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SAND AND GRAVEL RESOURCES IN  
GRANT COUNTY, SOUTH DAKOTA

by

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United States Geological Survey,  
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and Grant County

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## INTRODUCTION

This pamphlet is the first in a series of reports describing the geology and water resources of Grant County. It is designed to indicate the most promising areas in which to search for aggregate material. Quality of the deposits encountered was not analyzed, nor was the quantity of available reserves measured, as these would require prior knowledge of the material specifications for each intended use.

Other reports in the series include:

- a. Major aquifers in Codington and Grant Counties, South Dakota: South Dakota Geological Survey Information Pamphlet, Amundson, F. D., U.S. Geological Survey (in preparation)
- b. Water resources of Codington and Grant Counties, South Dakota: U.S. Geological Survey, Water resources investigations report, Hansen, D. S. (in preparation)
- c. Geology of Codington and Grant Counties, South Dakota: South Dakota Geological Survey, Bulletin, Gilbertson, J. P. (in preparation)

The first report contains a generalized evaluation of the yield, quality, and location of major aquifers (water-bearing deposits) in a condensed, easy-to-read pamphlet. The second and third reports are more technical and present a more comprehensive investigation of the water resources and geology within the two-county area. All basic data used to compile these reports are available from the South Dakota Geological Survey's open file.

It is recommended that the following publication, explaining how aggregate-bearing landforms are recognized, be used as a companion reference to this pamphlet:

Evaluation of exploration methods for coarse aggregate in eastern South Dakota: South Dakota Geological Survey, Report of Investigations 95, Bruce, R. L., and Lundberg, B. E., 1964.

## GEOLOGIC OVERVIEW

Topographically, Grant County can be split into two sections. The western half is dominated by an area of relative highland, the Coteau des Prairies, lying some 600 to 800 feet above the eastern lowlands. The surface relief of the Coteau exhibits both the rough, stony hills and kettle-like hollows of glacial moraines as well as the swampy flats of the stream valleys. The eastern edge of the Coteau des Prairies is characterized by a steep scarp slope, the lower half of the slope being entrenched by stream valleys.

The most striking characteristic of the relief in the eastern half of Grant County is the flatness of the land. Over this plain, only a few low morainic ridges interrupt the gentle swells and swales of this recently glaciated surface.

Most of the sand and gravel deposits are the result of glaciers that covered this region thousands of years ago, late in the Pleistocene Epoch. Others have been deposited by streams since the glaciers retreated. The following brief description of geologic terms should be used as an aid in further understanding the deposition of sand and gravel.

### Till

Till is the term used to define the unsorted and unstratified material either laid down by an active glacier at the base of the ice, or deposited by a glacier as the ice melted. This mixture of boulders, gravel, sand, silt, and clay is often called "boulder clay" or "blue clay." Till covers most of Grant County, though typically it is not considered a source of sand and gravel, as at best, only a few, small isolated lenses occur.

### Outwash

Glacial outwash is a general term geologists use to describe any deposits of clay, silt, sand, gravel, or boulders that have been washed, sorted, and subsequently deposited by flowing glacial meltwater. Outwash grain size depends upon sediment type and velocity of the water that transported and deposited the material. A lake or slowly flowing stream will usually deposit silts and clays, while rapidly flowing water may leave streambeds composed almost entirely of boulders. Most outwash, however, is a mixture of material between these two extremes, and is composed of an assortment of sand and gravel with minor amounts of finer and coarser materials. The majority of the deposits shown on the map included in this publication are outwash deposits.

### Alluvium

Alluvium is the term used to describe a mixture of clays, silts, sands and gravels deposited by streams since the retreat of the glaciers. The size of material found in any one deposit, is dependent on the same factors that determine grain size in glacial outwash. Alluvium occurs in the valleys of present-day streams, and where deposits consist primarily of sand and gravel, mining for construction materials may take place.

### Terrace Deposits

Terrace deposits are flat-topped, fluvial deposits that may or may not be of glacial origin. Being remnants of former flood plains, the streams that formed them have since cut their channels deeper and developed new flood plains at lower elevations. These alluvial or outwash deposits account for a few of the aggregate deposits found in Grant County.

### Eskers and Kames

Eskers and kames are glacial landforms that were deposited directly from stagnating, melting ice. Kames usually appear as mound-like hills or short ridges. Generally, they are formed in or on the ice by the filling of crevasses or basin-like depressions. Eskers appear as long, narrow, sinuous ridges and are formed by streams in, on, or under the ice. Both landforms can offer good possibilities for aggregate pit development.

### Bedrock

Bedrock is the older, consolidated rock beneath the glacial deposits. In Grant County, the bedrock consists of shale, chalk, limestone, and granite. Granite (termed as the Milbank granite) is the only bedrock exposed in Grant County and these outcrops have been mapped as potential sources of aggregate. Generally, when bedrock units are found at or near the ground surface, no sand or gravel exists below that point.

### EXPLANATION OF TABLES

Table 1 is a compilation of test holes that encountered sand and/or gravel in the upper 25 feet. This table lists:

- a. location of the test hole,
- b. depth of hole, and
- c. description of aggregate encountered.

The South Dakota Geological Survey (SDGS), U.S. Geological Survey, South Dakota Division of Water Rights, and private drillers contributed to the formation of this list. The complete set of test-hole logs is on file at the Office of the South Dakota Geological Survey in Vermillion.

Table 2 is a list of gravel pits on file in Pierre with the South Dakota Department of Transportation. The owner, material type, and where possible, thickness of overburden and aggregate being mined, have been listed. The actual thickness of a deposit may be greater than that mined, as depth to the water table,

changing material characteristics, or available mining equipment may limit excavation.

#### EXPLANATION OF MAP

The map shows the location of test holes, gravel pits (active and inactive), and a few landmarks. Test holes are represented by three types of symbols. A closed circle (●) indicates the presence of sand or gravel within 25 feet of the land surface with 5 feet or less of overburden. A square (■) indicates that sand or gravel was encountered within 25 feet of the land surface, but that more than 5 feet of overburden existed. The test holes represented by these symbols are numbered and listed in table 1. An open circle (○) indicates that no sand or gravel was found in the upper 25 feet.

Gravel pits are labelled with a crossed pick and shovel (⌘), those numbered being listed in table 2. Additional information concerning the numbered gravel pits is on file with the Department of Transportation, Pierre, South Dakota.

To help illustrate the most promising areas, the map has been divided into three area types, each expressing the probability of discovering new sources of economically extractable sand or gravel. Those areas designated as "good" indicate a comparatively thick deposit with thin overburden and underlying large tracts of land. Those considered "fair" lack one or more of these favorable attributes. Areas designated as "good" or "fair" have been assigned a color as well as a letter, and are discussed later in the text.

Areas designated as "poor" are composed mainly of till but may contain random deposits of sand and gravel. Many of these deposits have been located by test holes and gravel pits on the map. Although some of these deposits may be very productive, they are generally limited and difficult to locate.

The above three classifications evolved through an extensive drilling program, the study of gravel pits and their locations, topographic map and aerial photograph interpretations and field observations.

#### Sand and Gravel

Area "A" (designated "good"). This area covers deposits of approximately 27 square miles. The majority of deposits occur as a "valley train," a long, narrow body of outwash deposited by glacial meltwater streams and confined within preexisting valley walls (the present day Big Sioux River valley). Other deposits occur as terraces up and around the bluff of the Big Sioux valley, and as deposits associated with Indian Creek, a tributary of the Big Stone River.

Aggregate thicknesses average over 20 feet, though some SDGS tests show thicknesses exceeding 45 feet. Some of the sands and gravels are covered by silt, though this overburden averages less than 3 feet.

Area "B" (designated "good"). Situated along the front of a northwest to southeast trending ridge, known as the Altamont moraine, lies a gently sloping sheet of glacial sands and gravels. This outwash plain, 1 to 3 miles wide, occupies the depression known as Antelope Valley. Due to the shape of Grant County, these deposits exist as two separate areas, one in T. 118 N., R. 50 W., the other in T. 120 N., R. 51 W. However, both areas show a remarkable degree of uniformity with aggregate thicknesses to over 60 feet, average thicknesses of around 30 feet and an average overburden of less than 3 feet. Although existing gravel pits are concentrated along the sides of the valley, a dredging operation may well be feasible on the valley floor.

Area "C" (designated "good"). Near the base of the Coteau des Prairies escarpment, there are numerous small outwash fans. These fan-shaped accumulations range from less than 1/2 square mile to several square miles in area. Most of these deposits afford easy access. Thickness of aggregate is usually between 5 and 20 feet, and overburden is generally less than 5 feet. However, in one deposit to the northwest of Revillo, thicknesses of up to 45 feet were found.

Area "D" (designated "good"). This area encompasses just over 16 square miles of fairly continuous sand and gravel deposits. Most aggregates are outwash deposits associated with the Whetstone River valley. The majority of the aggregate appears to be concentrated in two areas: around the confluence of the North and South Forks of the Whetstone River and around the Big Stone City area. In the former, average thicknesses are around 40 feet, with a maximum of over 150 feet having been recorded. In the Big Stone City area, where aggregate thickness averages 15 feet, alluvial deposits and glacial outwash exist as both valley floor and terrace deposits.

Area "E" (designated "fair"). In this area SDGS tests revealed a few thin, discontinuous surficial deposits. More substantial deposits were evident at depth, though thickness of overburden would probably deter pit development. Area "E" partially surrounds a more promising area (Area "F"), whose merits are discussed below.

Area "F" (designated "good"). The most striking aggregate-bearing feature in this area is a series of linear gravel hills. This disintegration ridge is almost entirely composed of stratified sands and gravels. Big Tom Hill, the largest and northernmost deposit, towers some 70 feet above the surrounding valley floor. Tests by SDGS were unable to penetrate more than 83 feet of aggregates on Big Tom Hill, though other test holes in the adjacent valley floor suggest total aggregate thicknesses of over

100 feet. Numerous smaller, kame-like features can also be found in the surrounding area and offer additional possibilities for pit development.

Outwash is also present in the valley floor of the North Fork of the Yellow Bank River. However, a shallow water table would most likely necessitate the use of dredging equipment if development were to take place.

Area "G" (designated "fair"). Various sections of the Yellow Bank River valley afford a fair probability of aggregate pit development. Although further drilling is strongly advised before any development takes place, SDGS test holes revealed scattered terrace and valley-floor remnants. These deposits have an average aggregate thickness of around 10 feet and an average overburden of 5 feet.

Area "H" (designated "fair"). The western-most feature delineated represents possible aggregate deposition as an esker. The other landform mapped constitutes either a series of small kame-like features or the remnants of another esker. Both landforms are only considered "fair" because the poor sorting, oversize material and abundance of clay and shale renders them unsuitable for most aggregate applications.

The remainder of Grant County has been mapped as "poor," though some areas will contain sand or gravel deposits. An example exists within the Sisseton Indian Reservation in secs. 7 and 19, T. 121 N., R. 51 W. Here, both test holes and gravel pits represent what are probably small outwash fans at the base of a moraine. However, due to the randomly scattered nature of these deposits, exploration efforts should first be concentrated in those areas marked "good" and "fair."

### Granite

Granite outcrops occur approximately 5 miles east and 1 mile south of Milbank. Although the outcrops themselves are relatively small, it is estimated from drill-hole data, that approximately 2 square miles of rocks would be available for quarrying within 25 feet of ground surface.

Composed mainly of feldspars, quartz and mica, the dark, mahogany-colored rock is much valued as an ornamental stone. Being sufficiently jointed to assist in its removal, it is already extensively quarried. It is also used as rip-rap and in its crushed form as a concrete aggregate.

Some of the geologic and economic factors to consider in selecting a quarry site include size, quality and jointing of the outcrop, overburden thickness, local water levels, development costs, transportation costs, future markets, and material specifications.



TABLE 1. LIST OF TEST HOLES IN GRANT COUNTY, SOUTH DAKOTA,  
WHICH CONTAIN SAND OR GRAVEL IN THE UPPER 25 FEET.

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. LOCATIONS FOLLOWED BY AN 'R' SPECIFY THAT THE TEST HOLE WAS DRILLED ON THE SISSETON INDIAN RESERVATION. TEST HOLES WITH APPROXIMATELY THE SAME LOCATION ARE PLOTTED ON THE MAP AS A SINGLE TEST HOLE WITH THE RELEVANT NUMBERS FOLLOWING (I.E., 17, 18).

TEST HOLE NUMBER: 1  
LOCATION: 118N-47W-04DCCD  
LEGAL LOCATION: SE SW SW SE SEC. 04, T. 118 N., R. 47 W.

1 - 8 SAND AND GRAVEL, TAN, CLAYEY; DRY,  
OXIDIZED  
8 - 16 SAND, BROWN, VERY CLAYEY; SATURATED,  
OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 2  
LOCATION: 118N-47W-10BBBA  
LEGAL LOCATION: NE NW NW NW SEC. 10, T. 118 N., R. 47 W.

5 - 9 SAND, DARK-BROWN, CLAYEY, PEBBLY; WET,  
OXIDIZED  
9 - 11 GRAVEL, REDDISH-BROWN; LITTLE SAND,  
SATURATED, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 3  
LOCATION: 118N-47W-16DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 16, T. 118 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

19 - 26 SAND, FINE; TO MEDIUM GRAVEL, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 4  
LOCATION: 118N-47W-17ABBA  
LEGAL LOCATION: NE NW NW NE SEC. 17, T. 118 N., R. 47 W.

5 - 10 SAND, BROWN, FINE TO MEDIUM, CLAYEY,  
SILTY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 5  
LOCATION: 118N-47W-27CBDB  
LEGAL LOCATION: NW SE NW SW SEC. 27, T. 118 N., R. 47 W.

4 - 6 SAND AND GRAVEL, LIGHT-BROWN, CLAYEY;  
OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 6  
LOCATION: 118N-48W-07DCDC  
LEGAL LOCATION: SW SE SW SE SEC. 07, T. 118 N., R. 48 W.

8 - 10 SAND, LIGHT-BROWN, MEDIUM TO COARSE,  
PEBBLY, CLAYEY; OXIDIZED, DRY  
10 - 15 GRAVEL, BROWN, MEDIUM TO COARSE, CLAYEY;  
SOME SAND, OXIDIZED, DRY  
15 - 20 GRAVEL, LIGHT-BROWN, MEDIUM TO COARSE,  
CLAYEY; SOME FINE TO MEDIUM SAND,  
OXIDIZED, DRY  
20 - 53 GRAVEL, BROWN, COARSE, CLAYEY; SOME FINE  
SAND, CHANGES FROM GRAVEL TO PRIMARILY  
SAND, FINE TO MEDIUM, AT 38 FEET,  
SATURATED AT 38 FEET

\* \* \* \*

TEST HOLE NUMBER: 7  
LOCATION: 118N-48W-08CCDC  
LEGAL LOCATION: SW SE SW SW SEC. 08, T. 118 N., R. 48 W.

0 - 6 SAND, BROWN, FINE TO MEDIUM, PEBBLY,  
CLAYEY; OXIDIZED, DRY  
6 - 9 SAND, BROWN, FINE TO MEDIUM, PEBBLY,  
CLAYEY; OXIDIZED, SATURATED  
9 - 13 SAND, BROWN, FINE TO MEDIUM, PEBBLY, VERY  
CLAYEY; OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 8  
LOCATION: 118N-48W-08DCCC  
LEGAL LOCATION: SW SW SW SE SEC. 08, T. 118 N., R. 48 W.

- 2 - 10 SAND AND GRAVEL, TAN-BROWN, MEDIUM TO COARSE SAND, MEDIUM GRAVEL; OXIDIZED, DRY
- 10 - 12 SAND, TAN-BROWN, MEDIUM TO COARSE, CLAYEY; FEW PEBBLES, OXIDIZED, VERY MOIST
- 12 - 33 SAND, TAN-BROWN, MEDIUM TO COARSE, VERY CLAYEY; FEW PEBBLES, OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 9  
 LOCATION: 118N-48W-08DDDA  
 LEGAL LOCATION: NE SE SE SE SEC. 08, T. 118 N., R. 48 W.

- 3 - 6 SAND, BROWN, MEDIUM TO COARSE, PEBBLY, CLAYEY; OXIDIZED, DRY
- 6 - 25 SAND, BROWN, MEDIUM TO COARSE, CLAYEY; FEW PEBBLES, OXIDIZED, SATURATED
- 25 - 40 SAND, GRAY-BROWN, FINE TO MEDIUM SAND, CLAYEY; SLIGHTLY OXIDIZED, SATURATED, CHANGES TO A VERY CLAYEY, GRAY SAND AT 36 FEET

\* \* \* \*

TEST HOLE NUMBER: 10  
 LOCATION: 118N-48W-09DADA  
 LEGAL LOCATION: NE SE NE SE SEC. 09, T. 118 N., R. 48 W.

- 4 - 10 SAND, TAN-BROWN, COARSE; SOME CLAY AND FINE PEBBLES, OXIDIZED, SATURATED
- 10 - 13 SAND, BROWN, MEDIUM; SOME FINE PEBBLES, OXIDIZED, SATURATED
- 13 - 20 SAND, GRAYISH-BROWN, MEDIUM; FEW PEBBLES, OXIDIZED, SATURATED
- 20 - 34 SAND AND GRAVEL, GRAYISH-BROWN, MEDIUM SAND, MEDIUM GRAVEL, CLAYEY; OXIDIZED, SATURATED, LITTLE GRAVEL TO 28 FEET, NO SAND FROM 28 FEET TO 34 FEET

\* \* \* \*

TEST HOLE NUMBER: 11  
 LOCATION: 118N-48W-12CBCB  
 LEGAL LOCATION: NW SW NW SW SEC. 12, T. 118 N., R. 48 W.

- 3 - 5 SAND, BROWN, SILTY, CLAYEY; OXIDIZED,

5 - 14 DAMP  
SAND, BROWN, SILTY, CLAYEY; OXIDIZED,  
SATURATED  
14 - 19 SAND, GRAY, VERY CLAYEY, SILTY;  
UNOXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 12  
LOCATION: 118N-48W-15CCCC 1  
LEGAL LOCATION: SW SW SW SW SEC. 15, T. 118 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 12 SAND, MEDIUM; TO FINE GRAVEL, CLEAN,  
OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 13  
LOCATION: 118N-48W-15CCCC 2  
LEGAL LOCATION: SW SW SW SW SEC. 15, T. 118 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 8 SAND, MEDIUM; TO MEDIUM GRAVEL, YELLOW

\* \* \* \*

TEST HOLE NUMBER: 14  
LOCATION: 118N-48W-16ADAD  
LEGAL LOCATION: SE NE SE NE SEC. 16, T. 118 N., R. 48 W.

0 - 5 SAND, REDDISH-BROWN, VERY FINE TO FINE,  
CLAYEY; OXIDIZED, DRY  
5 - 9 SAND, REDDISH-BROWN, VERY FINE TO FINE,  
CLAYEY; OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 15  
LOCATION: 118N-48W-16BCBB  
LEGAL LOCATION: NW NW SW NW SEC. 16, T. 118 N., R. 48 W.

7 - 9 SAND, BLACK, VERY CLAYEY; FEW PEBBLES,  
UNOXIDIZED, MOIST  
9 - 16 SAND, DARK-BROWN, MEDIUM TO COARSE,  
PEBBLY; SOME OXIDATION, SATURATED  
23 - 32 SAND AND GRAVEL, GRAY, COARSE SAND,  
MEDIUM GRAVEL, VERY CLAYEY; UNOXIDIZED,  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 16  
LOCATION: 118N-48W-18CDDC  
LEGAL LOCATION: SW SE SE SW SEC. 18, T. 118 N., R. 48 W.

- 1 - 4 GRAVEL, BROWN, COARSE TO VERY COARSE;  
LITTLE SAND, OXIDIZED, DRY
- 4 - 7 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,  
MEDIUM GRAVEL; OXIDIZED, DRY
- 7 - 10 SAND, TAN-BROWN, MEDIUM TO COARSE; SOME  
FINE TO MEDIUM GRAVEL, SOME CLAY,  
OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 17  
LOCATION: 118N-48W-23AABB  
LEGAL LOCATION: NW NW NE NE SEC. 23, T. 118 N., R. 48 W.

- 4 - 5 SAND, BROWN, PEBBLY, CLAYEY; OXIDIZED,  
DAMP
- 7 - 11 SAND, BROWN, CLAYEY, PEBBLY, SILTY; DAMP,  
OXIDIZED
- 11 - 15 SAND, GRAY, VERY CLAYEY, SILTY; MOIST,  
UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 18  
LOCATION: 118N-49W-25BBCA  
LEGAL LOCATION: NE SW NW NW SEC. 25, T. 118 N., R. 49 W.

- 5 - 7 SAND, LIGHT-BROWN, MEDIUM TO COARSE,  
CLAYEY; OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 19  
LOCATION: 118N-49W-27CBCC  
LEGAL LOCATION: SW SW NW SW SEC. 27, T. 118 N., R. 49 W.

- 2 - 6 SAND AND GRAVEL, LIGHT-BROWN, COARSE  
SAND, FINE GRAVEL, CLAYEY; OXIDIZED,  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 20  
LOCATION: 118N-49W-31DAAA

LEGAL LOCATION: NE NE NE SE SEC. 31, T. 118 N., R. 49 W.

- 0 - 8 SAND, REDDISH-BROWN, COARSE; SOME FINE TO MEDIUM PEBBLES, SOME CLAY, POORLY SORTED, OXIDIZED, DRY
- 8 - 10 SAND, REDDISH-BROWN, COARSE; SOME MEDIUM TO COARSE PEBBLES, POORLY SORTED, SOME CLAY, OXIDIZED, DRY

\* \* \* \*

TEST HOLE NUMBER: 21  
LOCATION: 118N-49W-33CBCC  
LEGAL LOCATION: SW SW NW SW SEC. 33, T. 118 N., R. 49 W.

- 2 - 5 SAND, GRAY, FINE TO MEDIUM; SOME MEDIUM PEBBLES, DRY
- 5 - 10 SAND, TAN-BROWN, FINE TO MEDIUM SAND; SOME MEDIUM PEBBLES, OXIDIZED, LITTLE CLAY, DRY

\* \* \* \*

TEST HOLE NUMBER: 22  
LOCATION: 118N-49W-33CCCB  
LEGAL LOCATION: NW SW SW SW SEC. 33, T. 118 N., R. 49 W.

- 2 - 18 SAND, MEDIUM-BROWN, FINE, CLAYEY; MOIST, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 23  
LOCATION: 118N-49W-34DDAA  
LEGAL LOCATION: NE NE SE SE SEC. 34, T. 118 N., R. 49 W.

- 4 - 13 SAND AND GRAVEL, BROWN, COARSE SAND, MEDIUM GRAVEL, CLAYEY; OXIDIZED, MOIST
- 13 - 14 SAND, GRAY-BROWN, COARSE, CLAYEY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 24  
LOCATION: 118N-49W-35CCDC  
LEGAL LOCATION: SW SE SW SW SEC. 35, T. 118 N., R. 49 W.

11 - 30 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,  
FINE GRAVEL, CLAYEY; OXIDIZED,  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 25  
LOCATION: 118N-50W-05CDDD  
LEGAL LOCATION: SE SE SE SW SEC. 05, T. 118 N., R. 50 W.

2 - 9 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,  
FINE TO MEDIUM GRAVEL, CLAYEY, SILTY;  
OXIDIZED, MOIST  
9 - 11 SAND AND GRAVEL, BROWN, COARSE SAND, FINE  
GRAVEL, CLAYEY, SILTY; OXIDIZED,  
SATURATED  
11 - 17 SAND AND GRAVEL, GRAY, COARSE SAND, FINE  
GRAVEL, SILTY; UNOXIDIZED, VERY MOIST

\* \* \* \*

TEST HOLE NUMBER: 26  
LOCATION: 118N-50W-05DCDD  
LEGAL LOCATION: SE SE SW SE SEC. 05, T. 118 N., R. 50 W.

0 - 8 SAND AND GRAVEL, RED-BROWN, FINE TO  
COARSE SAND, FINE TO COARSE GRAVEL,  
CLAYEY; MOIST, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 27  
LOCATION: 118N-50W-07BBBA  
LEGAL LOCATION: NE NW NW NW SEC. 07, T. 118 N., R. 50 W.

5 - 8 SAND, LIGHT-BROWN, VERY FINE TO FINE  
SAND, CLAYEY; OXIDIZED, SATURATED  
8 - 13 SAND, GRAY-BROWN, VERY FINE TO FINE;  
CLEAN, OXIDIZED, SATURATED  
13 - 17 SAND, GRAY-BROWN, VERY FINE TO MEDIUM;  
CLEAN, OXIDIZED, SATURATED  
17 - 23 SAND, GRAY, MEDIUM TO COARSE, CLAYEY;  
UNOXIDIZED, SATURATED  
23 - 56 SAND, GRAY, MEDIUM TO VERY COARSE,  
CLAYEY; CLEAN, UNOXIDIZED, SATURATED,  
BECOMES COARSER WITH DEPTH AND INCLUDES  
UPTO COARSE PEBBLES

\* \* \* \*

TEST HOLE NUMBER: 28  
LOCATION: 118N-50W-07CBCB  
LEGAL LOCATION: NW SW NW SW SEC. 07, T. 118 N., R. 50 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

2 - 25 SAND AND GRAVEL, DARK-BROWN, MEDIUM TO  
COARSE SAND, FINE TO MEDIUM GRAVEL;  
VERY LITTLE CLAY

\* \* \* \*

TEST HOLE NUMBER: 29  
LOCATION: 118N-50W-07DCDD  
LEGAL LOCATION: SE SE SW SE SEC. 07, T. 118 N., R. 50 W.

6 - 16 SAND, BROWN, COARSE, VERY CLAYEY;  
OXIDIZED, SATURATED  
16 - 42 SAND AND GRAVEL, GRAY, COARSE SAND, FINE  
GRAVEL, CLAYEY; SATURATED, UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 30  
LOCATION: 118N-50W-07DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 07, T. 118 N., R. 50 W.

0 - 4 SAND, SILTY, GRAVELLY  
9 - 19 SAND, VERY FINE, SILTY; WATER  
19 - 24 SAND, VERY FINE TO MEDIUM, SILTY

\* \* \* \*

TEST HOLE NUMBER: 31  
LOCATION: 118N-50W-08BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 08, T. 118 N., R. 50 W.

5 - 23 SAND, BROWN, FINE TO MEDIUM, GRAVELLY,  
VERY CLAYEY; OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 32  
LOCATION: 118N-50W-08CCDD  
LEGAL LOCATION: SE SE SW SW SEC. 08, T. 118 N., R. 50 W.

3 - 8 SAND AND GRAVEL, BROWN, MEDIUM TO COARSE  
SAND, FINE TO COARSE GRAVEL, VERY  
CLAYEY; OXIDIZED, MOIST



8 - 15 SAND, BROWN, FINE TO MEDIUM, CLAYEY;  
 OXIDIZED, MOIST  
 15 - 53 SAND, BROWN, FINE TO MEDIUM, CLAYEY;  
 OXIDIZED, SATURATED, UNOXIDIZED BELOW  
 30 FEET

\* \* \* \*

TEST HOLE NUMBER: 33  
 LOCATION: 118N-50W-16BDDD  
 LEGAL LOCATION: SE SE SE NW SEC. 16, T. 118 N., R. 50 W.

1 - 10 SAND, LIGHT-BROWN, MEDIUM TO COARSE,  
 CLAYEY; SOME MEDIUM TO COARSE PEBBLES,  
 OXIDIZED, DAMP  
 10 - 13 SAND, LIGHT-BROWN, MEDIUM TO COARSE,  
 SLIGHTLY CLAYEY; SOME COARSE PEBBLES,  
 OXIDIZED, DAMP  
 13 - 18 GRAVEL, VERY COARSE, SANDY, COBBLY;  
 OXIDIZED, DAMP  
 20 - 46 SAND, LIGHT-BROWN, FINE TO MEDIUM; DAMP,  
 OXIDIZED, COBBLES FROM 36 FEET TO 38  
 FEET, SATURATED FROM 38 FEET

\* \* \* \*

TEST HOLE NUMBER: 34  
 LOCATION: 118N-50W-18BBBC  
 LEGAL LOCATION: SW NW NW NW SEC. 18, T. 118 N., R. 50 W.

4 - 7 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,  
 FINE TO MEDIUM GRAVEL, CLAYEY; MOIST,  
 OXIDIZED  
 7 - 35 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,  
 FINE TO MEDIUM GRAVEL, CLAYEY;  
 OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 35  
 LOCATION: 118N-50W-19AADA  
 LEGAL LOCATION: NE SE NE NE SEC. 19, T. 118 N., R. 50 W.

0 - 1 SAND, TAN-BROWN, FINE TO MEDIUM; SOME  
 MEDIUM PEBBLES, LITTLE CLAY, POORLY  
 SORTED, OXIDIZED, DRY  
 1 - 2 SAND, REDDISH-BROWN, MEDIUM TO COARSE;  
 LITTLE CLAY, SOME FINE PEBBLES, DRY,  
 OXIDIZED, POORLY SORTED

2 - 3 GRAVEL, BROWN, FINE TO COARSE; FEW  
COBBLES, OXIDIZED, DRY  
3 - 4 SAND, REDDISH-BROWN, COARSE; SOME FINE  
PEBBLES, OXIDIZED, DRY, POORLY SORTED  
4 - 9 SAND, TAN-BROWN, FINE, CLAYEY, WELL-  
SORTED; MOIST, OXIDIZED  
9 - 11 SAND, REDDISH-BROWN, FINE TO COARSE,  
CLAYEY; SOME FINE PEBBLES, OXIDIZED,  
NEAR SATURATED  
11 - 12 SAND, TAN-BROWN, FINE, VERY CLAYEY;  
OXIDIZED, SATURATED  
12 - 16 SAND, GRAY, FINE TO MEDIUM, VERY CLAYEY;  
FEW FINE PEBBLES, PARTIALLY OXIDIZED,  
SATURATED  
16 - 51 SAND, GRAY, COARSE, CLAYEY; SOME FINE  
PEBBLES, UNOXIDIZED, SATURATED, CHANGES  
TO CLEAN, FINE TO MEDIUM GRAVEL FROM 26  
FEET BACK TO CLAYEY, COARSE SAND FROM  
40 FEET

\* \* \* \*

TEST HOLE NUMBER: 36  
LOCATION: 118N-50W-20CCDD  
LEGAL LOCATION: SE SE SW SW SEC. 20, T. 118 N., R. 50 W.

2 - 23 SAND AND GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 37  
LOCATION: 118N-50W-23CDBB  
LEGAL LOCATION: NW NW SE SW SEC. 23, T. 118 N., R. 50 W.

0 - 6 SAND AND GRAVEL, LIGHT-TAN TO BROWN,  
COARSE SAND, FINE TO MEDIUM GRAVEL,  
CLAYEY, SILTY; OXIDIZED, MOIST  
18 - 80 SAND AND GRAVEL, BROWN, COARSE SAND, FINE  
TO MEDIUM GRAVEL, CLAYEY; MOIST  
OXIDIZED, SATURATED FROM 28 FEET

\* \* \* \*

TEST HOLE NUMBER: 38  
LOCATION: 118N-50W-23DCCC  
LEGAL LOCATION: SW SW SW SE SEC. 23, T. 118 N., R. 50 W.

1 - 14 GRAVEL AND SAND, COARSE

\* \* \* \*

TEST HOLE NUMBER: 39  
LOCATION: 118N-50W-27DDDA  
LEGAL LOCATION: NE SE SE SE SEC. 27, T. 118 N., R. 50 W.

1 - 5 SAND, BROWN, FINE TO MEDIUM, CLAYEY;  
SOME PEBBLES, OXIDIZED, DAMP  
5 - 8 SAND, LIGHT-BROWN, VERY FINE TO FINE;  
FEW PEBBLES, SOME CLAY, OXIDIZED, DAMP  
8 - 14 SAND, LIGHT-BROWN, MEDIUM TO COARSE,  
CLAYEY, PEBBLY; OXIDIZED, DAMP  
14 - 18 SAND, LIGHT-BROWN, VERY FINE TO FINE;  
CLEAN, OXIDIZED, DAMP  
20 - 22 SAND, LIGHT-BROWN, VERY FINE TO FINE;  
LITTLE CLAY, OXIDIZED, DAMP

\* \* \* \*

TEST HOLE NUMBER: 40  
LOCATION: 118N-50W-29CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 29, T. 118 N., R. 50 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 9 SAND AND GRAVEL, FINE TO COARSE SAND,  
MEDIUM TO COARSE GRAVEL; OXIDIZED  
9 - 24 SAND, GRAY, FINE TO MEDIUM, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 41  
LOCATION: 118N-50W-30CCBB  
LEGAL LOCATION: NW NW SW SW SEC. 30, T. 118 N., R. 50 W.

17 - 25 SAND AND GRAVEL, COARSE SAND, FINE TO  
MEDIUM GRAVEL, SILTY, CLAYEY; OXIDIZED,  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 42  
LOCATION: 118N-50W-32ABBA  
LEGAL LOCATION: NE NW NW NE SEC. 32, T. 118 N., R. 50 W.

4 - 6 SAND, GRAY-BROWN, FINE TO MEDIUM, CLAYEY,  
SILTY; OXIDIZED, DAMP  
6 - 12 SAND, LIGHT-BROWN, MEDIUM TO COARSE,  
CLAYEY; OXIDIZED, WET  
12 - 70 SAND, GRAY, MEDIUM TO COARSE, CLAYEY,  
SILTY, PEBBLY TO 43 FEET; UNOXIDIZED,  
SATURATED, HIT ROCK AT 70 FEET

\* \* \* \*

TEST HOLE NUMBER: 43  
LOCATION: 118N-50W-33CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 33, T. 118 N., R. 50 W.

5 - 8 SAND, VERY COARSE, CLAYEY; SATURATED  
8 - 11 SAND, VERY COARSE; LITTLE CLAY, SATURATED  
17 - 26 SAND, GRAY, VERY COARSE, CLEAN, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 44  
LOCATION: 118N-50W-33DCDD  
LEGAL LOCATION: SE SE SW SE SEC. 33, T. 118 N., R. 50 W.

23 - 53 SAND, TAN-BROWN, FINE TO COARSE, SLIGHTLY  
CLAYEY; OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 45  
LOCATION: 118N-50W-34DCDC  
LEGAL LOCATION: SW SE SW SE SEC. 34, T. 118 N., R. 50 W.

2 - 5 SAND AND GRAVEL, TAN-BROWN, MEDIUM TO  
COARSE SAND, MEDIUM GRAVEL; LITTLE  
CLAY, DRY

\* \* \* \*

TEST HOLE NUMBER: 46  
LOCATION: 118N-50W-34DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 34, T. 118 N., R. 50 W.

0 - 3 GRAVEL, BROWN, VERY COARSE; WITH COARSE  
SAND, LARGE COBBLES AT SURFACE, DRY,  
OXIDIZED  
3 - 12 SAND, BROWN, MEDIUM; CLEAN, OXIDIZED,  
DAMP  
12 - 26 SAND, BROWN, MEDIUM; OXIDIZED, DAMP, WITH  
SOME COARSE PEBBLES

\* \* \* \*

TEST HOLE NUMBER: 47  
LOCATION: 118N-50W-35CDCD 1

LEGAL LOCATION: SE SW SE SW SEC. 35, T. 118 N., R. 50 W.

- 0 - 3 SAND, LIGHT-BROWN, VERY FINE TO FINE,  
PEBBLY; OXIDIZED, DRY
- 3 - 10 SAND, LIGHT-BROWN, MEDIUM TO COARSE; WITH  
COARSE PEBBLES, OXIDIZED, DRY, HIT ROCK  
COULD NOT CONTINUE

\* \* \* \*

TEST HOLE NUMBER: 48  
LOCATION: 118N-50W-35CD 2  
LEGAL LOCATION: SE SW SE SW SEC. 35, T. 118 N., R. 50 W.

- 0 - 2 SAND, LIGHT-BROWN, FINE TO MEDIUM; WITH  
MEDIUM PEBBLES, OXIDIZED, DRY
- 2 - 9 GRAVEL, VERY COARSE; WITH COBBLES AND  
FINE TO MEDIUM SAND, OXIDIZED, DRY,  
HIT ROCK ABANDONED HOLE

\* \* \* \*

TEST HOLE NUMBER: 49  
LOCATION: 118N-50W-35CD 3  
LEGAL LOCATION: SE SW SE SW SEC. 35, T. 118 N., R. 50 W.

- 0 - 2 SAND, LIGHT-BROWN, MEDIUM, PEBBLY; DRY,  
OXIDIZED
- 2 - 6 GRAVEL, LIGHT-BROWN, COARSE; WITH COBBLES  
AND MEDIUM SAND, OXIDIZED, DRY
- 6 - 8 SAND, LIGHT-BROWN, FINE TO MEDIUM,  
PEBBLY; OXIDIZED, DRY
- 8 - 14 GRAVEL, LIGHT-BROWN, COARSE; WITH MEDIUM  
SAND AND COBBLES, OXIDIZED, DRY
- 14 - 15 GRAVEL, LIGHT-BROWN, COARSE; WITH  
COBBLES, LITTLE SAND, OXIDIZED, DRY,  
HIT ROCK, IMPASSABLE

\* \* \* \*

TEST HOLE NUMBER: 50  
LOCATION: 118N-50W-36DDDC  
LEGAL LOCATION: SW SE SE SE SEC. 36, T. 118 N., R. 50 W.

- 0 - 30 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE TO MEDIUM GRAVEL, CLAYEY;  
OXIDIZED, MOIST, SATURATED AT 15 FEET

\* \* \* \*

TEST HOLE NUMBER: 51  
LOCATION: 119N-47W-04ABBB  
LEGAL LOCATION: NW NW NW NE SEC. 04, T. 119 N., R. 47 W.

0 - 83 SAND AND GRAVEL, BROWN, COARSE SAND, FINE  
TO MEDIUM GRAVEL, CLAYEY; MOIST,  
OXIDIZED, CHANGES TO A WELL-SORTED,  
BROWN, COARSE SAND AT 40 FEET

\* \* \* \*

TEST HOLE NUMBER: 52  
LOCATION: 119N-47W-04CCDD  
LEGAL LOCATION: SE SE SW SW SEC. 04, T. 119 N., R. 47 W.

4 - 20 SAND, REDDISH-BROWN, COARSE, VERY SILTY,  
CLAYEY; OXIDIZED, SATURATED  
20 - 52 SAND GRAY, COARSE, VERY SILTY, CLAYEY;  
UNOXIDIZED, SATURATED, SOME FINE TO  
MEDIUM GRAVEL FROM 30 FEET

\* \* \* \*

TEST HOLE NUMBER: 53  
LOCATION: 119N-47W-06BBBA 2  
LEGAL LOCATION: NE NW NW NW SEC. 06, T. 119 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

25 - 30 SAND; SOME CLAY

\* \* \* \*

TEST HOLE NUMBER: 54  
LOCATION: 119N-47W-06CBBD  
LEGAL LOCATION: SE NW NW SW SEC. 06, T. 119 N., R. 47 W.

12 - 18 SAND

\* \* \* \*

TEST HOLE NUMBER: 55  
LOCATION: 119N-47W-10BCCB  
LEGAL LOCATION: NW SW SW NW SEC. 10, T. 119 N., R. 47 W.

2 - 8 SAND, MEDIUM-BROWN, FINE TO MEDIUM;  
OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 56  
LOCATION: 119N-47W-15BBAB  
LEGAL LOCATION: NW NE NW NW SEC. 15, T. 119 N., R. 47 W.

6 - 13 SAND, BROWN, PEBBLY, SILTY; MOIST,  
OXIDIZED  
13 - 18 SAND AND GRAVEL, BROWN, PEBBLY, SILTY;  
DRY, OXIDIZED  
18 - 50 SAND, REDDISH-BROWN, CLAYEY, SILTY; FEW  
PEBBLES, DRY, OXIDIZED, SATURATED AT  
27 FEET, UNOXIDIZED AT 48 FEET

\* \* \* \*

TEST HOLE NUMBER: 57  
LOCATION: 119N-47W-16ABAA  
LEGAL LOCATION: NE NE NW NE SEC. 16, T. 119 N., R. 47 W.

19 - 50 SAND, GRAY, SILTY; FEW PEBBLES,  
SATURATED, UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 58  
LOCATION: 119N-47W-16ADDA  
LEGAL LOCATION: NE SE SE NE SEC. 16, T. 119 N., R. 47 W.

5 - 12 SAND, RUSTY-BROWN, FINE TO MEDIUM,  
CLAYEY; OXIDIZED, SATURATED  
12 - 33 SAND, GRAY, FINE TO MEDIUM, SLIGHTLY  
CLAYEY; UNOXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 59  
LOCATION: 119N-47W-16DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 16, T. 119 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

5 - 11 GRAVEL, FINE TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 60  
LOCATION: 119N-47W-21BABB 1  
LEGAL LOCATION: NW NW NE NW SEC. 21, T. 119 N., R. 47 W.

12 - 21 SAND, BROWN, FINE, SILTY, SLIGHTLY

CLAYEY; SATURATED, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 61  
LOCATION: 119N-47W-21BABB 2  
LEGAL LOCATION: NW NW NE NW SEC. 21, T. 119 N., R. 47 W.

12 - 30 SAND, BROWN, FINE, SILTY, CLAYEY;  
SATURATED, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 62  
LOCATION: 119N-47W-22BCBC  
LEGAL LOCATION: SW NW SW NW SEC. 22, T. 119 N., R. 47 W.

1 - 7 SAND AND GRAVEL, BROWN, PEBBLY, CLAYEY;  
DRY, OXIDIZED  
24 - 54 SAND, GREENISH, VERY CLAYEY, SILTY;  
SATURATED, UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 63  
LOCATION: 119N-47W-32BCBB  
LEGAL LOCATION: NW NW SW NW SEC. 32, T. 119 N., R. 47 W.

3 - 10 SAND, GRAY-BROWN, CLAYEY, SILTY; SLIGHT  
OXIDIZATION, SATURATED AT 5 FEET  
10 - 15 SAND, GRAY, VERY CLAYEY, SILTY;  
UNOXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 64  
LOCATION: 119N-48W-14BCCB  
LEGAL LOCATION: NW SW NW NW SEC. 14, T. 119 N., R. 48 W.

24 - 29 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 65  
LOCATION: 119N-48W-21AAAB  
LEGAL LOCATION: NW NE NE NE SEC. 21, T. 119 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE



1 - 4 SAND

\* \* \* \*

TEST HOLE NUMBER: 66  
LOCATION: 119N-49W-02CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 02, T. 119 N., R. 49 W.

2 - 6 SAND, FINE (BEACH OR DUNE?)

\* \* \* \*

TEST HOLE NUMBER: 67  
LOCATION: 119N-49W-05CDDD  
LEGAL LOCATION: SE SE SE SW SEC. 05, T. 119 N., R. 49 W.

0 - 4 GRAVEL, BROWN, VERY COARSE; LITTLE SAND,  
OXIDIZED, DRY  
4 - 9 SAND, BROWN, FINE TO COARSE; LITTLE FINE  
TO COARSE GRAVEL, LITTLE CLAY, DRY,  
OXIDIZED  
9 - 12 SAND, TAN-BROWN, MEDIUM TO COARSE,  
CLAYEY, GRAVELLY; OXIDIZED, MOIST  
12 - 17 SAND, TAN-BROWN, COARSE, CLAYEY; FEW  
PEBBLES, OXIDIZED, VERY MOIST  
17 - 20 SAND, TAN-BROWN, COARSE, GRAVELLY,  
CLAYEY; OXIDIZED, VERY MOIST  
20 - 24 SAND, GRAYISH-BROWN, COARSE, VERY CLAYEY;  
LITTLE GRAVEL, OXIDIZED, VERY MOIST

\* \* \* \*

TEST HOLE NUMBER: 68  
LOCATION: 119N-49W-08BBCB  
LEGAL LOCATION: NW SW NW NW SEC. 08, T. 119 N., R. 49 W.

0 - 4 SAND AND GRAVEL, LIGHT-BROWN, COARSE  
SAND, VERY COARSE GRAVEL; OXIDIZED, DRY  
4 - 6 SAND, TAN-BROWN, COARSE; SOME MEDIUM  
PEBBLES, OXIDIZED, DRY, LITTLE CLAY  
6 - 10 SAND AND GRAVEL, TAN-BROWN, COARSE TO  
VERY COARSE SAND, MEDIUM TO COARSE  
GRAVEL, CLAYEY; OXIDIZED, MOIST  
10 - 11 SAND, TAN-BROWN, COARSE; FEW MEDIUM  
PEBBLES, OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 69

LOCATION: 119N-49W-08BCBC

LEGAL LOCATION: SW NW SW NW SEC. 08, T. 119 N., R. 49 W.

1 - 5 SAND, LIGHT-BROWN, FINE TO MEDIUM,  
PEBBLY; OXIDIZED, DRY

\* \* \* \*

TEST HOLE NUMBER: 70

LOCATION: 119N-49W-09AAAA

LEGAL LOCATION: NE NE NE NE SEC. 09, T. 119 N., R. 49 W.

2 - 19 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 71

LOCATION: 119N-49W-09CBBB

LEGAL LOCATION: NW NW NW SW SEC. 09, T. 119 N., R. 49 W.

10 - 16 SAND, GRAY-BROWN, COARSE, CLAYEY, SILTY,  
PEBBLY; SLIGHTLY OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 72

LOCATION: 119N-49W-27CBBB 1

LEGAL LOCATION: NW NW NW SW SEC. 27, T. 119 N., R. 49 W.

1 - 5 SAND, TAN-BROWN, FINE; SOME COARSE  
PEBBLES, OXIDIZED, DRY

\* \* \* \*

TEST HOLE NUMBER: 73

LOCATION: 119N-49W-27CBBB 2

LEGAL LOCATION: NW NW NW SW SEC. 27, T. 119 N., R. 49 W.

1 - 6 SAND AND GRAVEL, REDDISH-BROWN, FINE TO  
MEDIUM SAND, MEDIUM GRAVEL, CLAYEY;  
OXIDIZED, DRY  
14 - 15 SAND AND GRAVEL, TAN-BROWN, MEDIUM TO  
COARSE SAND, FINE GRAVEL, VERY CLAYEY;  
OXIDIZED, VERY MOIST, ABANDONED HOLE  
DUE TO ROCK AT 15 FEET

\* \* \* \*

TEST HOLE NUMBER: 74  
LOCATION: 119N-49W-27CCBA  
LEGAL LOCATION: NE NW SW SW SEC. 27, T. 119 N., R. 49 W.

1 - 11 GRAVEL, YELLOW

\* \* \* \*

TEST HOLE NUMBER: 75  
LOCATION: 119N-49W-27DAAA  
LEGAL LOCATION: NE NE NE SE SEC. 27, T. 119 N., R. 49 W.

0 - 8 SAND AND GRAVEL, BROWN, MEDIUM TO COARSE  
SAND, FINE GRAVEL; OXIDIZED, MOIST,  
SATURATED AT 5 FEET

\* \* \* \*

TEST HOLE NUMBER: 76  
LOCATION: 119N-49W-27DDAA  
LEGAL LOCATION: NE NE SE SE SEC. 27, T. 119 N., R. 49 W.

23 - 79 SAND AND GRAVEL, GRAY, MEDIUM TO COARSE  
SAND, VERY FINE GRAVEL, VERY CLAYEY;  
UNOXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 77  
LOCATION: 119N-49W-28DDAA  
LEGAL LOCATION: NE NE SE SE SEC. 28, T. 119 N., R. 49 W.

0 - 6 SAND AND GRAVEL, TAN-BROWN, FINE TO  
COARSE SAND, FINE GRAVEL; SOME CLAY,  
FEW BOULDERS, DRY, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 78  
LOCATION: 119N-50W-01AAAD  
LEGAL LOCATION: SE NE NE NE SEC. 01, T. 119 N., R. 50 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

17 - 21 SAND AND GRAVEL, YELLOW-BROWN

\* \* \* \*

TEST HOLE NUMBER: 79

LOCATION: 119N-50W-14CBAD

LEGAL LOCATION: SE NE NW SW SEC. 14, T. 119 N., R. 50 W.

5 - 6 GRAVEL, DARK-BROWN, MEDIUM TO COARSE,  
CLAYEY; SOME COARSE SAND, SOME  
OXIDATION, MOIST  
6 - 11 GRAVEL, FINE TO MEDIUM; SOME OXIDATION,  
DRY

\* \* \* \*

TEST HOLE NUMBER: 80

LOCATION: 119N-50W-31BCCC

LEGAL LOCATION: SW SW SW NW SEC. 31, T. 119 N., R. 50 W.

3 - 12 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,  
FINE TO MEDIUM GRAVEL, VERY CLAYEY;  
OXIDIZED, SLIGHTLY MOIST  
12 - 18 SAND, BROWN, COARSE, VERY CLAYEY; SOME  
PEBBLES, OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 81

LOCATION: 119N-50W-31CCCC 1

LEGAL LOCATION: SW SW SW SW SEC. 31, T. 119 N., R. 50 W.

PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 35 SAND, YELLOW-BROWN, MEDIUM TO COARSE,  
CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 82

LOCATION: 119N-50W-31CCCC 2

LEGAL LOCATION: SW SW SW SW SEC. 31, T. 119 N., R. 50 W.

PRELIMINARY LOG -- SUBJECT TO CHANGE

0 - 10 SAND AND GRAVEL, BROWN; PEAROCK  
10 - 35 SAND, BROWN, COARSE

\* \* \* \*

TEST HOLE NUMBER: 83

LOCATION: 120N-47W-05CDBB

LEGAL LOCATION: NW NW SE SW SEC. 05, T. 120 N., R. 47 W.

18 - 20 SAND, BROWN

\* \* \* \*

TEST HOLE NUMBER: 84  
LOCATION: 120N-47W-06DBBB  
LEGAL LOCATION: NW NW NW SE SEC. 06, T. 120 N., R. 47 W.

11 - 22 SAND, BROWN, COARSE, CLAYEY; OXIDIZED,  
SATURATED  
22 - 41 SAND AND GRAVEL, BROWN, COARSE SAND, FINE  
TO MEDIUM GRAVEL, CLAYEY; OXIDIZED,  
SATURATED, GRAVEL CONTENT INCREASES  
WITH DEPTH

\* \* \* \*

TEST HOLE NUMBER: 85  
LOCATION: 120N-47W-06DBCC  
LEGAL LOCATION: SW SW NW SE SEC. 06, T. 120 N., R. 47 W.

10 - 18 SAND, MEDIUM-BROWN, FINE TO MEDIUM; SOME  
FINE GRAVEL, MOIST, OXIDIZED, SLIGHTLY  
CLAYEY  
18 - 33 SAND AND GRAVEL, RUSTY-RED-BROWN, FINE TO  
MEDIUM SAND, FINE TO MEDIUM GRAVEL,  
SLIGHTLY CLAYEY; OXIDIZED, MOIST,  
SATURATED AT 28 FEET, CLAY CONTENT  
INCREASES WITH DEPTH

\* \* \* \*

TEST HOLE NUMBER: 86  
LOCATION: 120N-47W-06DCCB 1  
LEGAL LOCATION: NW SW SW SE SEC. 06, T. 120 N., R. 47 W.

0 - 4 SAND AND GRAVEL, BROWN TO TAN, COARSE  
SAND, FINE TO MEDIUM GRAVEL; OXIDIZED,  
SOME CLAY, DRY  
4 - 7 SAND, BROWN, COARSE, SLIGHTLY CLAYEY;  
MOIST, OXIDIZED  
7 - 13 SAND AND GRAVEL, COARSE SAND, MEDIUM  
GRAVEL, SLIGHTLY CLAYEY; OXIDIZED,  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 87  
LOCATION: 120N-47W-06DCCB 2  
LEGAL LOCATION: NW SW SW SE SEC. 06, T. 120 N., R. 47 W.

0 - 4 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,

FINE TO MEDIUM GRAVEL; SOME CLAY,  
 OXIDIZED, DRY  
 4 - 7 SAND, BROWN, COARSE, SLIGHTLY CLAYEY;  
 OXIDIZED, MOIST  
 7 - 13 SAND AND GRAVEL, COARSE SAND, MEDIUM  
 GRAVEL, SLIGHTLY CLAYEY; OXIDIZED,  
 MOIST  
 13 - 18 SAND AND GRAVEL, GRAY, COARSE SAND,  
 MEDIUM TO COARSE GRAVEL, VERY CLAYEY;  
 UNOXIDIZED, MOIST  
 18 - 22 SAND, GRAY, VERY CLAYEY; UNOXIDIZED,  
 SATURATED

\* \* \* \*

TEST HOLE NUMBER: 88  
 LOCATION: 120N-47W-07ADDA  
 LEGAL LOCATION: NE SE SE NE SEC. 07, T. 120 N., R. 47 W.

3 - 13 SAND, MEDIUM-BROWN, FINE TO MEDIUM, VERY  
 CLAYEY; MOIST, OXIDIZED, SATURATED AT  
 5 FEET  
 13 - 20 SAND, GRAY, FINE TO MEDIUM, VERY CLAYEY;  
 SATURATED, UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 89  
 LOCATION: 120N-47W-07BBBB  
 LEGAL LOCATION: NW NW NW NW SEC. 07, T. 120 N., R. 47 W.  
 PRELIMINARY LOG -- SUBJECT TO CHANGE

13 - 29 SAND AND GRAVEL, COARSE; INTERMITTENT  
 CLAY LAYERS

\* \* \* \*

TEST HOLE NUMBER: 90  
 LOCATION: 120N-47W-07CBCC  
 LEGAL LOCATION: SW SW NW SW SEC. 07, T. 120 N., R. 47 W.

16 - 40 GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 91  
 LOCATION: 120N-47W-07DDDD  
 LEGAL LOCATION: SE SE SE SE SEC. 07, T. 120 N., R. 47 W.

0 - 8 SAND AND GRAVEL, BROWN

\* \* \* \*

TEST HOLE NUMBER: 92  
LOCATION: 120N-47W-17AAAB  
LEGAL LOCATION: NW NE NE NE SEC. 17, T. 120 N., R. 47 W.

7 - 9 SAND, YELLOW-BROWN, MEDIUM TO COARSE,  
CLAYEY; OXIDIZED, SATURATED  
9 - 17 SAND AND GRAVEL, GRAY-BROWN, COARSE SAND,  
FINE GRAVEL, CLAYEY; PARTIALLY  
OXIDIZED, SATURATED  
17 - 21 SAND AND GRAVEL, DARK-GRAY, COARSE SAND,  
FINE GRAVEL, CLAYEY; UNOXIDIZED,  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 93  
LOCATION: 120N-47W-17CCDC  
LEGAL LOCATION: SW SE SW SW SEC. 17, T. 120 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 10 SAND, BROWN, FINE, CLAYEY  
10 - 25 SAND, BROWN, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 94  
LOCATION: 120N-47W-18CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 18, T. 120 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

8 - 20 SAND, BROWN, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 95  
LOCATION: 120N-47W-18DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 18, T. 120 N., R. 47 W.

1 - 3 SAND, DARK-BROWN, FINE TO MEDIUM, WELL-  
SORTED; OXIDIZED, MOIST, LITTLE CLAY,  
SOME SILT  
3 - 6 SAND, REDDISH-BROWN, FINE TO MEDIUM,  
WELL-SORTED; OXIDIZED, MOIST, LITTLE  
CLAY, SOME SILT  
6 - 10 SAND, TANNISH-RED, MEDIUM, CLAYEY, SILTY;  
SOME SMALL PEBBLES, OXIDIZED, MOIST

10 - 16 SAND, GRAY, MEDIUM, CLAYEY, SILTY; SOME  
 PEBBLES, UNOXIDIZED, VERY MOIST  
 16 - 17 GRAVEL, GRAY, MEDIUM, CLAYEY, SILTY;  
 UNOXIDIZED, SATURATED  
 17 - 25 SAND, BROWNISH-GRAY, FINE TO MEDIUM,  
 CLAYEY; SOME SMALL PEBBLES, UNOXIDIZED,  
 MOIST

\* \* \* \*

TEST HOLE NUMBER: 96  
 LOCATION: 120N-47W-19BBCB  
 LEGAL LOCATION: NW SW NW NW SEC. 19, T. 120 N., R. 47 W.

0 - 7 SAND, BROWN, MEDIUM TO COARSE, GRAVELLY,  
 POORLY SORTED; OXIDIZED, DRY  
 7 - 9 GRAVEL, RED-BROWN, MEDIUM TO COARSE,  
 SANDY; OXIDIZED, DRY, CLEAN  
 9 - 15 GRAVEL, RED-BROWN, COARSE, SANDY; DRY,  
 OXIDIZED, CLEAN  
 15 - 20 GRAVEL, RED-BROWN, COARSE, SANDY,  
 SLIGHTLY CLAYEY, POORLY SORTED;  
 OXIDIZED, DRY  
 20 - 58 SAND, BROWN, COARSE, GRAVELLY, SLIGHTLY  
 CLAYEY TO CLEAN; OXIDIZED, MOIST,  
 CHANGES TO A COARSE, SLIGHTLY CLAYEY  
 TO CLAYEY, BROWN GRAVEL AT 28 FEET,  
 BECOMES UNOXIDIZED AT 48 FEET

\* \* \* \*

TEST HOLE NUMBER: 97  
 LOCATION: 120N-47W-19DAAD  
 LEGAL LOCATION: SE NE NE SE SEC. 19, T. 120 N., R. 47 W.

0 - 14 SAND AND GRAVEL, RED-BROWN, FINE TO  
 MEDIUM SAND, MEDIUM TO COARSE GRAVEL,  
 CLAYEY; OXIDIZED, MOIST, SATURATED AT  
 10 FEET

\* \* \* \*

TEST HOLE NUMBER: 98  
 LOCATION: 120N-47W-20CCCC  
 LEGAL LOCATION: SW SW SW SW SEC. 20, T. 120 N., R. 47 W.  
 PRELIMINARY LOG -- SUBJECT TO CHANGE

2 - 10 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*



TEST HOLE NUMBER: 99  
LOCATION: 120N-47W-21BBAA  
LEGAL LOCATION: NE NE NW NW SEC. 21, T. 120 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

22 - 31 SAND, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 100  
LOCATION: 120N-47W-28BCCC  
LEGAL LOCATION: SW SW SW NW SEC. 28, T. 120 N., R. 47 W.

0 - 10 SAND, REDDISH-BROWN, MEDIUM; SOME COARSE  
GRAVEL, DRY, OXIDIZED  
10 - 14 SAND, TAN-BROWN, COARSE, VERY CLAYEY;  
SOME MEDIUM GRAVEL, DRY, OXIDIZED  
14 - 24 SAND, TAN-BROWN, COARSE, CLAYEY; FEW  
SMALL PEBBLES, VERY MOIST, OXIDIZED  
24 - 58 SAND, GRAY, FINE TO COARSE, CLAYEY;  
FEW SMALL PEBBLES, UNOXIDIZED,  
SATURATED, VERY SILTY FROM 42 FEET

\* \* \* \*

TEST HOLE NUMBER: 101  
LOCATION: 120N-47W-28CBBC  
LEGAL LOCATION: SW NW NW SW SEC. 28, T. 120 N., R. 47 W.

0 - 3 SAND, TAN, COARSE; WITH FINE PEBBLES,  
OXIDIZED, DRY, WITH CLAY  
3 - 6 SAND, TAN, COARSE, GRAVELLY; OXIDIZED,  
DRY, WITH COBBLES, IMPASSABLE

\* \* \* \*

TEST HOLE NUMBER: 102  
LOCATION: 120N-47W-28CBCB  
LEGAL LOCATION: NW SW NW SW SEC. 28, T. 120 N., R. 47 W.

0 - 9 SAND, TAN, FINE TO MEDIUM, GRAVELLY;  
UNOXIDIZED, DRY  
9 - 11 GRAVEL, TAN, COARSE TO VERY COARSE,  
SANDY, POORLY SORTED; OXIDIZED, DRY  
11 - 21 SAND, MEDIUM TO COARSE, GRAVELLY; DRY,  
OXIDIZED, CLEAN  
21 - 42 GRAVEL, BROWN, FINE, SANDY; OXIDIZED,  
DAMP

\* \* \* \*

TEST HOLE NUMBER: 103  
LOCATION: 120N-47W-32AAAB  
LEGAL LOCATION: NW NE NE NE SEC. 32, T. 120 N., R. 47 W.

0 - 55 GRAVEL, RED-BROWN, FINE TO COARSE,  
CLAYEY; SOME SAND, MOIST, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 104  
LOCATION: 120N-47W-32ABAA  
LEGAL LOCATION: NE NE NW NE SEC. 32, T. 120 N., R. 47 W.

10 - 15 SAND, GRAY-BROWN, COARSE, CLAYEY; FEW  
PEBBLES, LITTLE OXIDATION, VERY MOIST  
15 - 24 SAND, GRAY, COARSE, CLAYEY; UNOXIDIZED,  
SATURATED, SOME MEDIUM GRAVEL  
24 - 56 GRAVEL, GRAY, MEDIUM TO COARSE, SANDY;  
VERY MOIST, UNOXIDIZED, LITTLE CLAY

\* \* \* \*

TEST HOLE NUMBER: 105  
LOCATION: 120N-47W-32BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 32, T. 120 N., R. 47 W.

0 - 30 SAND AND GRAVEL; CAVING

\* \* \* \*

TEST HOLE NUMBER: 106  
LOCATION: 120N-47W-32CDDC  
LEGAL LOCATION: SW SE SE SW SEC. 32, T. 120 N., R. 47 W.

6 - 9 SAND, YELLOW, VERY FINE, CLAYEY, SILTY;  
DAMP

\* \* \* \*

TEST HOLE NUMBER: 107  
LOCATION: 120N-47W-33BBBC  
LEGAL LOCATION: SW NW NW NW SEC. 33, T. 120 N., R. 47 W.

9 - 14 SAND AND GRAVEL, RED-BROWN, MEDIUM TO  
COARSE SAND, FINE TO MEDIUM GRAVEL,  
VERY SILTY; OXIDIZED, MOIST  
14 - 50 SAND AND GRAVEL, COARSE SAND, COARSE

GRAVEL, SILTY; OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 108  
LOCATION: 120N-47W-33CCCD  
LEGAL LOCATION: SE SW SW SW SEC. 33, T. 120 N., R. 47 W.

17 - 44 SAND, GRAY, COARSE, VERY CLAYEY, VERY  
SILTY; UNOXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 109  
LOCATION: 120N-47W-33DDDC  
LEGAL LOCATION: SW SE SE SE SEC. 33, T. 120 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 4 SAND

\* \* \* \*

TEST HOLE NUMBER: 110  
LOCATION: 120N-47W-34CCCA  
LEGAL LOCATION: NE SW SW SW SEC. 34, T. 120 N., R. 47 W.

1 - 23 GRAVEL AND BOULDERS

\* \* \* \*

TEST HOLE NUMBER: 111  
LOCATION: 120N-48W-01BBBA 1  
LEGAL LOCATION: NE NW NW NW SEC. 01, T. 120 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 16 SAND, YELLOW-BROWN, FINE TO COARSE; FINE  
TO MEDIUM GRAVEL, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 112  
LOCATION: 120N-48W-01BBBA 2  
LEGAL LOCATION: NE NW NW NW SEC. 01, T. 120 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 11 SAND, YELLOW-BROWN, FINE TO COARSE; FINE  
TO MEDIUM GRAVEL, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 113  
LOCATION: 120N-48W-01BBBA 3  
LEGAL LOCATION: NE NW NW NW SEC. 01, T. 120 N., R. 48 W.

0 - 11 SAND, BROWN, FINE, SILTY; OXIDIZED,  
SLIGHTLY MOIST

\* \* \* \*

TEST HOLE NUMBER: 114  
LOCATION: 120N-48W-01CBBB  
LEGAL LOCATION: NW NW NW SW SEC. 01, T. 120 N., R. 48 W.

6 - 8 SAND, YELLOW-BROWN, COARSE, CLAYEY;  
OXIDIZED, MOIST  
8 - 16 SAND, GRAY-BROWN, MEDIUM TO COARSE,  
CLAYEY; OXIDIZED, SATURATED, DIRTY  
16 - 27 SAND, GRAY, VERY FINE; UNOXIDIZED, DIRTY,  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 115  
LOCATION: 120N-48W-02DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 02, T. 120 N., R. 48 W.

0 - 2 GRAVEL, RED-BROWN, COARSE

\* \* \* \*

TEST HOLE NUMBER: 116  
LOCATION: 120N-48W-11CBBB  
LEGAL LOCATION: NW NW NW SW SEC. 11, T. 120 N., R. 48 W.

0 - 1 SAND, DARK-BROWN, FINE TO COARSE, SILTY,  
GRAVELLY; SOME SMALL COBBLES, LITTLE  
CLAY, DRY, OXIDIZED  
1 - 10 SAND AND GRAVEL, TAN-BROWN, MEDIUM TO  
COARSE SAND, COARSE GRAVEL, VERY  
CLAYEY; MOIST, OXIDIZED  
10 - 13 SAND, TAN-BROWN, VERY COARSE, CLAYEY;  
OXIDIZED, MOIST  
18 - 28 SAND AND GRAVEL, TAN-BROWN, MEDIUM TO  
COARSE SAND, COARSE GRAVEL; OXIDIZED,  
SATURATED, LITTLE CLAY

\* \* \* \*

TEST HOLE NUMBER: 117  
LOCATION: 120N-48W-11DDDC  
LEGAL LOCATION: SW SE SE SE SEC. 11, T. 120 N., R. 48 W.

17 - 25 SAND, TAN-BROWN, FINE, VERY SILTY; SOME  
LARGER PEBBLES, OXIDIZED, SLIGHTLY  
MOIST  
25 - 49 SAND, GRAY, FINE, VERY SILTY; SATURATED,  
UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 118  
LOCATION: 120N-48W-14AAAD  
LEGAL LOCATION: SE NE NE NE SEC. 14, T. 120 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

8 - 18 SAND, YELLOW-BROWN, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 119  
LOCATION: 120N-48W-19BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 19, T. 120 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

14 - 18 SAND AND GRAVEL, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 120  
LOCATION: 120N-48W-24AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 24, T. 120 N., R. 48 W.

2 - 37 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 121  
LOCATION: 120N-48W-24CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 24, T. 120 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

18 - 32 SAND, YELLOW-BROWN, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 122  
LOCATION: 120N-48W-27ABBA  
LEGAL LOCATION: NE NW NW NE SEC. 27, T. 120 N., R. 48 W.

5 - 15 SAND AND GRAVEL, BROWN, MEDIUM TO COARSE  
SAND, FINE TO MEDIUM GRAVEL, CLAYEY;  
MOIST, OXIDIZED, SATURATED AT 8 FEET  
15 - 23 SAND AND GRAVEL, GRAY, MEDIUM TO COARSE  
SAND, FINE TO MEDIUM GRAVEL, CLAYEY;  
SATURATED, UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 123  
LOCATION: 120N-48W-30DDCD  
LEGAL LOCATION: SE SW SE SE SEC. 30, T. 120 N., R. 48 W.

2 - 7 SAND, BROWN, CLAYEY; MOIST, OXIDIZED  
7 - 14 SAND AND GRAVEL, BROWN, MEDIUM TO COARSE  
SAND, FINE TO COARSE GRAVEL, SLIGHTLY  
CLAYEY; OXIDIZED, SATURATED  
18 - 25 SAND, GRAY, FINE TO MEDIUM, SLIGHTLY  
CLAYEY; UNOXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 124  
LOCATION: 120N-48W-34CCDD  
LEGAL LOCATION: SE SE SW SW SEC. 34, T. 120 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

2 - 7 GRAVEL; SOME YELLOW-BROWN CLAY

\* \* \* \*

TEST HOLE NUMBER: 125  
LOCATION: 120N-49W-05DAAA  
LEGAL LOCATION: NE NE NE SE SEC. 05, T. 120 N., R. 49 W.

18 - 23 SAND, BROWN, CLAYEY, SILTY; SATURATED,  
OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 126  
LOCATION: 120N-49W-06CCBB  
LEGAL LOCATION: NW NW SW SW SEC. 06, T. 120 N., R. 49 W.

0 - 4 SAND AND GRAVEL, DARK-BROWN; LITTLE CLAY,  
OXIDIZED, DRY

\* \* \* \*

TEST HOLE NUMBER: 127  
LOCATION: 120N-49W-10DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 10, T. 120 N., R. 49 W.

7 - 18 GRAVEL, FINE TO MEDIUM, SUBROUNDED TO  
ROUNDED

\* \* \* \*

TEST HOLE NUMBER: 128  
LOCATION: 120N-49W-12CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 12, T. 120 N., R. 49 W.

2 - 3 GRAVEL, MEDIUM, SUBROUNDED  
14 - 15 GRAVEL, MEDIUM, ROUNDED

\* \* \* \*

TEST HOLE NUMBER: 129  
LOCATION: 120N-49W-31CBBC  
LEGAL LOCATION: SW NW NW SW SEC. 31, T. 120 N., R. 49 W.

0 - 3 SAND AND GRAVEL, BROWN, CLAYEY, SILTY;  
DRY, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 130  
LOCATION: 120N-49W-35DDAA  
LEGAL LOCATION: NE NE SE SE SEC. 35, T. 120 N., R. 49 W.

15 - 20 SAND, TAN-BROWN, COARSE, CLAYEY, PEBBLY;  
OXIDIZED, SATURATED  
22 - 25 SAND AND GRAVEL, BROWN, COARSE SAND,  
MEDIUM GRAVEL, VERY CLAYEY; OXIDIZED,  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 131  
LOCATION: 120N-50W-01CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 01, T. 120 N., R. 50 W.

0 - 1 SAND AND GRAVEL, REDDISH-BROWN; DRY,  
OXIDIZED  
10 - 28 SAND, REDDISH-BROWN, VERY CLAYEY;  
SATURATED, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 132  
LOCATION: 120N-50W-03BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 03, T. 120 N., R. 50 W.

19 - 22 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 133  
LOCATION: 120N-50W-04BABA  
LEGAL LOCATION: NE NW NE NW SEC. 04, T. 120 N., R. 50 W.

15 - 18 SAND, BROWN, FINE, SLIGHTLY CLAYEY;  
OXIDIZED, MOIST  
23 - 68 SAND, BROWN, FINE, SILTY; SATURATED,  
OXIDIZED, BECOMES UNOXIDIZED AT 45  
FEET, PROGRESSIVELY SILTIER WITH  
DEPTH

\* \* \* \*

TEST HOLE NUMBER: 134  
LOCATION: 120N-50W-10DDDD 1  
LEGAL LOCATION: SE SE SE SE SEC. 10, T. 120 N., R. 50 W.

3 - 10 GRAVEL; WITH CLAY

\* \* \* \*

TEST HOLE NUMBER: 135  
LOCATION: 120N-50W-10DDDD 2  
LEGAL LOCATION: SE SE SE SE SEC. 10, T. 120 N., R. 50 W.

2 - 6 SAND AND GRAVEL, MEDIUM TO COARSE; WITH  
CLAY

\* \* \* \*

TEST HOLE NUMBER: 136  
LOCATION: 120N-50W-11CDDD  
LEGAL LOCATION: SE SE SE SW SEC. 11, T. 120 N., R. 50 W.

12 - 27 SAND AND GRAVEL; WITH CLAY

\* \* \* \*



TEST HOLE NUMBER: 137  
LOCATION: 120N-50W-22DCCD  
LEGAL LOCATION: SE SW SW SE SEC. 22, T. 120 N., R. 50 W.

10 - 13 GRAVEL, BROWN, FINE TO MEDIUM, SANDY,  
VERY CLAYEY; SATURATED, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 138  
LOCATION: 120N-50W-25CCDD  
LEGAL LOCATION: SE SE SW SW SEC. 25, T. 120 N., R. 50 W.

0 - 3 SAND AND GRAVEL, LIGHT-BROWN, CLAYEY,  
SILTY; OXIDIZED, DRY

\* \* \* \*

TEST HOLE NUMBER: 139  
LOCATION: 120N-51W-06CBBB R  
LEGAL LOCATION: NW NW NW SW SEC. 06, T. 120 N., R. 51 W.

4 - 14 SAND, MEDIUM TO COARSE; SOME FINE GRAVEL  
14 - 19 SAND, MEDIUM TO COARSE; DIRTY  
19 - 29 SAND, MEDIUM TO COARSE, PEBBLES; DIRTY

\* \* \* \*

TEST HOLE NUMBER: 140  
LOCATION: 120N-51W-08ADDD  
LEGAL LOCATION: SE SE SE NE SEC. 08, T. 120 N., R. 51 W.

0 - 13 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE TO MEDIUM GRAVEL, VERY  
CLAYEY; OXIDIZED  
13 - 18 GRAVEL, BROWN, FINE, SANDY, CLAYEY;  
SATURATED, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 141  
LOCATION: 120N-51W-08BBBC  
LEGAL LOCATION: SW NW NW NW SEC. 08, T. 120 N., R. 51 W.

0 - 1 SAND, LIGHT-BROWN, SILTY; DRY, OXIDIZED  
4 - 9 SAND, BROWN, SILTY, PEBBLY; OXIDIZED, DRY

\* \* \* \*

TEST HOLE NUMBER: 142  
LOCATION: 120N-51W-17AADD 1  
LEGAL LOCATION: SE SE NE NE SEC. 17, T. 120 N., R. 51 W.

5 - 7 SAND, DARK-BROWN, VERY CLAYEY, GRAVELLY;  
MOIST, OXIDIZED, HIT ROCK, ABANDONED  
HOLE

\* \* \* \*

TEST HOLE NUMBER: 143  
LOCATION: 120N-51W-17AADD 2  
LEGAL LOCATION: SE SE NE NE SEC. 17, T. 120 N., R. 51 W.

1 - 10 SAND, TAN-BROWN, VERY CLAYEY, SILTY;  
MOIST, OXIDIZED, HIT ROCK, ABANDONED  
HOLE

\* \* \* \*

TEST HOLE NUMBER: 144  
LOCATION: 120N-51W-17AADD 3  
LEGAL LOCATION: SE SE NE NE SEC. 17, T. 120 N., R. 51 W.

1 - 12 SAND, TAN-BROWN, VERY CLAYEY, SILTY;  
MOIST, OXIDIZED, HIT ROCK, ABANDONED  
HOLE

\* \* \* \*

TEST HOLE NUMBER: 145  
LOCATION: 120N-51W-17AADD 4  
LEGAL LOCATION: SE SE NE NE SEC. 17, T. 120 N., R. 51 W.

1 - 11 SAND, TAN-BROWN, VERY CLAYEY, SILTY;  
MOIST, OXIDIZED, HIT ROCK, ABANDONED  
HOLE

\* \* \* \*

TEST HOLE NUMBER: 146  
LOCATION: 120N-51W-17BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 17, T. 120 N., R. 51 W.

3 - 15 SAND, LIGHT-BROWN, PEBBLY, SILTY; DRY,  
OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 147  
LOCATION: 120N-51W-20AA  
LEGAL LOCATION: NE NE SEC. 20, T. 120 N., R. 51 W.

1 -	4	SAND, FINE TO MEDIUM, SILTY; SOME PEBBLES
4 -	9	SAND, FINE TO MEDIUM, SILTY; FEW PEBBLES
9 -	14	SAND, FINE TO MEDIUM; SILTY
14 -	49	SAND, FINE TO COARSE; WATER

\* \* \* \*

TEST HOLE NUMBER: 148  
LOCATION: 120N-51W-22CCDC 1  
LEGAL LOCATION: SW SE SW SW SEC. 22, T. 120 N., R. 51 W.

0 -	3	SAND AND GRAVEL, BROWN; DRY, OXIDIZED
4 -	10	SAND AND GRAVEL, TAN-BROWN; DRY, OXIDIZED, HIT ROCK, ABANDONED HOLE

\* \* \* \*

TEST HOLE NUMBER: 149  
LOCATION: 120N-51W-22CCDC 2  
LEGAL LOCATION: SW SE SW SW SEC. 22, T. 120 N., R. 51 W.

0 -	2	SAND AND GRAVEL, REDDISH-BROWN; DRY, OXIDIZED
7 -	33	SAND AND GRAVEL, REDDISH-BROWN; DRY, OXIDIZED, ABANDONED HOLE DUE TO COARSE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 150  
LOCATION: 120N-51W-22CDCC  
LEGAL LOCATION: SW SW SE SW SEC. 22, T. 120 N., R. 51 W.

5 -	10	SAND, BROWN, CLAYEY; FEW PEBBLES, DRY, OXIDIZED
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\* \* \* \*

TEST HOLE NUMBER: 151  
LOCATION: 120N-51W-22DDCC  
LEGAL LOCATION: SW SW SE SE SEC. 22, T. 120 N., R. 51 W.

0 -	14	SAND AND GRAVEL, BROWN, FINE TO MEDIUM
-----	----	--

SAND, FINE GRAVEL, SLIGHTLY CLAYEY;  
OXIDIZED, SLIGHTLY MOIST, SOME COARSE  
GRAVEL AT SURFACE  
14 - 55 SAND AND GRAVEL, BROWN, FINE TO MEDIUM  
SAND, FINE GRAVEL, CLAYEY; OXIDIZED,  
SATURATED, UNOXIDIZED AT 40 FEET

\* \* \* \*

TEST HOLE NUMBER: 152  
LOCATION: 120N-51W-23CCCD  
LEGAL LOCATION: SE SW SW SW SEC. 23, T. 120 N., R. 51 W.

0 - 43 SAND, TAN-BROWN, CLAYEY, PEBBLY; DAMP,  
OXIDIZED, SATURATED AT 5 FEET

\* \* \* \*

TEST HOLE NUMBER: 153  
LOCATION: 120N-51W-27BBBB 1  
LEGAL LOCATION: NW NW NW NW SEC. 27, T. 120 N., R. 51 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

3 - 45 SAND AND GRAVEL, ORANGE, FINE TO COARSE  
SAND, FINE TO VERY COARSE GRAVEL; SOME  
GRAY CLAY STRINGERS; GRAY CLAY FROM 30  
TO 35 FEET

\* \* \* \*

TEST HOLE NUMBER: 154  
LOCATION: 120N-51W-27BBBB 2  
LEGAL LOCATION: NW NW NW NW SEC. 27, T. 120 N., R. 51 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

3 - 46 SAND AND GRAVEL, ORANGE, FINE TO COARSE  
SAND, FINE TO VERY COARSE GRAVEL; SOME  
CLAY STRINGERS; GRAY CLAY FROM 30 TO 35  
FEET

\* \* \* \*

TEST HOLE NUMBER: 155  
LOCATION: 120N-51W-28ACCD 1  
LEGAL LOCATION: SE SW SW NE SEC. 28, T. 120 N., R. 51 W.

2 - 15 SAND AND ROCKS  
15 - 22 SAND  
22 - 68 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 156  
LOCATION: 120N-51W-28BAAA  
LEGAL LOCATION: NE NE NE NW SEC. 28, T. 120 N., R. 51 W.

1 - 52 SAND AND GRAVEL, FINE TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 157  
LOCATION: 120N-51W-28CBCC  
LEGAL LOCATION: SW SW NW SW SEC. 28, T. 120 N., R. 51 W.

2 - 6 SAND, BROWN, CLAYEY, SILTY; OXIDIZED, DRY

\* \* \* \*

TEST HOLE NUMBER: 158  
LOCATION: 120N-51W-28CCCB  
LEGAL LOCATION: NW SW SW SW SEC. 28, T. 120 N., R. 51 W.

0 - 9 SAND AND GRAVEL, TAN-BROWN; DRY, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 159  
LOCATION: 120N-51W-28DCCC  
LEGAL LOCATION: SW SW SW SE SEC. 28, T. 120 N., R. 51 W.

4 - 14 SAND AND GRAVEL, REDDISH-BROWN; DRY,  
OXIDIZED  
14 - 20 SAND, GRAYISH-BROWN, VERY CLAYEY, SILTY;  
MOIST, UNOXIDIZED  
20 - 70 SAND, BROWN, VERY CLAYEY; SATURATED,  
UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 160  
LOCATION: 120N-51W-32DADB  
LEGAL LOCATION: NW SE NE SE SEC. 32, T. 120 N., R. 51 W.

20 - 28 SAND AND CLAY

\* \* \* \*

TEST HOLE NUMBER: 161  
LOCATION: 120N-51W-33BBAA

LEGAL LOCATION: NE NE NW NW SEC. 33, T. 120 N., R. 51 W.

3 - 9 SAND, LIGHT-BROWN, VERY CLAYEY, SILTY;  
FEW PEBBLES, OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 162  
LOCATION: 120N-51W-33BCCC  
LEGAL LOCATION: SW SW SW NW SEC. 33, T. 120 N., R. 51 W.

3 - 34 SAND, LIGHT-BROWN, PEBBLY, SILTY, VERY  
CLAYEY FROM 32 FEET; DRY, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 163  
LOCATION: 120N-51W-34BACC  
LEGAL LOCATION: SW SW NE NW SEC. 34, T. 120 N., R. 51 W.

2 - 15 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 164  
LOCATION: 120N-51W-34CBAD  
LEGAL LOCATION: SE NE NW SW SEC. 34, T. 120 N., R. 51 W.

2 - 13 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 165  
LOCATION: 120N-51W-34CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 34, T. 120 N., R. 51 W.

1 - 38 SAND AND GRAVEL, MEDIUM TO COARSE; LOTS  
OF SHALE PEBBLES; SOME CLAY LAYERS,  
ESPECIALLY FROM 25 TO 32 FEET

\* \* \* \*

TEST HOLE NUMBER: 166  
LOCATION: 120N-51W-35ACCC 1  
LEGAL LOCATION: SW SW NE SEC. 35, T. 120 N., R. 51 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 45 SAND AND GRAVEL, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 167  
LOCATION: 120N-51W-35ACCC 2  
LEGAL LOCATION: SW SW SW NE SEC. 35, T. 120 N., R. 51 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 35 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 168  
LOCATION: 120N-51W-35CDAA  
LEGAL LOCATION: NE NE SE SW SEC. 35, T. 120 N., R. 51 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 35 SAND AND GRAVEL, MEDIUM-COARSE

\* \* \* \*

TEST HOLE NUMBER: 169  
LOCATION: 120N-52W-01ABBB  
LEGAL LOCATION: NW NW NW NE SEC. 01, T. 120 N., R. 52 W.

4 - 11 SAND AND GRAVEL, BROWN, MEDIUM TO COARSE  
SAND, FINE TO MEDIUM GRAVEL, VERY  
CLAYEY; OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 170  
LOCATION: 120N-52W-01ADDA R  
LEGAL LOCATION: NE SE SE NE SEC. 01, T. 120 N., R. 52 W.

2 - 23 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE TO MEDIUM GRAVEL, SLIGHTLY  
CLAYEY; MOIST, OXIDIZED, LITTLE COARSE  
GRAVEL  
23 - 28 SAND AND GRAVEL, GRAY, FINE TO COARSE  
SAND, FINE GRAVEL, CLAYEY; SATURATED,  
UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 171  
LOCATION: 120N-52W-02AADD 1  
LEGAL LOCATION: SE SE NE NE SEC. 02, T. 120 N., R. 52 W.

2 - 6 SAND AND GRAVEL, TAN-BROWN; DRY, OXIDIZED  
10 - 18 SAND AND GRAVEL, BROWN, CLAYEY;  
SATURATED, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 172  
LOCATION: 120N-52W-02AADD 2  
LEGAL LOCATION: SE SE NE NE SEC. 02, T. 120 N., R. 52 W.

0 - 6 SAND AND GRAVEL, REDDISH-BROWN; SOME  
CLAY, MOIST, OXIDIZED  
10 - 19 SAND AND GRAVEL, TAN-BROWN, VERY CLAYEY;  
SATURATED, OXIDIZED, ABANDONED HOLE  
DUE TO IMPASSABLE ROCK

\* \* \* \*

TEST HOLE NUMBER: 173  
LOCATION: 120N-52W-02AADD 3  
LEGAL LOCATION: SE SE NE NE SEC. 02, T. 120 N., R. 52 W.

0 - 6 SAND AND GRAVEL, REDDISH-BROWN; SOME  
CLAY, MOIST, OXIDIZED  
10 - 13 SAND AND GRAVEL, TAN-BROWN, VERY CLAYEY;  
SATURATED, OXIDIZED  
13 - 20 SAND AND GRAVEL, TAN-BROWN, SILTY,  
CLAYEY; SATURATED, OXIDIZED, ABANDONED  
HOLE DUE TO IMPASSABLE ROCK

\* \* \* \*

TEST HOLE NUMBER: 174  
LOCATION: 120N-52W-02BBBB R  
LEGAL LOCATION: NW NW NW NW SEC. 02, T. 120 N., R. 52 W.

0 - 2 SAND AND GRAVEL, TAN-BROWN; DRY, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 175  
LOCATION: 120N-52W-04DDDD R  
LEGAL LOCATION: SE SE SE SE SEC. 04, T. 120 N., R. 52 W.

3 - 8 SAND, MEDIUM

\* \* \* \*



TEST HOLE NUMBER: 176  
LOCATION: 120N-52W-05AAAD R  
LEGAL LOCATION: SE NE NE NE SEC. 05, T. 120 N., R. 52 W.

2 - 13 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 177  
LOCATION: 120N-52W-08CCCD R  
LEGAL LOCATION: SE SW SW SW SEC. 08, T. 120 N., R. 52 W.

4 - 10 SAND AND GRAVEL, FINE TO COARSE SAND,  
FINE GRAVEL, VERY CLAYEY; SLIGHTLY  
MOIST, OXIDIZED  
10 - 33 SAND AND GRAVEL, FINE TO COARSE,  
MEDIUM GRAVEL, VERY CLAYEY; SLIGHTLY  
MOIST, OXIDIZED, SATURATED AT 23 FEET

\* \* \* \*

TEST HOLE NUMBER: 178  
LOCATION: 120N-52W-09CDCC R  
LEGAL LOCATION: SW SW SE SW SEC. 09, T. 120 N., R. 52 W.

1 - 26 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 179  
LOCATION: 120N-52W-09DDDA R  
LEGAL LOCATION: NE SE SE SE SEC. 09, T. 120 N., R. 52 W.

1 - 48 SAND, MEDIUM TO COARSE, GRAVELLY

\* \* \* \*

TEST HOLE NUMBER: 180  
LOCATION: 120N-52W-09DDDD R  
LEGAL LOCATION: SE SE SE SE SEC. 09, T. 120 N., R. 52 W.

1 - 48 SAND AND GRAVEL, MEDIUM TO COARSE; VERY  
COARSE AT 20 FEET AND DEEPER

\* \* \* \*

TEST HOLE NUMBER: 181

LOCATION: 120N-52W-10DDDD R  
LEGAL LOCATION: SE SE SE SE SEC. 10, T. 120 N., R. 52 W.

6 - 18 GRAVEL, MEDIUM TO COARSE; SOME CLAY  
18 - 28 SAND AND GRAVEL, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 182  
LOCATION: 120N-52W-12BBBB R  
LEGAL LOCATION: NW NW NW NW SEC. 12, T. 120 N., R. 52 W.

2 - 9 SAND AND GRAVEL  
10 - 19 SAND, COARSE; SOME CLAY  
19 - 36 SAND AND GRAVEL, COARSE, ROCKY

\* \* \* \*

TEST HOLE NUMBER: 183  
LOCATION: 120N-52W-15ABDA 2R  
LEGAL LOCATION: NE SE NW NE SEC. 15, T. 120 N., R. 52 W.

2 - 57 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 184  
LOCATION: 120N-52W-16DADD R  
LEGAL LOCATION: SE SE NE SE SEC. 16, T. 120 N., R. 52 W.

9 - 14 SAND, COARSE  
14 - 27 SAND AND GRAVEL, COARSE SAND, FINE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 185  
LOCATION: 120N-52W-17ABBB R  
LEGAL LOCATION: NW NW NW NE SEC. 17, T. 120 N., R. 52 W.

1 - 5 GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 186  
LOCATION: 120N-52W-20ABBA R  
LEGAL LOCATION: NE NW NW NE SEC. 20, T. 120 N., R. 52 W.

6 - 35 GRAVEL, MEDIUM TO COARSE; SOME CLAY

\* \* \* \*

TEST HOLE NUMBER: 187

LOCATION: 120N-52W-20CCCC 1R

LEGAL LOCATION: SW SW SW SW SEC. 20, T. 120 N., R. 52 W.

6 - 8 SAND AND GRAVEL, BROWN, COARSE  
19 - 30 GRAVEL, COARSE; LIMESTONE PEBBLES

\* \* \* \*

TEST HOLE NUMBER: 188

LOCATION: 120N-52W-20CCCC 2R

LEGAL LOCATION: SW SW SW SW SEC. 20, T. 120 N., R. 52 W.

PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 3 GRAVEL, ORANGE, COARSE  
21 - 33 SAND AND GRAVEL, FINE SAND, MEDIUM TO  
COARSE GRAVE; SOME CLAY CONTENT

\* \* \* \*

TEST HOLE NUMBER: 189

LOCATION: 120N-52W-20DCDC R

LEGAL LOCATION: SW SE SW SE SEC. 20, T. 120 N., R. 52 W.

2 - 4 GRAVEL, COARSE  
4 - 9 SAND, MEDIUM TO COARSE  
9 - 14 SAND, COARSE; WITH PEBBLES  
14 - 19 SAND, MEDIUM TO COARSE  
19 - 24 SAND, COARSE  
24 - 29 SAND, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 190

LOCATION: 120N-52W-21CDDC R

LEGAL LOCATION: SW SE SE SW SEC. 21, T. 120 N., R. 52 W.

3 - 4 SAND AND GRAVEL, COARSE SAND, FINE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 191

LOCATION: 120N-52W-22ABDA R

LEGAL LOCATION: NE SE NW NE SEC. 22, T. 120 N., R. 52 W.

2 - 47 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 192  
LOCATION: 120N-52W-22BDBB R  
LEGAL LOCATION: NW NW SE NW SEC. 22, T. 120 N., R. 52 W.

5 - 15 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 193  
LOCATION: 120N-52W-26BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 26, T. 120 N., R. 52 W.

2 - 3 GRAVEL, MEDIUM TO COARSE  
16 - 22 SAND AND GRAVEL, FINE TO MEDIUM; WITH  
CLAY

\* \* \* \*

TEST HOLE NUMBER: 194  
LOCATION: 121N-46W-07DAAA 1  
LEGAL LOCATION: NE NE NE SE SEC. 07, T. 121 N., R. 46 W.

1 - 18 SAND, BROWN, COARSE

\* \* \* \*

TEST HOLE NUMBER: 195  
LOCATION: 121N-46W-07DAAA 2  
LEGAL LOCATION: NE NE NE SE SEC. 07, T. 121 N., R. 46 W.

1 - 15 SAND, BROWN, COARSE  
16 - 17 SAND, BROWN

\* \* \* \*

TEST HOLE NUMBER: 196  
LOCATION: 121N-46W-08CAAB  
LEGAL LOCATION: NW NE NE SW SEC. 08, T. 121 N., R. 46 W.

18 - 34 SAND, GRAY-BROWN, FINE, SILTY

\* \* \* \*

TEST HOLE NUMBER: 197  
LOCATION: 121N-46W-08CCCD  
LEGAL LOCATION: SE SW SW SW SEC. 08, T. 121 N., R. 46 W.

1 - 6 SAND, BROWN, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 198  
LOCATION: 121N-46W-08DCCB  
LEGAL LOCATION: NW SW SW SE SEC. 08, T. 121 N., R. 46 W.

1 - 9 SAND, GRAY, FINE TO MEDIUM  
9 - 26 SAND AND GRAVEL, COARSE SAND AND BROWN  
FINE GRAVEL; CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 199  
LOCATION: 121N-46W-08DDAB  
LEGAL LOCATION: NW NE SE SE SEC. 08, T. 121 N., R. 46 W.

22 - 38 SAND, TAN, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 200  
LOCATION: 121N-46W-08DDBA 1  
LEGAL LOCATION: NE NW SE SE SEC. 08, T. 121 N., R. 46 W.

23 - 40 SAND; SOME GRAY CLAY

\* \* \* \*

TEST HOLE NUMBER: 201  
LOCATION: 121N-46W-08DDBA 2  
LEGAL LOCATION: NE NW SE SE SEC. 08, T. 121 N., R. 46 W.

22 - 39 SAND, GRAY, FINE; SOME SMALL SHELLS

\* \* \* \*

TEST HOLE NUMBER: 202  
LOCATION: 121N-46W-17ADCC 1  
LEGAL LOCATION: SW SW SE NE SEC. 17, T. 121 N., R. 46 W.

15 - 28 SAND, MEDIUM TO COARSE, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 203  
LOCATION: 121N-46W-17BCCC 1  
LEGAL LOCATION: SW SW SW NW SEC. 17, T. 121 N., R. 46 W.

11 - 20 SAND AND GRAVEL, BROWN, COARSE SAND, FINE  
TO MEDIUM GRAVEL; DRY, HIT ROCK,  
ABANDONED HOLE

\* \* \* \*

TEST HOLE NUMBER: 204  
LOCATION: 121N-46W-17BCCC 2  
LEGAL LOCATION: SW SW SW NW SEC. 17, T. 121 N., R. 46 W.

9 - 20 SAND AND GRAVEL, BROWN, COARSE SAND,  
MEDIUM GRAVEL; DRY

\* \* \* \*

TEST HOLE NUMBER: 205  
LOCATION: 121N-46W-17BDCC  
LEGAL LOCATION: SW SW SE NW SEC. 17, T. 121 N., R. 46 W.

2 - 17 SAND, BROWN, COARSE  
17 - 34 GRAVEL, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 206  
LOCATION: 121N-46W-18ACBC  
LEGAL LOCATION: SW NW SW NE SEC. 18, T. 121 N., R. 46 W.

7 - 11 SAND AND GRAVEL, BROWN, FINE SAND,  
MEDIUM GRAVEL; OXIDIZED, DRY

\* \* \* \*

TEST HOLE NUMBER: 207  
LOCATION: 121N-46W-18BDCC  
LEGAL LOCATION: SW SW SE NW SEC. 18, T. 121 N., R. 46 W.

3 - 6 SAND, BROWN, SILTY  
6 - 19 GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 208  
LOCATION: 121N-46W-18DCCD 1  
LEGAL LOCATION: SE SW SW SE SEC. 18, T. 121 N., R. 46 W.

1 - 10 GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 209  
LOCATION: 121N-46W-18DCCD 2  
LEGAL LOCATION: SE SW SW SE SEC. 18, T. 121 N., R. 46 W.

1 - 9 SAND AND GRAVEL, COARSE SAND AND BROWN,  
MEDIUM TO COARSE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 210  
LOCATION: 121N-46W-19DBDD  
LEGAL LOCATION: SE SE NW SE SEC. 19, T. 121 N., R. 46 W.

25 - 38 SAND, FINE

\* \* \* \*

TEST HOLE NUMBER: 211  
LOCATION: 121N-46W-20BACD  
LEGAL LOCATION: SE SW NE NW SEC. 20, T. 121 N., R. 46 W.

1 - 21 SAND AND GRAVEL, COARSE SAND AND FINE TO  
MEDIUM GRAVEL  
22 - 36 SAND, GRAY-BROWN, FINE TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 212  
LOCATION: 121N-46W-20BBBA  
LEGAL LOCATION: NE NW NW NW SEC. 20, T. 121 N., R. 46 W.

2 - 22 SAND AND GRAVEL, COARSE SAND AND MEDIUM  
TO COARSE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 213  
LOCATION: 121N-46W-20BBDD  
LEGAL LOCATION: SE SE NW NW SEC. 20, T. 121 N., R. 46 W.

9 - 27 SAND AND GRAVEL, COARSE SAND AND MEDIUM  
TO COARSE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 214  
LOCATION: 121N-46W-20DBDC  
LEGAL LOCATION: SW SE NW SE SEC. 20, T. 121 N., R. 46 W.

1 - 24 GRAVEL, FINE; SOME SAND

\* \* \* \*

TEST HOLE NUMBER: 215  
LOCATION: 121N-47W-13CCCB  
LEGAL LOCATION: NW SW SW SW SEC. 13, T. 121 N., R. 47 W.

5 - 6 SAND AND GRAVEL, REDDISH-BROWN, COARSE  
SAND, MEDIUM GRAVEL, CLAYEY; MOIST,  
OXIDIZED (TILL)

\* \* \* \*

TEST HOLE NUMBER: 216  
LOCATION: 121N-47W-16CCBB  
LEGAL LOCATION: NW NW SW SW SEC. 16, T. 121 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

11 - 24 SAND, MEDIUM TO COARSE; POSSIBLY  
OXIDIZED; BROWN CLAY STRINGERS

\* \* \* \*

TEST HOLE NUMBER: 217  
LOCATION: 121N-47W-17BCCC  
LEGAL LOCATION: SW SW SW NW SEC. 17, T. 121 N., R. 47 W.

5 - 65 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,  
MEDIUM GRAVEL, SILTY; MOIST, FEW VERY  
COARSE PEBBLES, WET AND PREDOMINANTLY  
A COARSE, UNOXIDIZED, SILTY SAND FROM  
50 FEET

\* \* \* \*



TEST HOLE NUMBER: 218  
LOCATION: 121N-47W-17CCCD  
LEGAL LOCATION: SE SW SW SW SEC. 17, T. 121 N., R. 47 W.

4 - 12 GRAVEL, COARSE  
24 - 26 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 219  
LOCATION: 121N-47W-18AAAB  
LEGAL LOCATION: NW NE NE NE SEC. 18, T. 121 N., R. 47 W.

23 - 28 SAND, DARK-GRAY, VERY FINE

\* \* \* \*

TEST HOLE NUMBER: 220  
LOCATION: 121N-47W-18BBCA  
LEGAL LOCATION: NE SW NW NW SEC. 18, T. 121 N., R. 47 W.

0 - 6 GRAVEL, MEDIUM TO COARSE; BECAME TO  
COARSE TO PENETRATE

\* \* \* \*

TEST HOLE NUMBER: 221  
LOCATION: 121N-47W-18CCBB  
LEGAL LOCATION: NW NW SW SW SEC. 18, T. 121 N., R. 47 W.

0 - 70 SAND, LIGHT-BROWN, MEDIUM TO COARSE; WITH  
FINE TO MEDIUM GRAVEL STRINGERS,  
SATURATED AT 30 FEET, CHANGES TO A  
BROWN, FINE TO MEDIUM GRAVEL WITH SOME  
COARSE SAND AT 45 FEET

\* \* \* \*

TEST HOLE NUMBER: 222  
LOCATION: 121N-47W-20AADB  
LEGAL LOCATION: NW SE NE NE SEC. 20, T. 121 N., R. 47 W.

1 - 26 GRAVEL, COARSE TO VERY COARSE, SUBROUNDED

\* \* \* \*

TEST HOLE NUMBER: 223

LOCATION: 121N-47W-20ADCB

LEGAL LOCATION: NW SW SE NE SEC. 20, T. 121 N., R. 47 W.

4 -	7	SAND, DARK-BROWN, MEDIUM, CLAYEY
7 -	8	SAND, BROWN, COARSE, CLAYEY; FINE GRAVEL
8 -	15	SAND, BROWN, COARSE; FINE GRAVEL; CLEAN
15 -	42	SAND, BROWN, MEDIUM TO VERY COARSE; CLEAN

\* \* \* \*

TEST HOLE NUMBER: 224

LOCATION: 121N-47W-20ADDC

LEGAL LOCATION: SW SE SE NE SEC. 20, T. 121 N., R. 47 W.

7 -	9	SAND, BROWN, MEDIUM TO COARSE; SOME FINE GRAVEL, CLAYEY; SATURATED
9 -	14	SAND, BROWN, MEDIUM TO COARSE; SOME FINE GRAVEL, SLIGHTLY CLAYEY
14 -	20	SAND, GRAY-BROWN, MEDIUM TO COARSE; SOME FINE GRAVEL, CLAYEY
25 -	46	SAND, BROWN, MEDIUM TO COARSE, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 225

LOCATION: 121N-47W-20BAAA

LEGAL LOCATION: NE NE NE NW SEC. 20, T. 121 N., R. 47 W.

3 -	5	GRAVEL, COARSE
5 -	17	SAND, GRAY, MEDIUM; SOME COARSE GRAVEL; SATURATED
17 -	20	SAND, GRAY, MEDIUM, VERY CLAYEY
22 -	40	SAND, GRAY, MEDIUM, VERY CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 226

LOCATION: 121N-47W-20BBAC

LEGAL LOCATION: SW NE NW NW SEC. 20, T. 121 N., R. 47 W.

1 -	17	GRAVEL AND ROCKS, YELLOW
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\* \* \* \*

TEST HOLE NUMBER: 227

LOCATION: 121N-47W-20BBBB

LEGAL LOCATION: NW NW NW NW SEC. 20, T. 121 N., R. 47 W.

22 - 25 SAND, BROWN, MEDIUM TO COARSE, VERY  
CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 228  
LOCATION: 121N-47W-20BCBB  
LEGAL LOCATION: NW NW SW NW SEC. 20, T. 121 N., R. 47 W.

1 - 5 SAND, TAN, MEDIUM; WITH MEDIUM GRAVEL,  
CLAYEY; DRY  
5 - 12 GRAVEL, MEDIUM TO COARSE, SILTY; DRY  
12 - 26 GRAVEL, TAN, FINE TO MEDIUM, VERY CLAYEY;  
DRY

\* \* \* \*

TEST HOLE NUMBER: 229  
LOCATION: 121N-47W-20BCDA  
LEGAL LOCATION: NE SE SW NW SEC. 20, T. 121 N., R. 47 W.

1 - 4 GRAVEL, COARSE, VERY CLAYEY; SOME SAND  
4 - 7 SAND, TAN, MEDIUM, VERY CLAYEY; FINE  
GRAVEL; DRY  
14 - 17 GRAVEL, MEDIUM TO COARSE; DRY  
17 - 67 SAND, MEDIUM; WITH MEDIUM GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 230  
LOCATION: 121N-47W-20CAB  
LEGAL LOCATION: NW NE SW SEC. 20, T. 121 N., R. 47 W.

3 - 20 SAND AND GRAVEL, YELLOW, COARSE  
20 - 30 GRAVEL, COARSE, YELLOW

\* \* \* \*

TEST HOLE NUMBER: 231  
LOCATION: 121N-47W-20CADA  
LEGAL LOCATION: NE SE NE SW SEC. 20, T. 121 N., R. 47 W.

2 - 24 SAND, VERY COARSE, ROUNDED; GRAVEL,  
MEDIUM, ROUNDED  
24 - 36 GRAVEL, COARSE TO VERY COARSE, ROUNDED

\* \* \* \*

TEST HOLE NUMBER: 232  
LOCATION: 121N-47W-20CBDA  
LEGAL LOCATION: NE SE NW SW SEC. 20, T. 121 N., R. 47 W.

2 - 8 GRAVEL, FINE TO MEDIUM, ANGULAR TO SUB-  
ANGULAR  
8 - 27 GRAVEL, MEDIUM TO VERY COARSE, SUBANGULAR  
TO SUBROUNDED

\* \* \* \*

TEST HOLE NUMBER: 233  
LOCATION: 121N-47W-20CCAD  
LEGAL LOCATION: SE NE SW SW SEC. 20, T. 121 N., R. 47 W.

11 - 22 SAND, TAN, FINE TO MEDIUM; SATURATED  
22 - 104 SAND, TAN, VERY FINE TO FINE

\* \* \* \*

TEST HOLE NUMBER: 234  
LOCATION: 121N-47W-20CCCC  
LEGAL LOCATION: SW SW SW SW SEC. 20, T. 121 N., R. 47 W.

1 - 13 SAND, COARSE, SUBROUNDED TO SUBANGULAR  
13 - 28 GRAVEL, FINE TO MEDIUM; SAND, COARSE

\* \* \* \*

TEST HOLE NUMBER: 235  
LOCATION: 121N-47W-20CCCD 1  
LEGAL LOCATION: SE SW SW SW SEC. 20, T. 121 N., R. 47 W.

9 - 25 SAND, LIGHT-GRAY, FINE, CLAYEY; SATURATED  
25 - 109 SAND, LIGHT-GRAY, FINE; CLEAN, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 236  
LOCATION: 121N-47W-20CCCD 2  
LEGAL LOCATION: SE SW SW SW SEC. 20, T. 121 N., R. 47 W.

4 - 42 SAND, MEDIUM TO COARSE; GRAVEL, MEDIUM,  
SUBROUNDED

\* \* \* \*

TEST HOLE NUMBER: 237  
LOCATION: 121N-47W-20DADD  
LEGAL LOCATION: SE SE NE SE SEC. 20, T. 121 N., R. 47 W.

0 - 4 SAND, GRAY-BROWN, MEDIUM TO COARSE; SOME  
CLAY; DRY  
4 - 13 SAND, TAN, MEDIUM TO COARSE, SILTY; MOIST

\* \* \* \*

TEST HOLE NUMBER: 238  
LOCATION: 121N-47W-20DBBD  
LEGAL LOCATION: SE NW NW SE SEC. 20, T. 121 N., R. 47 W.

5 - 7 SAND, DARK-GRAY-BROWN, COARSE, CLAYEY;  
SATURATED  
7 - 10 SAND, DARK-BROWN, COARSE, CLAYEY  
10 - 15 SAND, GRAY-BROWN, COARSE, CLAYEY; WITH  
SOME FINE GRAVEL  
15 - 24 SAND, GRAY-BROWN, COARSE; WITH SOME FINE  
GRAVEL; CLEAN  
24 - 45 SAND, BROWN, COARSE, SLIGHTLY CLAYEY;  
WITH SOME FINE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 239  
LOCATION: 121N-47W-20DCAB  
LEGAL LOCATION: NW NE SW SE SEC. 20, T. 121 N., R. 47 W.

5 - 7 SAND, GRAY-BROWN, MEDIUM; SILTY; WITH  
SOME MEDIUM GRAVEL; SLIGHTLY MOIST  
7 - 10 SAND, LIGHT-BROWN, MEDIUM TO COARSE;  
SLIGHTLY MOIST  
10 - 19 SAND, BROWN, VERY COARSE, CLAYEY; PEBBLY,  
SATURATED  
19 - 36 SAND, BROWN, VERY COARSE; WITH SOME FINE  
GRAVEL; CLEAN

\* \* \* \*

TEST HOLE NUMBER: 240  
LOCATION: 121N-47W-20DDBC  
LEGAL LOCATION: SW NW SE SE SEC. 20, T. 121 N., R. 47 W.

9 - 14 SAND, BROWN, COARSE, CLAYEY; SATURATED  
14 - 17 SAND, BROWN, COARSE; SOME FINE GRAVEL  
17 - 24 GRAVEL, FINE; CLEAN

24 - 25 GRAVEL, FINE; SOME COARSE SAND  
25 - 41 SAND, GRAY-BROWN, FINE TO COARSE; CLEAN

\* \* \* \*

TEST HOLE NUMBER: 241  
LOCATION: 121N-47W-20DDCD  
LEGAL LOCATION: SE SW SE SE SEC. 20, T. 121 N., R. 47 W.

12 - 15 SAND, BROWN, FINE TO MEDIUM, CLAYEY  
15 - 20 SAND, BROWN, FINE TO COARSE, CLAYEY; WITH  
SMALL GRAVEL  
20 - 42 SAND AND GRAVEL, SALT AND PEPPER COLORED,  
VERY COARSE SAND, FINE GRAVEL; CLEAN

\* \* \* \*

TEST HOLE NUMBER: 242  
LOCATION: 121N-47W-21AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 21, T. 121 N., R. 47 W.

7 - 10 GRAVEL, BROWN-RED, COARSE

\* \* \* \*

TEST HOLE NUMBER: 243  
LOCATION: 121N-47W-21BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 21, T. 121 N., R. 47 W.

6 - 8 SAND, GRAY, SLIGHTLY CLAYEY; SOME COARSE  
GRAVEL; SATURATED  
8 - 16 SAND, BROWN, MEDIUM-COARSE, SLIGHTLY  
CLAYEY; SOME COARSE GRAVEL  
16 - 24 GRAVEL, COARSE  
24 - 31 GRAVEL; WITH BROWN CLAY, SANDY

\* \* \* \*

TEST HOLE NUMBER: 244  
LOCATION: 121N-47W-21BBCC  
LEGAL LOCATION: SW SW NW NW SEC. 21, T. 121 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

1 - 6 SAND  
6 - 15 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 245

LOCATION: 121N-47W-21CBCB

LEGAL LOCATION: NW SW NW SW SEC. 21, T. 121 N., R. 47 W.

15 - 36 SAND, DARK-GRAY, FINE, VERY CLAYEY;  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 246

LOCATION: 121N-47W-21CCDB

LEGAL LOCATION: NW SE SW SW SEC. 21, T. 121 N., R. 47 W.

24 - 32 GRAVEL, FINE TO COARSE; COARSE SAND,  
CLEAN

\* \* \* \*

TEST HOLE NUMBER: 247

LOCATION: 121N-47W-22CBCB

LEGAL LOCATION: NW SW NW SW SEC. 22, T. 121 N., R. 47 W.

9 - 12 SAND, DARK-GRAY, MEDIUM, CLAYEY;  
SATURATED  
12 - 15 SAND, BROWN, FINE TO MEDIUM; SLIGHTLY  
CLAYEY  
15 - 16 SAND, BROWN, FINE TO MEDIUM; SOME COARSE  
GRAVEL  
16 - 19 SAND, LIGHT-BROWN, VERY COARSE; WITH SOME  
COARSE GRAVEL; VERY SLIGHTLY CLAYEY  
19 - 21 GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 248

LOCATION: 121N-47W-22DCAA

LEGAL LOCATION: NE NE SW SE SEC. 22, T. 121 N., R. 47 W.

3 - 5 SAND, LIGHT-BROWN, MEDIUM TO COARSE;  
OXIDIZED, MOIST  
5 - 15 GRAVEL, GRAY, VERY CLAYEY; UNOXIDIZED,  
SATURATED  
15 - 20 GRAVEL, GRAY, COARSE, CLAYEY; UNOXIDIZED,  
SATURATED  
20 - 63 GRAVEL, GRAY, COARSE; SOME CLAY, WELL-  
SORTED, SATURATED, POSSIBLE CLAY LENS  
AT 45 FEET, VERY CLAYEY FROM 60 FEET

\* \* \* \*

TEST HOLE NUMBER: 249  
LOCATION: 121N-47W-24AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 24, T. 121 N., R. 47 W.

6 - 22 SAND AND GRAVEL, MEDIUM SAND AND MEDIUM  
TO COARSE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 250  
LOCATION: 121N-47W-24AAAB  
LEGAL LOCATION: NW NE NE NE SEC. 24, T. 121 N., R. 47 W.

6 - 22 SAND AND GRAVEL, MEDIUM SAND AND MEDIUM  
TO COARSE GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 251  
LOCATION: 121N-47W-24BACC  
LEGAL LOCATION: SW SW NE NW SEC. 24, T. 121 N., R. 47 W.

0 - 8 SAND AND GRAVEL, DIRTY-RED, MEDIUM TO  
COARSE SAND, COARSE GRAVEL; OXIDIZED,  
MOIST  
8 - 47 SAND AND GRAVEL, DIRTY-RED, COARSE SAND,  
FINE TO MEDIUM GRAVEL, SLIGHTLY CLAYEY;  
OXIDIZED, MOIST, SATURATED AT 43 FEET

\* \* \* \*

TEST HOLE NUMBER: 252  
LOCATION: 121N-47W-24BDCB 2  
LEGAL LOCATION: NW SW SE NW SEC. 24, T. 121 N., R. 47 W.

20 - 24 SAND, BROWN, MEDIUM TO COARSE, CLAYEY;  
OXIDIZED, DRY, LITTLE GRAVEL  
24 - 103 SAND, BROWN, FINE TO COARSE, CLAYEY;  
LITTLE GRAVEL, OXIDIZED, SATURATED,  
BECOMES UNOXIDIZED AND FINE TO MEDIUM  
GRAINED AT 65 FEET

\* \* \* \*

TEST HOLE NUMBER: 253  
LOCATION: 121N-47W-27AABA  
LEGAL LOCATION: NE NW NE NE SEC. 27, T. 121 N., R. 47 W.



2 - 4 SAND, LIGHT-BROWN, FINE TO MEDIUM,  
SLIGHTLY CLAYEY  
4 - 23 SAND, LIGHT-BROWN, MEDIUM TO COARSE,  
WELL-SORTED; CLEAN, SATURATED  
23 - 53 SAND, LIGHT-GRAY, MEDIUM TO COARSE;  
SATURATED

\* \* \* \*

TEST HOLE NUMBER: 254  
LOCATION: 121N-47W-27ABBB  
LEGAL LOCATION: NW NW NW NE SEC. 27, T. 121 N., R. 47 W.

3 - 5 SAND, LIGHT-BROWN, MEDIUM TO COARSE,  
CLAYEY; OXIDIZED, DRY  
8 - 12 GRAVEL, BROWN, COARSE, CLAYEY, WELL-  
SORTED; OXIDIZED, DRY  
12 - 20 SAND, LIGHT-BROWN, FINE TO MEDIUM; SOME  
COARSE GRAVEL, MOIST, DIRTY  
20 - 23 SAND, BROWN, MEDIUM, WELL-SORTED; DAMP,  
OXIDIZED, WITH SOME GRAVEL  
23 - 48 SAND, BROWN TO BROWNISH-GRAY, MEDIUM TO  
COARSE, CLAYEY TO VERY CLAYEY; WITH  
GRAVEL, SATURATED AT 36 FEET, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 255  
LOCATION: 121N-47W-27BABB  
LEGAL LOCATION: NW NW NE NW SEC. 27, T. 121 N., R. 47 W.

10 - 16 SAND AND GRAVEL, BROWN, COARSE SAND,  
MEDIUM GRAVEL, VERY CLAYEY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 256  
LOCATION: 121N-47W-28AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 28, T. 121 N., R. 47 W.

5 - 6 GRAVEL, COARSE; WITH ORANGE-BROWN CLAY  
6 - 10 GRAVEL, MEDIUM TO COARSE; WITH MEDIUM  
SAND AND COARSE ORANGE SILT; MOIST  
10 - 15 SAND, FINE; WITH COARSE ORANGE-BROWN SILT  
15 - 19 SAND, FINE; WITH COARSE ORANGE-BROWN SILT  
AND SOME MEDIUM GRAVEL; MOIST  
19 - 21 SAND, BROWN, COARSE; WITH FINE GRAVEL;  
MOIST  
21 - 30 SAND, ORANGE-BROWN, COARSE; WITH FINE

GRAVEL; SLIGHTLY CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 257  
LOCATION: 121N-47W-28BCBC  
LEGAL LOCATION: SW NW SW NW SEC. 28, T. 121 N., R. 47 W.

0 -	5	SAND, TAN, FINE TO COARSE, SILTY; DRY
5 -	13	SAND, TAN, COARSE, SILTY; SOME FINE GRAVEL; MOIST
13 -	20	SAND, ORANGE-BROWN, COARSE, SILTY; SOME FINE GRAVEL; SATURATED
20 -	37	GRAVEL, FINE TO COARSE; SOME MEDIUM SAND; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 258  
LOCATION: 121N-47W-28DBBD  
LEGAL LOCATION: SE NW NW SE SEC. 28, T. 121 N., R. 47 W.

5 -	10	SAND, DARK-BROWN, COARSE; WITH MEDIUM GRAVEL
10 -	15	SAND, GRAY, COARSE, CLAYEY
15 -	20	SAND, GRAY, MEDIUM, CLAYEY
20 -	26	SAND, GRAY, COARSE, CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 259  
LOCATION: 121N-47W-28DCDD  
LEGAL LOCATION: SE SE SW SE SEC. 28, T. 121 N., R. 47 W.

11 -	22	SAND, GRAY-BROWN, COARSE, CLAYEY; SATURATED
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\* \* \* \*

TEST HOLE NUMBER: 260  
LOCATION: 121N-47W-28DDAA  
LEGAL LOCATION: NE NE SE SE SEC. 28, T. 121 N., R. 47 W.

0 -	30	SAND, BROWN, COARSE; SOME GRAVEL, DRY, OXIDIZED
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\* \* \* \*

TEST HOLE NUMBER: 261  
LOCATION: 121N-47W-29AAAA 1  
LEGAL LOCATION: NE NE NE NE SEC. 29, T. 121 N., R. 47 W.

0 -	1	GRAVEL, DARK-BROWN, MEDIUM TO COARSE, ROUNDED
3 -	9	GRAVEL, FINE TO MEDIUM; VERY COARSE SAND, SUBROUNDED
15 -	33	GRAVEL, MEDIUM TO COARSE, ROUNDED

\* \* \* \*

TEST HOLE NUMBER: 262  
LOCATION: 121N-47W-29AAAA 2  
LEGAL LOCATION: NE NE NE NE SEC. 29, T. 121 N., R. 47 W.

1 -	8	SAND, MEDIUM TO COARSE, SUBROUNDED TO ROUNDED
11 -	15	SAND, MEDIUM TO COARSE; GRAVEL, FINE TO MEDIUM
15 -	16	GRAVEL, COARSE TO VERY COARSE, ROUNDED
17 -	18	GRAVEL, COARSE TO VERY COARSE, ROUNDED
18 -	79	SAND, DARK-GRAY, MEDIUM TO COARSE, SILTY; SOME SHALE CHIPS

\* \* \* \*

TEST HOLE NUMBER: 263  
LOCATION: 121N-47W-29BABB  
LEGAL LOCATION: NW NW NE NW SEC. 29, T. 121 N., R. 47 W.

1 -	5	SAND, VERY COARSE; TO FINE GRAVEL, SUB- ROUNDED
5 -	16	GRAVEL, COARSE TO VERY COARSE, SUBROUNDED
16 -	46	SAND, VERY FINE TO COARSE, SUBROUNDED

\* \* \* \*

TEST HOLE NUMBER: 264  
LOCATION: 121N-47W-29BCAA  
LEGAL LOCATION: NE NE SW NW SEC. 29, T. 121 N., R. 47 W.

8 -	15	SAND, COARSE, SUBROUNDED; CLEAN
15 -	18	GRAVEL, MEDIUM, SUBROUNDED; CLEAN
18 -	25	SAND, GRAY, FINE TO VERY FINE, SILTY, SUBROUNDED

\* \* \* \*

TEST HOLE NUMBER: 265  
LOCATION: 121N-47W-30AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 30, T. 121 N., R. 47 W.

0 - 155 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 266  
LOCATION: 121N-47W-30AADB  
LEGAL LOCATION: NW SE NE NE SEC. 30, T. 121 N., R. 47 W.

2 - 4 SAND, VERY COARSE, SUBANGULAR  
4 - 31 GRAVEL, COARSE, SUBROUNDED; CLEAN

\* \* \* \*

TEST HOLE NUMBER: 267  
LOCATION: 121N-47W-30ACBB  
LEGAL LOCATION: NW NW SW NE SEC. 30, T. 121 N., R. 47 W.

4 - 16 GRAVEL, VERY COARSE  
16 - 26 GRAVEL, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 268  
LOCATION: 121N-47W-30BCCC  
LEGAL LOCATION: SW SW SW NW SEC. 30, T. 121 N., R. 47 W.

23 - 55 SAND, GRAY, FINE TO MEDIUM, SUBROUNDED;  
VERY SHALEY

\* \* \* \*

TEST HOLE NUMBER: 269  
LOCATION: 121N-47W-30DAAD  
LEGAL LOCATION: SE NE NE SE SEC. 30, T. 121 N., R. 47 W.

0 - 24 SAND, REDDISH-BROWN, MEDIUM TO COARSE;  
LITTLE CLAY, OXIDIZED, DRY  
24 - 25 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,  
COARSE GRAVEL; SOME CLAY, OXIDIZED,  
MOIST  
25 - 58 SAND, LIGHT-BROWN, COARSE, GRAVELLY;  
SOME CLAY, OXIDIZED, MOIST, BECOMES  
UNOXIDIZED AT 53 FEET

\* \* \* \*

TEST HOLE NUMBER: 270  
LOCATION: 121N-47W-32BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 32, T. 121 N., R. 47 W.

12 - 38 GRAVEL, YELLOW-BROWN, MEDIUM TO COARSE;  
OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 271  
LOCATION: 121N-47W-32DDDC  
LEGAL LOCATION: SW SE SE SE SEC. 32, T. 121 N., R. 47 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

20 - 42 SAND, YELLOW-BROWN, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 272  
LOCATION: 121N-47W-33AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 33, T. 121 N., R. 47 W.

2 - 5 SAND AND GRAVEL, FINE TO COARSE  
20 - 24 SAND, GRAY, MEDIUM; NUMEROUS CLAM  
SHELLS AND SOME COAL

\* \* \* \*

TEST HOLE NUMBER: 273  
LOCATION: 121N-47W-33BAAA  
LEGAL LOCATION: NE NE NE NW SEC. 33, T. 121 N., R. 47 W.

10 - 13 SAND

\* \* \* \*

TEST HOLE NUMBER: 274  
LOCATION: 121N-47W-33DBCC  
LEGAL LOCATION: SW SW NW SE SEC. 33, T. 121 N., R. 47 W.

3 - 5 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 275

LOCATION: 121N-47W-33DCCC

LEGAL LOCATION: SW SW SW SE SEC. 33, T. 121 N., R. 47 W.

18 - 43 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 276

LOCATION: 121N-47W-34DAAA

LEGAL LOCATION: NE NE NE SE SEC. 34, T. 121 N., R. 47 W.

0 - 6 SAND, TAN-BROWN, MEDIUM TO COARSE; SOME  
PEBBLES, SOME CLAY, OXIDIZED, MOIST  
6 - 10 GRAVEL, DARK-BROWN, MEDIUM, SANDY; VERY  
MOIST, OXIDIZED  
10 - 15 GRAVEL, DARK-BROWN, MEDIUM, SANDY,  
CLAYEY; VERY MOIST, OXIDIZED  
15 - 20 GRAVEL, DARK-BROWN, MEDIUM, SANDY; SOME  
CLAY, OXIDIZED, SATURATED  
20 - 28 SAND, GRAY, FINE TO MEDIUM, CLAYEY; FEW  
PEBBLES, UNOXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 277

LOCATION: 121N-47W-34DCCC

LEGAL LOCATION: SW SW SW SE SEC. 34, T. 121 N., R. 47 W.

5 - 11 SAND, TAN-BROWN, FINE TO MEDIUM, CLAYEY,  
VERY SILTY; MOIST, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 278

LOCATION: 121N-47W-36AAAA

LEGAL LOCATION: NE NE NE NE SEC. 36, T. 121 N., R. 47 W.

PRELIMINARY LOG -- SUBJECT TO CHANGE

7 - 12 SAND, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 279

LOCATION: 121N-47W-36BBBB

LEGAL LOCATION: NW NW NW NW SEC. 36, T. 121 N., R. 47 W.

21 - 43 SAND AND GRAVEL, GRAY FROM 25 FEET,  
MEDIUM TO COARSE; NUMEROUS LIMESTONE

PEBBLES

\* \* \* \*

TEST HOLE NUMBER: 280  
LOCATION: 121N-47W-36BBDA  
LEGAL LOCATION: NE SE NW NW SEC. 36, T. 121 N., R. 47 W.

12 - 22 GRAVEL, YELLOW  
22 - 58 GRAVEL; COARSE SAND

\* \* \* \*

TEST HOLE NUMBER: 281  
LOCATION: 121N-48W-02CDCB  
LEGAL LOCATION: NW SW SE SW SEC. 02, T. 121 N., R. 48 W.

15 - 24 GRAVEL, DARK-BROWN, MEDIUM TO COARSE,  
CLAYEY, SILTY, SANDY; SLIGHTLY  
OXIDIZED, NEAR SATURATION

\* \* \* \*

TEST HOLE NUMBER: 282  
LOCATION: 121N-48W-02DCCA  
LEGAL LOCATION: NE SW SW SE SEC. 02, T. 121 N., R. 48 W.

10 - 22 SAND, TAN-BROWN, MEDIUM, CLAYEY; DAMP,  
OXIDIZED, SOME FINE GRAVEL  
22 - 28 SAND, TAN-BROWN, MEDIUM TO COARSE,  
CLAYEY; OXIDIZED, MOIST, FEW PEBBLES

\* \* \* \*

TEST HOLE NUMBER: 283  
LOCATION: 121N-48W-03ABBB 1  
LEGAL LOCATION: NW NW NW NE SEC. 03, T. 121 N., R. 48 W.

0 - 10 GRAVEL, LIGHT-BROWN, COARSE, SILTY;  
OXIDIZED, DRY, POORLY SORTED, DRILLING  
BECAME TOO DIFFICULT, ABANDONED HOLE

\* \* \* \*

TEST HOLE NUMBER: 284  
LOCATION: 121N-48W-03ABBB 2  
LEGAL LOCATION: NW NW NW NE SEC. 03, T. 121 N., R. 48 W.

1 - 7 GRAVEL, BROWN, VERY CLAYEY; OXIDIZED,  
DAMP, COULD NOT CONTINUE, ABANDONED  
HOLE

\* \* \* \*

TEST HOLE NUMBER: 285  
LOCATION: 121N-48W-03BABB  
LEGAL LOCATION: NW NW NE NW SEC. 03, T. 121 N., R. 48 W.

21 - 25 SAND, DARK-GRAY, FINE, CLAYEY; SATURATED,  
UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 286  
LOCATION: 121N-48W-03BBCB  
LEGAL LOCATION: NW SW NW NW SEC. 03, T. 121 N., R. 48 W.

5 - 9 SAND AND GRAVEL, TAN-BROWN, COARSE SAND,  
MEDIUM GRAVEL, VERY SILTY; OXIDIZED,  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 287  
LOCATION: 121N-48W-03DCDD  
LEGAL LOCATION: SE SE SW SE SEC. 03, T. 121 N., R. 48 W.

5 - 9 SAND, TAN-BROWN, MEDIUM TO COARSE,  
CLAYEY; OXIDIZED, MOIST (TILL)  
9 - 16 SAND, TAN-BROWN, MEDIUM TO COARSE,  
EXTREMELY CLAYEY; OXIDIZED, SATURATED  
16 - 20 SAND, BROWN, MEDIUM TO COARSE, CLAYEY;  
OXIDIZED, SATURATED, FEW PEBBLES  
(TILL)  
20 - 26 SAND, DARK-GRAY, FINE TO MEDIUM, CLAYEY,  
SILTY; UNOXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 288  
LOCATION: 121N-48W-10AABD  
LEGAL LOCATION: SE NW NE NE SEC. 10, T. 121 N., R. 48 W.

11 - 20 SAND AND GRAVEL, BROWN, FINE TO MEDIUM  
SAND, FINE TO MEDIUM GRAVEL, CLAYEY;  
OXIDIZED



\* \* \* \*

TEST HOLE NUMBER: 289  
LOCATION: 121N-48W-13ABBA  
LEGAL LOCATION: NE NW NW NE SEC. 13, T. 121 N., R. 48 W.

20 - 31 GRAVEL, GRAY, MEDIUM TO COARSE, SANDY,  
ROCKY, CLAYEY; SATURATED

\* \* \* \*

TEST HOLE NUMBER: 290  
LOCATION: 121N-48W-20AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 20, T. 121 N., R. 48 W.  
PRELIMINARY LOG -- SUBJECT TO CHANGE

14 - 23 SAND, MEDIUM, WELL-SORTED

\* \* \* \*

TEST HOLE NUMBER: 291  
LOCATION: 121N-48W-20BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 20, T. 121 N., R. 48 W.

17 - 20 SAND, FINE TO MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 292  
LOCATION: 121N-48W-21DDDC  
LEGAL LOCATION: SW SE SE SE SEC. 21, T. 121 N., R. 48 W.

23 - 29 SAND, COARSE

\* \* \* \*

TEST HOLE NUMBER: 293  
LOCATION: 121N-48W-24DDDA  
LEGAL LOCATION: NE SE SE SE SEC. 24, T. 121 N., R. 48 W.

12 - 15 SAND, LIGHT-BROWN, MEDIUM TO COARSE,  
CLAYEY

\* \* \* \*

TEST HOLE NUMBER: 294  
LOCATION: 121N-48W-25BDBA

LEGAL LOCATION: NE NW SE NW SEC. 25, T. 121 N., R. 48 W.

2 - 15 SAND, BROWN, FINE TO MEDIUM, SUBROUNDED;  
SUBSPHERICAL, MOSTLY QUARTZ

\* \* \* \*

TEST HOLE NUMBER: 295  
LOCATION: 121N-48W-29DBBC  
LEGAL LOCATION: SW NW NW SE SEC. 29, T. 121 N., R. 48 W.

24 - 45 SAND, COLORED

\* \* \* \*

TEST HOLE NUMBER: 296  
LOCATION: 121N-48W-32BBBB  
LEGAL LOCATION: NW NW NW NW SEC. 32, T. 121 N., R. 48 W.

14 - 17 SAND, FINE TO MEDIUM; WITH CLAY

\* \* \* \*

TEST HOLE NUMBER: 297  
LOCATION: 121N-48W-36AAAA  
LEGAL LOCATION: NE NE NE NE SEC. 36, T. 121 N., R. 48 W.

5 - 15 SAND AND GRAVEL, GRAY-BROWN, MEDIUM TO  
COARSE SAND, FINE GRAVEL, VERY CLAYEY;  
SATURATED AT 9 FEET

\* \* \* \*

TEST HOLE NUMBER: 298  
LOCATION: 121N-49W-02CBBB  
LEGAL LOCATION: NW NW NW SW SEC. 02, T. 121 N., R. 49 W.

12 - 18 SAND, BROWN, FINE TO COARSE SAND;  
OXIDIZED, SATURATED

18 - 68 SAND, GRAY, FINE TO MEDIUM SAND, CLAYEY;  
UNOXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 299  
LOCATION: 121N-49W-03BBBC  
LEGAL LOCATION: SW NW NW NW SEC. 03, T. 121 N., R. 49 W.

13 - 21 SAND, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 300  
LOCATION: 121N-49W-06CCBB  
LEGAL LOCATION: NW NW SW SW SEC. 06, T. 121 N., R. 49 W.

5 - 7 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE GRAVEL, VERY CLAYEY; MOIST,  
OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 301  
LOCATION: 121N-49W-18BBCB  
LEGAL LOCATION: NW SW NW NW SEC. 18, T. 121 N., R. 49 W.

4 - 8 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE GRAVEL; MOIST, OXIDIZED  
12 - 20 SAND, BROWN, FINE TO COARSE, SLIGHTLY  
CLAYEY; SATURATED, OXIDIZED  
20 - 25 SAND, GRAY, FINE TO COARSE, VERY CLAYEY;  
SATURATED, UNOXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 302  
LOCATION: 121N-49W-30DDAD  
LEGAL LOCATION: SE NE SE SE SEC. 30, T. 121 N., R. 49 W.

3 - 11 SAND, BROWN, SILTY, CLAYEY; SOME PEBBLES,  
OXIDIZED, DRY

\* \* \* \*

TEST HOLE NUMBER: 303  
LOCATION: 121N-49W-31BCBA  
LEGAL LOCATION: NE NW SW NW SEC. 31, T. 121 N., R. 49 W.

2 - 10 SAND AND GRAVEL, YELLOW

\* \* \* \*

TEST HOLE NUMBER: 304  
LOCATION: 121N-50W-02CBCB

LEGAL LOCATION: NW SW NW SW SEC. 02, T. 121 N., R. 50 W.

4 - 10 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE TO MEDIUM GRAVEL, VERY  
CLAYEY; SATURATED, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 305  
LOCATION: 121N-50W-02DDDB  
LEGAL LOCATION: NW SE SE SE SEC. 02, T. 121 N., R. 50 W.

3 - 9 SAND AND GRAVEL, BROWN, SILTY; SOME CLAY,  
OXIDIZED, DRY  
9 - 20 SAND, LIGHT-BROWN, PEBBLY, VERY CLAYEY;  
OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 306  
LOCATION: 121N-50W-11DCDC  
LEGAL LOCATION: SW SE SW SE SEC. 11, T. 121 N., R. 50 W.

0 - 6 SAND AND GRAVEL, TAN-BROWN, CLAYEY; DRY,  
OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 307  
LOCATION: 121N-50W-14AADD  
LEGAL LOCATION: SE SE NE NE SEC. 14, T. 121 N., R. 50 W.

0 - 2 SAND, LIGHT-BROWN, SILTY, PEBBLY; DRY,  
OXIDIZED  
6 - 20 SAND AND GRAVEL, LIGHT-BROWN, VERY  
CLAYEY, PEBBLY; OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 308  
LOCATION: 121N-50W-24DDDD  
LEGAL LOCATION: SE SE SE SE SEC. 24, T. 121 N., R. 50 W.

1 - 9 GRAVEL, RED-BROWN, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 309  
LOCATION: 121N-51W-04DDDC R  
LEGAL LOCATION: SW SE SE SE SEC. 04, T. 121 N., R. 51 W.

1 - 5 GRAVEL, BROWN, SANDY, CLAYEY; OXIDIZED,  
DRY

\* \* \* \*

TEST HOLE NUMBER: 310  
LOCATION: 121N-51W-05BAAD R  
LEGAL LOCATION: SE NE NE NW SEC. 05, T. 121 N., R. 51 W.

10 - 18 SAND AND GRAVEL, LIGHT-TAN-BROWN, FINE TO  
COARSE SAND, FINE GRAVEL, VERY CLAYEY;  
SATURATED, OXIDIZED  
18 - 30 SAND, LIGHT-BROWN, MEDIUM, CLAYEY;  
SATURATED, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 311  
LOCATION: 121N-51W-06BBCB R  
LEGAL LOCATION: NW SW NW NW SEC. 06, T. 121 N., R. 51 W.

0 - 6 SAND, TAN-BROWN, VERY CLAYEY, VERY SILTY;  
MOIST, OXIDIZED  
6 - 10 SAND, TAN-BROWN, CLAYEY, SILTY, PEBBLY;  
WET, OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 312  
LOCATION: 121N-51W-15DCCC R  
LEGAL LOCATION: SW SW SW SE SEC. 15, T. 121 N., R. 51 W.

1 - 3 GRAVEL, BROWN, MEDIUM, CLAYEY; OXIDIZED,  
MOIST

\* \* \* \*

TEST HOLE NUMBER: 313  
LOCATION: 121N-51W-19ABAB R  
LEGAL LOCATION: NW NE NW NE SEC. 19, T. 121 N., R. 51 W.

2 - 10 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE TO MEDIUM GRAVEL, VERY

CLAYEY; OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 314  
LOCATION: 121N-51W-23DCDD  
LEGAL LOCATION: SE SE SW SE SEC. 23, T. 121 N., R. 51 W.

0 - 5 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE TO COARSE GRAVEL, CLAYEY;  
OXIDIZED, MOIST

\* \* \* \*

TEST HOLE NUMBER: 315  
LOCATION: 121N-51W-33BCBB R  
LEGAL LOCATION: NW NW SW NW SEC. 33, T. 121 N., R. 51 W.

5 - 9 SAND, BROWN, FINE TO COARSE, VERY CLAYEY;  
OXIDIZED, SATURATED  
9 - 23 SAND, TAN-BROWN, FINE, VERY CLAYEY;  
OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 316  
LOCATION: 121N-51W-34DADD  
LEGAL LOCATION: SE SE NE SE SEC. 34, T. 121 N., R. 51 W.

1 - 35 SAND AND GRAVEL, TAN-BROWN, FINE TO  
COARSE SAND, FINE TO MEDIUM GRAVEL,  
CLAYEY; MOIST, OXIDIZED, SATURATED AT  
5 FEET

\* \* \* \*

TEST HOLE NUMBER: 317  
LOCATION: 121N-51W-35BBAB 1  
LEGAL LOCATION: NW NE NW NW SEC. 35, T. 121 N., R. 51 W.

2 - 15 SAND AND GRAVEL, TAN-BROWN, FINE TO  
COARSE SAND, FINE GRAVEL, VERY CLAYEY;  
MOIST, OXIDIZED, SATURATED AT 8 FEET,  
HIT ROCK, ABANDONED HOLE

\* \* \* \*

TEST HOLE NUMBER: 318

LOCATION: 121N-51W-35BBAB 2  
LEGAL LOCATION: NW NE NW NW SEC. 35, T. 121 N., R. 51 W.

2 - 30 SAND AND GRAVEL, TAN-BROWN, FINE TO  
COARSE SAND, FINE GRAVEL, VERY CLAYEY;  
MOIST, OXIDIZED, SATURATED AT 8 FEET

\* \* \* \*

TEST HOLE NUMBER: 319  
LOCATION: 121N-52W-01BAAD R  
LEGAL LOCATION: SE NE NE NW SEC. 01, T. 121 N., R. 52 W.

2 - 26 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE TO COARSE GRAVEL, CLAYEY;  
OXIDIZED, MOIST, SATURATED AT 16 FEET

\* \* \* \*

TEST HOLE NUMBER: 320  
LOCATION: 121N-52W-01CBCB R  
LEGAL LOCATION: NW SW NW SW SEC. 01, T. 121 N., R. 52 W.

3 - 13 GRAVEL, COARSE  
13 - 23 SAND, MEDIUM

\* \* \* \*

TEST HOLE NUMBER: 321  
LOCATION: 121N-52W-02ADDA R  
LEGAL LOCATION: NE SE SE NE SEC. 02, T. 121 N., R. 52 W.

0 - 23 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 322  
LOCATION: 121N-52W-02BAAA R  
LEGAL LOCATION: NE NE NE NW SEC. 02, T. 121 N., R. 52 W.

0 - 15 SAND AND GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 323  
LOCATION: 121N-52W-02CCCC R  
LEGAL LOCATION: SW SW SW SW SEC. 02, T. 121 N., R. 52 W.

4 - 16 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 324  
LOCATION: 121N-52W-03CCBB R  
LEGAL LOCATION: NW NW SW SW SEC. 03, T. 121 N., R. 52 W.

2 - 11 SAND AND GRAVEL, MEDIUM TO COARSE  
13 - 21 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 325  
LOCATION: 121N-52W-03CCCC R  
LEGAL LOCATION: SW SW SW SW SEC. 03, T. 121 N., R. 52 W.

1 - 16 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 326  
LOCATION: 121N-52W-04BBAB R  
LEGAL LOCATION: NW NE NW NW SEC. 04, T. 121 N., R. 52 W.

1 - 40 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 327  
LOCATION: 121N-52W-08AAAA R  
LEGAL LOCATION: NE NE NE NE SEC. 08, T. 121 N., R. 52 W.

2 - 31 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 328  
LOCATION: 121N-52W-08DCCC R  
LEGAL LOCATION: SW SW SW SE SEC. 08, T. 121 N., R. 52 W.

2 - 20 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*



TEST HOLE NUMBER: 329  
LOCATION: 121N-52W-08DDDD R  
LEGAL LOCATION: SE SE SE SE SEC. 08, T. 121 N., R. 52 W.

1 - 34 SAND, MEDIUM TO COARSE; MEDIUM GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 330  
LOCATION: 121N-52W-13BBBA R  
LEGAL LOCATION: NE NW NW NW SEC. 13, T. 121 N., R. 52 W.

22 - 27 SAND AND GRAVEL, BROWN, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 331  
LOCATION: 121N-52W-16DCCC R  
LEGAL LOCATION: SW SW SW SE SEC. 16, T. 121 N., R. 52 W.

0 - 5 SAND AND GRAVEL, LIGHT-TAN-BROWN, FINE  
TO COARSE SAND, FINE GRAVEL, CLAYEY;  
OXIDIZED, SLIGHTLY MOIST

5 - 24 SAND AND GRAVEL, BROWN, FINE TO COARSE  
SAND, FINE TO MEDIUM GRAVEL, CLAYEY;  
OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 332  
LOCATION: 121N-52W-17BBBC R  
LEGAL LOCATION: SW NW NW NW SEC. 17, T. 121 N., R. 52 W.

4 - 30 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 333  
LOCATION: 121N-52W-18DDBB R  
LEGAL LOCATION: NW NW SE SE SEC. 18, T. 121 N., R. 52 W.

10 - 40 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 334  
LOCATION: 121N-52W-19BBBA R

LEGAL LOCATION: NE NW NW NW SEC. 19, T. 121 N., R. 52 W.

1 - 5 SAND, LIGHT-BROWN, SILTY, PEBBLY; DRY,  
OXIDIZED  
5 - 12 GRAVEL, BROWN, SILTY, SANDY; OXIDIZED,  
DRY  
12 - 21 SAND AND GRAVEL, RED-BROWN, SILTY; DRY,  
OXIDIZED

\* \* \* \*

TEST HOLE NUMBER: 335  
LOCATION: 121N-52W-19BCCA R  
LEGAL LOCATION: NE SW SW NW SEC. 19, T. 121 N., R. 52 W.

3 - 10 SAND, TAN-BROWN, CLAYEY, SILTY; OXIDIZED,  
WET

\* \* \* \*

TEST HOLE NUMBER: 336  
LOCATION: 121N-52W-19CCBA R  
LEGAL LOCATION: NE NW SW SW SEC. 19, T. 121 N., R. 52 W.

0 - 3 SAND AND GRAVEL, LIGHT-BROWN; OXIDIZED,  
DRY  
3 - 10 GRAVEL, LIGHT-BROWN; SOME SAND, OXIDIZED,  
DRY  
10 - 15 GRAVEL, BROWN, CLAYEY; SOME SAND, DRY,  
OXIDIZED, HIT ROCK, ABANDONED HOLE

\* \* \* \*

TEST HOLE NUMBER: 337  
LOCATION: 121N-52W-20BBBA R  
LEGAL LOCATION: NE NW NW NW SEC. 20, T. 121 N., R. 52 W.

14 - 15 SAND AND GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 338  
LOCATION: 121N-52W-20BCCB R  
LEGAL LOCATION: NW SW SW NW SEC. 20, T. 121 N., R. 52 W.

18 - 33 SAND AND GRAVEL, DARK-GRAY, COARSE SAND,  
FINE GRAVEL, CLAYEY; UNOXIDIZED,

SATURATED

\* \* \* \*

TEST HOLE NUMBER: 339  
LOCATION: 121N-52W-20CBBB R  
LEGAL LOCATION: NW NW NW SW SEC. 20, T. 121 N., R. 52 W.

3 - 10 SAND AND GRAVEL, TAN-BROWN, FINE TO  
COARSE SAND, FINE TO MEDIUM GRAVEL,  
CLAYEY; MOIST, OXIDIZED  
10 - 27 SAND AND GRAVEL, TAN-BROWN, FINE TO  
COARSE SAND, FINE GRAVEL, CLAYEY;  
OXIDIZED, SATURATED

\* \* \* \*

TEST HOLE NUMBER: 340  
LOCATION: 121N-52W-21BBBB R  
LEGAL LOCATION: NW NW NW NW SEC. 21, T. 121 N., R. 52 W.

2 - 19 SAND, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 341  
LOCATION: 121N-52W-21CCCC R  
LEGAL LOCATION: SW SW SW SW SEC. 21, T. 121 N., R. 52 W.

2 - 4 GRAVEL, COARSE  
4 - 6 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 342  
LOCATION: 121N-52W-22CCCC R  
LEGAL LOCATION: SW SW SW SW SEC. 22, T. 121 N., R. 52 W.

4 - 11 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 343  
LOCATION: 121N-52W-23BBBC R  
LEGAL LOCATION: SW NW NW NW SEC. 23, T. 121 N., R. 52 W.

1 - 9 SAND AND GRAVEL, COARSE

\* \* \* \*

TEST HOLE NUMBER: 344  
LOCATION: 121N-52W-28BBBB R  
LEGAL LOCATION: NW NW NW NW SEC. 28, T. 121 N., R. 52 W.

2 - 3 GRAVEL

\* \* \* \*

TEST HOLE NUMBER: 345  
LOCATION: 121N-52W-29CBCC R  
LEGAL LOCATION: SW SW NW SW SEC. 29, T. 121 N., R. 52 W.

2 - 28 SAND AND GRAVEL, MEDIUM TO COARSE

\* \* \* \*

TEST HOLE NUMBER: 346  
LOCATION: 121N-52W-33AAAA R  
LEGAL LOCATION: NE NE NE NE SEC. 33, T. 121 N., R. 52 W.

1 - 7 SAND AND GRAVEL  
7 - 45 SAND, COARSE

\* \* \* \*

TEST HOLE NUMBER: 347  
LOCATION: 121N-52W-33DDBB 2R  
LEGAL LOCATION: NW NW SE SE SEC. 33, T. 121 N., R. 52 W.

5 - 14 GRAVEL

\* \* \* \*

TABLE 2. List of sand and gravel pits in Grant County, South Dakota, on file at the Department of Transportation, Division of Highways, Pierre, South Dakota.

EXPLANATION:

Column Description:

- a. Landowner and address
- b. Location - given in half and 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: Russel Peterson - Reville
- b. Location: SW 1/4 sec. 7, T. 118 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 2

- a. Landowner: Gilbert and Beryl Pillntzke - Reville
- b. Location: SE 1/4 sec. 8, T. 118 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 4
- e. Overburden thickness (ft): 2

Pit 3

- a. Landowner: Harry Tucholke - Reville
- b. Location: NE 1/4 sec. 17, T. 118 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 4

- a. Landowner: John Callahan - Reville
- b. Location: NW 1/4 sec. 17, T. 118 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 8
- e. Overburden thickness (ft): 1.5

Pit 5

- a. Landowner: William Benshoof - Revillo
- b. Location: NE 1/4 sec. 18, T. 118 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 6

- a. Landowner: Leo Ahartz
- b. Location: SE 1/4 sec. 31, T. 118 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 7

- a. Landowner: J. Foss
- b. Location: SE 1/4 sec. 34, T. 118 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 8

- a. Landowner: Walt Lindberg
- b. Location: SE 1/4 SE 1/4 sec. 5, T. 118 N., R. 50 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 9

- a. Landowner: Donald Misener - Strandberg
- b. Location: NE 1/4 SW 1/4 sec. 16, T. 118 N., R. 50 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 10

- a. Landowner: Donald Misener - Strandberg
- b. Location: NW 1/4 SE 1/4 sec. 16, T. 118 N., R. 50 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 11

- a. Landowner: August and F. Lumbert
- b. Location: SW 1/4 sec. 23, T. 118 N., R. 50 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 12

- a. Landowner: Erna Adleman - Milbank
- b. Location: NW 1/4 sec. 4, T. 119 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 8
- e. Overburden thickness (ft): 3

Pit 13

- a. Landowner: Albert Radke
- b. Location: SE 1/4 sec. 5, T. 119 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 14

- a. Landowner: C. F. Anderson - Watertown
- b. Location: NE 1/4 NE 1/4 sec. 7, T. 119 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 10
- e. Overburden thickness (ft): 1

Pit 15

- a. Landowner: Ralph Leddy - Twin Brooks
- b. Location: N 1/2 NE 1/4 sec. 8, T. 119 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 16

- a. Landowner: Albert Rehn - Twin Brooks
- b. Location: NW 1/4 sec. 8, T. 119 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 8
- e. Overburden thickness (ft): 2

Pit 17

- a. Landowner: Ralph Leddy - Twin Brooks
- b. Location: N 1/2 NW 1/4 sec. 8, T. 119 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 18

- a. Landowner: Arly Jacobs - Milbank
- b. Location: N 1/2 NW 1/4 sec. 8, T. 119 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 19

- a. Landowner: Albert Rehn - Twin Brooks
- b. Location: SW 1/4 sec. 8, T. 119 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 20

- a. Landowner: Estella Lundquist - Stockholm
- b. Location: SE 1/4 sec. 17, T. 119 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 7.2
- e. Overburden thickness (ft): 1.6

Pit 21

- a. Landowner: Ossiah Johnson - Labolt
- b. Location: SW 1/4 sec. 27, T. 119 N., R. 49 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 11
- e. Overburden thickness (ft): 1

Pit 22

- a. Landowner: F. Strege - Milbank
- b. Location: NW 1/4 sec. 18, T. 120 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 8
- e. Overburden thickness (ft): 1

Pit 23

- a. Landowner: Dakota Granite - Milbank
- b. Location: N 1/2 SW 1/4 sec. 18, T. 120 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 24

- a. Landowner: Grant County - Milbank
- b. Location: NW 1/4 NW 1/4 sec. 33, T. 120 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 25

- a. Landowner: W. M. Connor - Milbank
- b. Location: SW 1/4 sec. 3, T. 120 N., R. 50 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----



Pit 26

- a. Landowner: ----
- b. Location: NW 1/4 sec. 10, T. 120 N., R. 50 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 27

- a. Landowner: Kathryn and Bernard T. Lee - Summit
- b. Location: W 1/2 SW 1/4 sec. 6, T. 120 N., R. 51 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 28

- a. Landowner: Grant County - Milbank
- b. Location: S 1/2 NE 1/4 sec. 8, T. 120 N., R. 51 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 29

- a. Landowner: Eugene Heuer - Summit
- b. Location: SE 1/4 sec 8, T. 120 N., R. 51 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 30

- a. Landowner: Clayton Meyers - Summit
- b. Location: SW 1/4 sec. 9, T. 120 N., R. 51 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 31

- a. Landowner: Grant County - Milbank
- b. Location: SE 1/4 NE 1/4 sec. 11, T. 120 N., R. 51 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 32

- a. Landowner: G. A. Reynolds
- b. Location: SW 1/4 sec. 2, T. 120 N., R. 52 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 10
- e. Overburden thickness (ft): 2

Pit 33

- a. Landowner: H. I. Markve - Ortley
- b. Location: SE 1/4 SW 1/4 sec. 20, T. 120 N., R. 52 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 14
- e. Overburden thickness (ft): 1

Pit 34

- a. Landowner: ----
- b. Location: SW 1/4 SE 1/4 sec. 20, T. 120 N., R. 52 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 12
- e. Overburden thickness (ft): 1.5

Pit 35

- a. Landowner: Clayton and Marilyn Heuer - Summit
- b. Location: SW 1/4 sec. 27, T. 120 N., R. 52 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 36

- a. Landowner: ----
- b. Location: NE 1/4 sec. 7, T. 121 N., R. 46 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 37

- a. Landowner: H. Leonard - Big Stone City
- b. Location: SW 1/4 sec. 18, T. 121 N., R. 46 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 38

- a. Landowner: Roy Hoffback - Big Stone City
- b. Location: NE 1/4 sec. 19, T. 121 N., R. 46 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 8
- e. Overburden thickness (ft): 2

Pit 39

- a. Landowner: Francis Korstjens - Big Stone City
- b. Location: NE 1/4 sec. 17, T. 121 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 40

- a. Landowner: Francis Korstjens - Big Stone City
- b. Location: SW 1/4 sec. 17, T. 121 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 41

- a. Landowner: Francis Korstjens - Big Stone City
- b. Location: SE 1/4 sec. 17, T. 121 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 42

- a. Landowner: Duane Trapp - Milbank
- b. Location: NW 1/4 sec. 20, T. 121 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 43

- a. Landowner: Lena Stamp - Ortonville, Minnesota
- b. Location: W 1/2 NW 1/4 sec. 24, T. 121 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 44

- a. Landowner: Lena Stamp - Ortonville, Minnesota
- b. Location: NW 1/4 SW 1/4 sec. 27, T. 121 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 45

- a. Landowner: Mabelle Upton - Aberdeen
- b. Location: SW 1/4 SE 1/4 sec. 27, T. 121 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 98
- e. Overburden thickness (ft): 2.1

Pit 46

- a. Landowner: Harvey Sackreiter - Milbank
- b. Location: SE 1/4 sec. 28, T. 121 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 47

- a. Landowner: Mike Schliesman - Milbank
- b. Location: NW 1/4 sec. 31, T. 121 N., R. 47 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 48

- a. Landowner: Lillian Steltz, Milbank
- b. Location: S 1/2 NE 1/4 sec. 3, T. 121 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 49

- a. Landowner: Lillian Steltz - Milbank
- b. Location: N 1/2 SE 1/4 sec. 3, T. 121 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 15
- e. Overburden thickness (ft): 1

Pit 50

- a. Landowner: Lillian Steltz - Milbank
- b. Location: SE 1/4 sec. 3, T. 121 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 51

- a. Landowner: Phil H. Mueller - Milbank
- b. Location: S 1/2 NW 1/4 sec. 12, T. 121 N., R. 48 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 52

- a. Landowner: Gerald Christensen - Marvin
- b. Location: NW 1/4 NE 1/4 sec. 14, T. 121 N., R. 50 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 53

- a. Landowner: Gerald Christensen - Marvin
- b. Location: E 1/2 sec. 14, T. 121 N., R. 50 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 54

- a. Landowner: Harvey and Myla Kneeland - Summit
- b. Location: SE 1/4 sec. 7, T. 121 N., R. 51 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 55

- a. Landowner: C. Meyers - Summit
- b. Location: SW 1/4 sec. 9, T. 121 N., R. 51 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): 12
- e. Overburden thickness (ft): 1

Pit 56

- a. Landowner: Erwin E. Beskow - Summit
- b. Location: NW 1/4 sec. 10, T. 121 N., R. 51 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 57

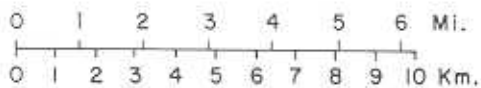
- a. Landowner: Otto Nelson - Summit
- b. Location: NE 1/4 sec. 19, T. 121 N., R. 51 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

Pit 58

- a. Landowner: Merle Amdahl - Ortley
- b. Location: NW 1/4 sec. 34, T. 121 N., R. 52 W.
- c. Aggregate type: Gravel
- d. Deposit thickness (ft): ----
- e. Overburden thickness (ft): ----

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 Grant County



Good probability of finding sand or gravel deposits.



Fair probability of finding sand or gravel deposits.



Poor probability of finding sand or gravel deposits.



Milbank Granite

Letters A through H designate areas described in the text.

- 118● Test hole containing sand or gravel in upper 25 feet with 0-5 feet of overburden. Number refers to Table 1.
- 119■ Test hole containing sand or gravel in upper 25 feet with 6-25 feet of overburden. Number refers to Table 1.
  - Test hole containing no sand or gravel in upper 25 feet.
- (7)✕ Gravel pit; those with a number are listed in Table 2.

Map showing test holes, gravel pits, Milbank granite exposures, and sand and gravel deposits in Grant County.

