SAND, LIGHT-BROWN, SILTY, PEBBLY; DRY

\* \* \* \*



TEST HOLE NUMBER: 134  
LOCATION: 095N-57W-01BAAA  
LEGAL LOCATION: NE NE NE NW SEC. 01, T. 095 N., R. 57 W.

24 - 28 SAND, BLACK, MEDIUM, SILTY, CLAYEY;  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 135  
LOCATION: 095N-57W-12DADA  
LEGAL LOCATION: NE SE NE SE SEC. 12, T. 095 N., R. 57 W.

0 - 6 GRAVEL  
6 - 17 SAND, BROWN, GRAVELLY

\* \* \* \*

TEST HOLE NUMBER: 136  
LOCATION: 095N-57W-12DDCC  
LEGAL LOCATION: SW SW SE SE SEC. 12, T. 095 N., R. 57 W.

0 - 12 SAND, BROWN; DRY  
12 - 24 GRAVEL, SANDY; DRY  
24 - 43 GRAVEL, SILTY, SANDY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 137  
LOCATION: 095N-57W-13ADDD  
LEGAL LOCATION: SE SE SE NE SEC. 13, T. 095 N., R. 57 W.

16 - 18 GRAVEL, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 138  
LOCATION: 095N-57W-15CCDD  
LEGAL LOCATION: SE SE SW SW SEC. 15, T. 095 N., R. 57 W.

0 - 16 GRAVEL, BROWN, COARSE, SANDY; DRY

\* \* \* \*

TEST HOLE NUMBER: 139  
LOCATION: 095N-57W-16CCC  
LEGAL LOCATION: SW SW SW SEC. 16, T. 095 N., R. 57 W.

0 - 10 GRAVEL, RED; DRY

\* \* \* \*

TEST HOLE NUMBER: 140  
LOCATION: 095N-57W-22DCCC 1  
LEGAL LOCATION: SW SW SW SE SEC. 22, T. 095 N., R. 57 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

20 - 62 SAND, MEDIUM; WITH FINE GRAVEL AND SOME  
SMALL PEBBLES

\* \* \* \*

TEST HOLE NUMBER: 141  
LOCATION: 095N-57W-22DCCC 2  
LEGAL LOCATION: SW SW SW SE SEC. 22, T. 095 N., R. 57 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

18 - 50 SAND, MEDIUM; WITH SOME GRAVEL AND  
PEBBLES

\* \* \* \*

TEST HOLE NUMBER: 142  
LOCATION: 095N-57W-22DDD  
LEGAL LOCATION: SE SE SE SEC. 22, T. 095 N., R. 57 W.

6 - 12 SAND, CLAYEY; DRY  
12 - 16 SAND, CLAYEY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 143  
LOCATION: 095N-57W-23DAAD  
LEGAL LOCATION: SE NE NE SE SEC. 23, T. 095 N., R. 57 W.

25 - 28 SAND, GRAY, PEBBLY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 144  
LOCATION: 095N-57W-26DADD  
LEGAL LOCATION: SE SE NE SE SEC. 26, T. 095 N., R. 57 W.

15 - 33 GRAVEL, SANDY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 145  
LOCATION: 095N-57W-26DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 26, T. 095 N., R. 57 W.

0 - 2 SAND, BROWN, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 146  
LOCATION: 095N-57W-33CDDC  
LEGAL LOCATION: SW SE SE SW SEC. 33, T. 095 N., R. 57 W.

5 - 8 SAND, BROWN, MEDIUM, PEBBLY; MOIST  
8 - 15 SAND, GRAY, FINE; SATURATED  
21 - 27 GRAVEL, BROWN, FINE TO MEDIUM, SANDY;  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 147  
LOCATION: 095N-57W-33DDDA  
LEGAL LOCATION: NE SE SE SE SEC. 33, T. 095 N., R. 57 W.

4 - 17 SAND, LIGHT-BROWN, MEDIUM, PEBBLY; MOIST  
17 - 28 GRAVEL, DARK-BROWN, SANDY, CLAYEY;  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 148  
LOCATION: 095N-57W-35ABAA  
LEGAL LOCATION: NE NE NW NE SEC. 35, T. 095 N., R. 57 W.

3 - 28 SAND, BROWN, GRAVELLY, POORLY SORTED

\* \* \* \*

TEST HOLE NUMBER: 149  
LOCATION: 096N-54W-03CDCC  
LEGAL LOCATION: SW SW SE SW SEC. 03, T. 096 N., R. 54 W.

0 - 4 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 150  
LOCATION: 096N-54W-03CDDC

LEGAL LOCATION: SW SE SE SW SEC. 03, T. 096 N., R. 54 W.

0 - 12 GRAVEL, SANDY, SILTY, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 151  
LOCATION: 096N-54W-15ABAA  
LEGAL LOCATION: NE NE NW NE SEC. 15, T. 096 N., R. 54 W.

0 - 1 SAND; DRY  
1 - 16 GRAVEL; DRY

\* \* \* \*

TEST HOLE NUMBER: 152  
LOCATION: 096N-54W-16DDAA  
LEGAL LOCATION: NE NE SE SE SEC. 16, T. 096 N., R. 54 W.

15 - 28 SAND, GRAY, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 153  
LOCATION: 096N-54W-17CBBB  
LEGAL LOCATION: NW NW NW SW SEC. 17, T. 096 N., R. 54 W.

4 - 7 GRAVEL, BROWN, SANDY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 154  
LOCATION: 096N-54W-21AABB  
LEGAL LOCATION: NW NW NE NE SEC. 21, T. 096 N., R. 54 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

23 - 25 SAND AND GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 155  
LOCATION: 096N-54W-34DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 34, T. 096 N., R. 54 W.

11 - 28 GRAVEL, FINE TO COARSE; WITH MINOR SAND,  
CHALK FRAGMENTS

\* \* \* \*

TEST HOLE NUMBER: 156  
LOCATION: 096N-55W-12BBCB  
LEGAL LOCATION: NW SW NW NW SEC. 12, T. 096 N., R. 55 W.

0 - 6 SAND, REDDISH-BROWN, FINE TO MEDIUM,  
SILTY

\* \* \* \*

TEST HOLE NUMBER: 157  
LOCATION: 096N-55W-18CCCD  
LEGAL LOCATION: SE SW SW SW SEC. 18, T. 096 N., R. 55 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

6 - 11 GRAVEL, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 158  
LOCATION: 096N-55W-30BBAA  
LEGAL LOCATION: NE NE NW NW SEC. 30, T. 096 N., R. 55 W.

0 - 8 GRAVEL, SILTY, SANDY

\* \* \* \*

TEST HOLE NUMBER: 159  
LOCATION: 096N-55W-32BCBC  
LEGAL LOCATION: SW NW SW NW SEC. 32, T. 096 N., R. 55 W.

0 - 8 SAND, RED, CLAYEY  
8 - 18 GRAVEL, SANDY

\* \* \* \*

TEST HOLE NUMBER: 160  
LOCATION: 096N-55W-33DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 33, T. 096 N., R. 55 W.

6 - 8 SAND, MEDIUM; WITH MEDIUM GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 161  
LOCATION: 096N-55W-35DACB  
LEGAL LOCATION: NW SW NE SE SEC. 35, T. 096 N., R. 55 W.

16 - 33 SAND, GRAY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 162  
LOCATION: 096N-56W-15CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 15, T. 096 N., R. 56 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

24 - 26 GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 163  
LOCATION: 096N-56W-28CCBA  
LEGAL LOCATION: NE NW SW SW SEC. 28, T. 096 N., R. 56 W.

6 - 8 GRAVEL; DRY  
14 - 16 GRAVEL; DRY

\* \* \* \*

TEST HOLE NUMBER: 164  
LOCATION: 096N-56W-29CCAB  
LEGAL LOCATION: NW NE SW SW SEC. 29, T. 096 N., R. 56 W.

0 - 6 GRAVEL, DARK-BROWN, COARSE, SILTY; DRY

\* \* \* \*

TEST HOLE NUMBER: 165  
LOCATION: 096N-56W-29CDDD  
LEGAL LOCATION: SE SE SE SW SEC. 29, T. 096 N., R. 56 W.

2 - 4 GRAVEL, BROWN, FINE, SANDY, CLAYEY;  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 166  
LOCATION: 096N-56W-31BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 31, T. 096 N., R. 56 W.

4 - 5 SAND, WHITE, MEDIUM, SILTY, PEBBLY;  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 167  
LOCATION: 096N-56W-31CCBB  
LEGAL LOCATION: NW NW SW SW SEC. 31, T. 096 N., R. 56 W.

11 - 26 SAND, LIGHT-BROWN, MEDIUM, PEBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 168  
LOCATION: 096N-56W-31CCCC 1  
LEGAL LOCATION: SW SW SW SW SEC. 31, T. 096 N., R. 56 W.

0 - 66 SAND, FINE TO COARSE; COARSENING  
DOWNWARD TO VERY COARSE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 169  
LOCATION: 096N-56W-31CCCD  
LEGAL LOCATION: SE SW SW SW SEC. 31, T. 096 N., R. 56 W.

1 - 4 SAND, BROWN, MEDIUM, SILTY, PEBBLY; DRY  
4 - 24 GRAVEL, BROWN, MEDIUM, SANDY; DRY  
24 - 28 SAND, LIGHT-BROWN, MEDIUM, PEBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 170  
LOCATION: 096N-56W-34DCAA  
LEGAL LOCATION: NE NE SW SE SEC. 34, T. 096 N., R. 56 W.

0 - 14 SAND, SILTY, PEBBLY  
18 - 23 GRAVEL, BROWN, COARSE, VERY SANDY,  
CLAYEY; ABANDONED HOLE

\* \* \* \*

TEST HOLE NUMBER: 171  
LOCATION: 096N-56W-34DDBC  
LEGAL LOCATION: SW NW SE SE SEC. 34, T. 096 N., R. 56 W.

2 - 53 GRAVEL, SANDY

\* \* \* \*

TEST HOLE NUMBER: 172  
LOCATION: 096N-56W-35DCDA 1

LEGAL LOCATION: NE SE SW SE SEC. 35, T. 096 N., R. 56 W.

0 - 25 SAND AND GRAVEL, MEDIUM SAND TO FINE  
GRAVEL  
25 - 51 SAND AND GRAVEL, COARSE SAND TO COARSE  
GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 173  
LOCATION: 096N-56W-36DDCD  
LEGAL LOCATION: SE SW SE SE SEC. 36, T. 096 N., R. 56 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

0 - 25 GRAVEL, FINE; WITH FINE TO MEDIUM SAND

\* \* \* \*

TEST HOLE NUMBER: 174  
LOCATION: 096N-57W-09AADC  
LEGAL LOCATION: SW SE NE NE SEC. 09, T. 096 N., R. 57 W.

15 - 29 GRAVEL; SAMPLED AT 24 FEET

\* \* \* \*

TEST HOLE NUMBER: 175  
LOCATION: 096N-57W-09DDDA  
LEGAL LOCATION: NE SE SE SE SEC. 09, T. 096 N., R. 57 W.

0 - 3 SAND, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 176  
LOCATION: 096N-57W-11BCCA  
LEGAL LOCATION: NE SW SW NW SEC. 11, T. 096 N., R. 57 W.

2 - 5 GRAVEL, BROWN, COARSE, SANDY, COBBLY; DRY  
5 - 15 SAND, YELLOWISH-BROWN, FINE, SILTY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 177  
LOCATION: 096N-57W-11DACB  
LEGAL LOCATION: NW SW NE SE SEC. 11, T. 096 N., R. 57 W.



3 - 12 GRAVEL, BROWN, SANDY, COBBLY; MOIST  
12 - 28 SAND, BROWN, COARSE; MOIST

\* \* \* \*

TEST HOLE NUMBER: 178  
LOCATION: 096N-57W-13BCBA  
LEGAL LOCATION: NE NW SW NW SEC. 13, T. 096 N., R. 57 W.

1 - 6 GRAVEL, LIGHT-BROWN, SANDY, CLAYEY; MOIST  
12 - 16 SAND, LIGHT-BROWN, GRAVELLY, CLAYEY;  
MOIST  
18 - 30 SAND, BROWN, MEDIUM, PEBBLY, CLAYEY;  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 179  
LOCATION: 096N-57W-13CDCD  
LEGAL LOCATION: SE SW SE SW SEC. 13, T. 096 N., R. 57 W.

0 - 15 SAND, BROWN; DRY

\* \* \* \*

TEST HOLE NUMBER: 180  
LOCATION: 096N-57W-13DDCA  
LEGAL LOCATION: NE SW SE SE SEC. 13, T. 096 N., R. 57 W.

22 - 30 SAND, BROWN, CLAYEY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 181  
LOCATION: 096N-57W-13DDCC  
LEGAL LOCATION: SW SW SE SE SEC. 13, T. 096 N., R. 57 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

0 - 22 SAND AND GRAVEL, COARSE SAND TO MEDIUM  
GRAVEL  
22 - 38 GRAVEL, MEDIUM TO COARSE (THIN LAYER OF  
GRAY SILTY CLAY AT 27 FEET)

\* \* \* \*

TEST HOLE NUMBER: 182  
LOCATION: 096N-57W-25BBAA  
LEGAL LOCATION: NE NE NW NW SEC. 25, T. 096 N., R. 57 W.

10 - 26 SAND, DARK-BROWN, MEDIUM, PEBBLY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 183

LOCATION: 096N-57W-26DDDD

LEGAL LOCATION: SE SE SE SE SEC. 26, T. 096 N., R. 57 W.

3 - 5 GRAVEL, BROWN, SANDY, COBBLY; MOIST

5 - 7 SAND, LIGHT-BROWN, GRAVELLY; MOIST

7 - 16 SAND, BROWN, FINE, SILTY; MOIST

\* \* \* \*

TABLE 2. List of sand and gravel pits in Yankton County, which are on file at the District Office, South Dakota Department of Transportation, Division of Highways, Pierre, South Dakota.

Explanation:

Column description

- a. Landowner and address
- b. Location - given as quarter sections, section number, township, and range
- c. Aggregate type
- d. Average thickness of deposits in feet
- e. Average thickness of overburden in feet

Pit 1

- a. Landowner: C. M. Thranum - Menno
- b. Location: SW 1/4 sec. 4, T. 96 N., R. 57 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 9.0
- e. Overburden thickness (ft): 4.0

Pit 2

- a. Landowner: Ernest Mueller - Lesterville
- b. Location: S 1/2 NE 1/4 sec. 36, T. 96 N., R. 57 W.
- c. Aggregate type: Filler
- d. Deposit thickness (ft): 5.4+
- e. Overburden thickness (ft): 1.5

Pit 3

- a. Landowner: Douglas Orth - Lesterville
- b. Location: S 1/2 SW 1/4 sec. 36, T. 96 N., R. 57 W.
- c. Aggregate type: Sand
- d. Deposit thickness (ft): 7.7+
- e. Overburden thickness (ft): 2.0

Pit 4

- a. Landowner: Jamesville Colony - Utica
- b. Location: SW 1/4 SE 1/4 sec. 28, T. 96 N., R. 56 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 7.5
- e. Overburden thickness (ft): 1.0

Pit 5

- a. Landowner: Jamesville Colony - Utica
- b. Location: SE 1/4 sec. 28, T. 96 N., R. 56 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 6

- a. Landowner: Robert Schlaefle - Rt. 2, Yankton
- b. Location: SE 1/4 sec. 34, T. 96 N., R. 56 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 9.0+
- e. Overburden thickness (ft): 5.1

Pit 7

- a. Landowner: Roy G. Anderson - Yankton
- b. Location: NW 1/4 sec. 32, T. 96 N., R. 55 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft) ----

Pit 8

- a. Landowner: Lavern Hippen - Irene
- b. Location: E 1/2 NW 1/4 sec. 3, T. 95 N., R. 54 W.
- c. Aggregate type: Sand and gravel
- d. Deposit thickness (ft): 20.0+
- e. Overburden thickness (ft): 1.5

Pit 9

- a. Landowner: Martin Sather - Irene
- b. Location: SE 1/4 sec. 3, T. 95 N., R. 54 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 10

- a. Landowner: Andrew A. Madsen - 312 Green St., Yankton
- b. Location: SE 1/4 sec. 17, T. 95 N., R. 55 W.
- c. Aggregate type: Sand
- d. Deposit thickness (ft): 10.0
- e. Overburden thickness (ft): 1.5

Pit 11

- a. Landowner: Reuben Knodel - Yankton
- b. Location: NE 1/4 sec. 20, T. 95 N., R. 55 W.
- c. Aggregate type: Filler
- d. Deposit thickness (ft): 4.0
- e. Overburden thickness (ft): 1.0

Pit 12

- a. Landowner: Reuben Knodel - Yankton
- b. Location: NE 1/4 sec. 20, T. 95 N., R. 55 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 8.5+
- e. Overburden thickness (ft): 1.5

Pit 13

- a. Landowner: Yankton County - Yankton
- b. Location: SE 1/4 sec. 18, T. 95 N., R. 55 W.
- c. Aggregate type: Sand and gravel
- d. Deposit thickness (ft): 8.0
- e. Overburden thickness (ft): 2.0

Pit 14

- a. Landowner: Rosa Frohreich - Utica
- b. Location: SW 1/4 sec. 20, T. 95 N., R. 55 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 15.0
- e. Overburden thickness (ft): 3.0

Pit 15

- a. Landowner: Lydia Bohlmann - Yankton
- b. Location: NW 1/4 sec. 29, T. 95 N., R. 55 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 6.4+
- e. Overburden thickness (ft): 2.1

Pit 16

- a. Landowner: Marie Hofferma - Mission Hill
- b. Location: N 1/2 SW 1/4 NW 1/4 sec. 33, T 95 N., R. 55 W.
- c. Aggregate type: Sand
- d. Deposit thickness (ft): 15.0
- e. Overburden thickness (ft): 4.0

Pit 17

- a. Landowner: Ed Voll - Yankton
- b. Location: NE 1/4 sec. 31, T. 95 N., R. 55 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 9.0
- e. Overburden thickness (ft): 1.0

Pit 18

- a. Landowner: ----
- b. Location: SE 1/4 NE 1/4 sec. 25, T. 95 N., R. 56 W.
- c. Aggregate type: Filler
- d. Deposit thickness (ft): 10.0
- e. Overburden thickness (ft): 4.0

Pit 19

- a. Landowner: William Braunesreither - Irene
- b. Location: W 1/2 NW 1/4 sec. 1, T. 95 N., R. 56 W.
- c. Aggregate type: Sand
- d. Deposit thickness (ft): 8.0
- e. Overburden thickness (ft): 2.0

Pit 20

- a. Landowner: Herman Baherman - Utica
- b. Location: NE 1/4 NE 1/4 sec. 20, T. 95 N., R. 56 W.
- c. Aggregate type: Filler
- d. Deposit thickness (ft): 4.0
- e. Overburden thickness (ft): 2.0

Pit 21

- a. Landowner: Yankton County - Yankton
- b. Location: SE 1/4 sec. 8, T. 95 N., R. 56 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 12.0
- e. Overburden thickness (ft): 3.0

Pit 22

- a. Landowner: Adolph Diede - Lesterville
- b. Location: NE 1/4 sec. 1, T. 95 N., R. 57 W.
- c. Aggregate type: Sand
- d. Deposit thickness (ft): 15.0
- e. Overburden thickness (ft): 2.0

Pit 23

- a. Landowner: ----
- b. Location: NE 1/4 sec. 5, T. 94 N., R. 57 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 24

- a. Landowner: Sanford J. Pechous - Tabor
- b. Location: SW 1/4 sec. 7, T. 94 N., R. 57 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 7.0
- e. Overburden thickness (ft): 3.5

Pit 25

- a. Landowner: Adolph Sestak - Tabor
- b. Location: SE 1/4 SE 1/4 sec. 12, T. 94 N., R. 58 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 8.0
- e. Overburden thickness (ft): 2.0

Pit 26

- a. Landowner: Charles Vellek - Rt. 2, Yankton
- b. Location: NE 1/4 NW 14 NW 1/4 NE 1/4  
sec. 12, T. 94 N., R. 56 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 10.3
- e. Overburden thickness (ft): 2.9

Pit 27

- a. Landowner: Charles Vellek, Rt. 2, Yankton
- b. Location: NE 1/4 sec. 12, T. 94 N., R. 56 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 11.0+
- e. Overburden thickness (ft): 2.0

Pit 28

- a. Landowner: Chester Stewart - Yankton
- b. Location: SE 1/4 SE 1/4 sec. 12, T. 94 N., R. 56 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 12.0
- e. Overburden thickness (ft): 3.0

Pit 29

- a. Landowner: Yankton County - Yankton
- b. Location: SW 1/4 sec. 7, T. 94 N., R. 55 W.
- c. Aggregate type: Sand and gravel
- d. Deposit thickness (ft): 12.0
- e. Overburden thickness (ft): 3.5

Pit 30

- a. Landowner: John F. Frick - Yankton
- b. Location: NE 1/4 sec. 18, T. 94 N., R. 55 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 15.0+
- e. Overburden thickness (ft): 3.5

Pit 31

- a. Landowner: William M. Smith - Yankton
- b. Location: NE 1/4 SE 1/4 sec. 28, T. 94 N., R. 55 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 9.0+
- e. Overburden thickness (ft): 4.0

Pit 32

- a. Landowner: William M. Smith - Yankton
- b. Location: NW 1/4 SW 1/4 sec. 27, T. 94 N., R. 55 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 10.0
- e. Overburden thickness (ft): 5.0

Pit 33

- a. Landowner: Merle Knudtson - Volin
- b. Location: SE 1/4 SE 1/4 sec. 2, T. 94 N., R. 54 W.
- c. Aggregate type: Clay
- d. Deposit thickness (ft): 6.0
- e. Overburden thickness (ft): 0.5

Pit 34

- a. Landowner: Mrs. Edna Oursland - Volin
- b. Location: NW 1/4 sec. 13, T. 94 N., R. 54 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

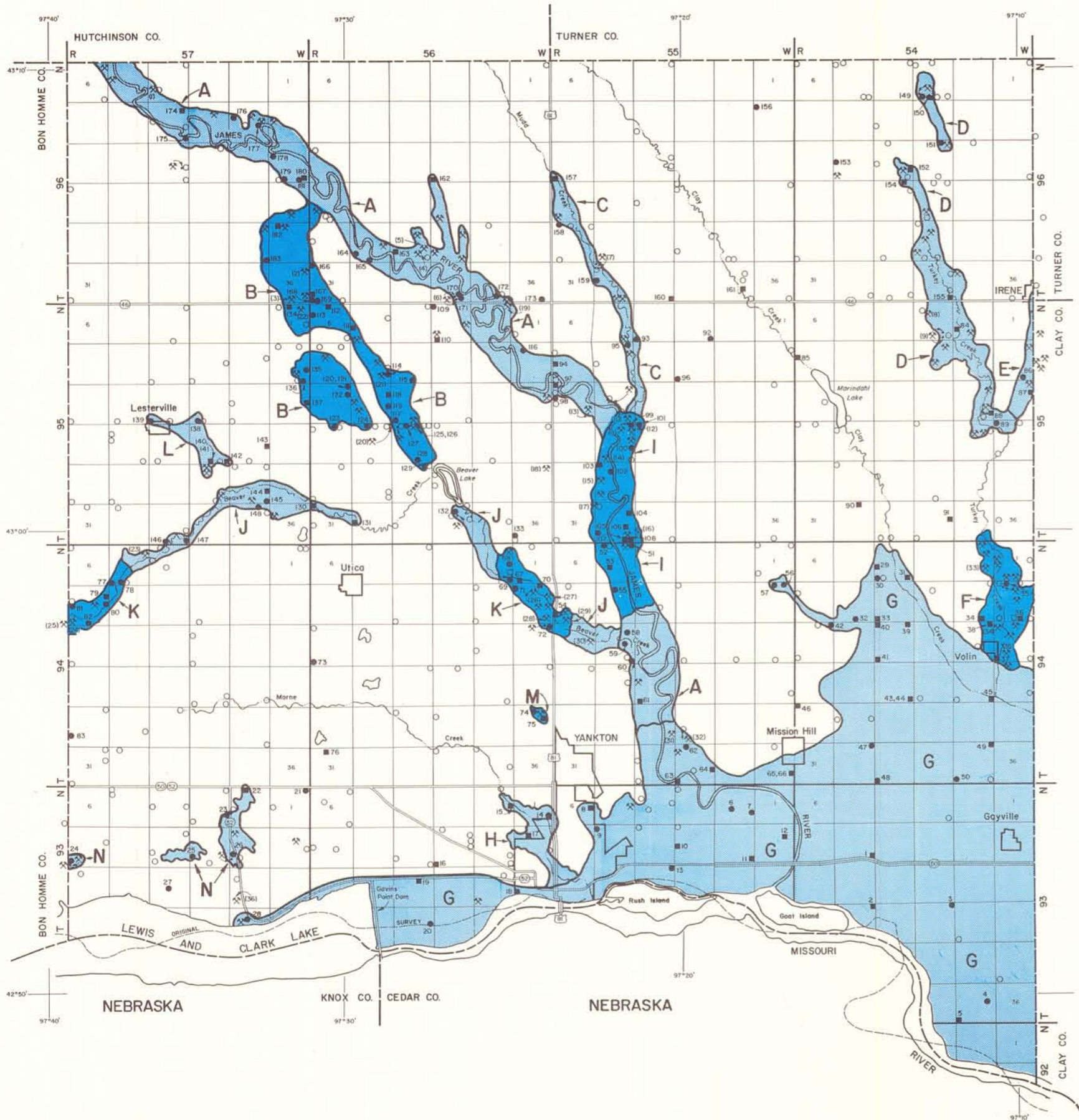
Pit 35

- a. Landowner: Leland Nelson - Volin
- b. Location: SW 1/4 sec. 13, T. 94 N., R. 54 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 36

- a. Landowner: Anna Ryken - Yankton
- b. Location: SW 1/4 sec. 14, T. 93 N., R. 56 W.
- c. Aggregate type: Filler
- d. Deposit thickness (ft): 4.0+
- e. Overburden thickness (ft): 0.5





- Good probability of finding sand or gravel
- Fair probability of finding sand or gravel
- Poor probability of finding sand or gravel

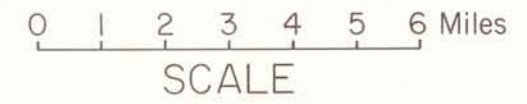
Letters A through N designate areas described in the text.

● 117 Test hole containing sand or gravel within 25 feet of the land surface with 0-5 feet of overburden. Number refers to Table I.

■ 118 Test hole containing sand or gravel within 25 feet of the land surface with greater than 5 feet of overburden. Number refers to Table I.

○ Test hole containing no sand or gravel within 25 feet of the land surface.

✱ (7) Sand and gravel pits - those with a number are listed in Table 2.



6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

Sectionized township



Index map of South Dakota showing location of Yankton County.

Map showing test holes, sand and gravel pits, and sand and gravel deposits in Yankton County.