

STATE OF SOUTH DAKOTA
Richard Kneip, Governor

SOUTH DAKOTA GEOLOGICAL SURVEY
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Information Pamphlet No. 7

SAND AND GRAVEL RESOURCES IN
EDMUNDS COUNTY, SOUTH DAKOTA

by

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the United States Geological Survey,
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South Dakota Department of Highways,
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INTRODUCTION

This publication is designed to aid in the exploration and development of the sand and gravel resources of Edmunds County, South Dakota. Another publication entitled "Major Ground-Water Aquifers in Edmunds County, South Dakota," South Dakota Geological Survey Information Pamphlet No. 10, describes the ground-water possibilities in the County. In addition, a comprehensive report on the technical aspects of the geology, hydrology, and the basic data will be published as Bulletin 26 at a later date.

The purpose of this report is two-fold: (1) to disseminate information about sand and gravel as quickly as possible, and (2) to express the technical data in a non-technical manner that will be useful to the lay reader. It must be stressed, however, that all of the pertinent geologic data used in compiling the technical reports has also been used in preparing this publication and the accompanying map.

It is recommended that the following publications be used whenever necessary as companion references to this pamphlet:

- (a) Evaluation of exploration methods for coarse aggregate in eastern South Dakota: S. Dak. Geol. Survey Report of Investigations No. 95
Price \$1.90
- (b) Geology and water resources of McPherson, Edmunds, and Faulk Counties, South Dakota: S. Dak. Geol. Survey Bull. 26
..... To be published

The first of the above publications explains how sand and gravel maps are prepared from geologic maps and other data. The second publication contains all the test hole data and other information that was used in compiling this pamphlet.

GEOLOGIC TERMS

The following brief discussion of geologic terms is presented as an aid in understanding the discussion of sand and gravel deposits.

Outwash

Glacial outwash is a general term referring to any deposit of clay, silt, sand, gravel, or boulders that has been washed and sorted, and subsequently deposited by water from melting glacial ice. Depending on the amount of washing and sorting action, the material may contain an abundance of silt and clay, or in the other extreme, outwash may consist mostly of boulders. Most outwash is a mixture of material between the two extremes. That is to say an outwash

deposit is usually composed primarily of sand and gravel.

Till

Till is the term used to define the unsorted and unstratified material lodged by an active glacier at the base of the ice, or let down by a glacier as the ice melted away. This material on the whole has not been subjected to the action of running water and therefore is a mixture of clay and silt-size particles containing a random mixture of sand, gravel, and boulders. This material is locally called "boulder clay" or blue clay."

The general distribution of the till is widespread throughout the County. However, within the large area of till there may still exist small isolated hills or lenses of outwash material. In some cases these small areas of outwash may consist of useable sand and gravel. The size of the areas may range from a very small knob to an area the size of several acres or several tens of acres. Thickness of the lenses may vary from a thin veneer to over 50 feet; however, in general the thickness will be less than 20 feet.

Because of complexities in the mechanics of deposition from the ice these small hills and lenses of outwash have a very random occurrence. Their presence cannot generally be determined unless the outwash material is exposed or unless its location has been discovered through the use of hand auger holes, test holes, or other sampling procedures.

Alluvium

Alluvium consists of a mixture of clay, silt, sand, and gravel that has been deposited by streams since the retreat of the glaciers. The size of the deposits will depend primarily on the velocity of the stream and may vary from place to place in the stream valley. Where the deposits consist primarily of sand and gravel they may be mined for construction materials.

Bedrock Deposits

Bedrock deposits refer to the consolidated rocks underlying the glacial deposits. In Edmunds County the bedrock deposits are sedimentary rocks and consist primarily of shale although they are sometimes referred to as slate by the local well drillers and other residents. There is no possibility of finding useable sand and gravel beneath the bedrock of Edmunds County.

ABOUT THE MAP

The map showing sand and gravel deposits of Edmunds County is designed to serve two functions:

(1) to express the possibility of finding sand and gravel in general areas within the County, and (2) to portray those areas that have been checked for sand and gravel and to relate those findings, either positive or negative, in a quick and easily understandable manner.

With regard to general information (the first function mentioned above) the map has been divided into three areas expressing the probability of discovering previously unmapped supplies of sand and gravel. The areas colored yellow refer to a relatively high probability, whereas the white areas refer to a low probability, and the brown areas refer to no probability.

The second function of the map, as previously stated, is to show the location of all known sand and gravel deposits in the County. This is done by using a series of symbols and two colors (red and green) to represent data of various types.

A red color pattern shows an area that was found to contain sand and gravel, whereas a green color shows an area that was found not to contain sand and gravel. Within these colored areas, spot sampling could show exactly the opposite as expected; however, this is highly unlikely.

In addition to the colors, the following symbols are used to show the results of test holes and other types of point sampling.

A (X) indicates the presence of a gravel pit or quarry on the map and no distinction is made between those presently being used and those abandoned. The number that is located beside the gravel pit symbol at many of the locations indicates that additional information is available from that

particular pit. This added information can be found in table 1. Table 2 is a compilation of all known sand, gravel, and filler pits in Edmunds County that are listed in the files of the South Dakota Department of Highways District Office in Aberdeen, South Dakota.

A (O) represents a test hole that does not contain any useable amount of sand and gravel in the upper 20 feet.

A (●) refers to a test hole that contains a useable amount of sand and gravel within 10 feet of the surface.

The symbol (Ø) refers to a test hole that contains sand and gravel within 10 to 20 feet of the surface.

Abbreviated logs of all of these test holes showing only the information pertaining to sand and gravel are listed in table 3, and are correspondingly numbered on the map.

GENERAL HINTS FOR EXPLORATORY PURPOSES

It should be pointed out that the map is a general map to be used only as a guideline for further exploration and development of sand and gravel resources. The development of any specific site would depend upon materials specifications for the desired use, and the economics of further exploration and testing as opposed to the use of known sources of sand and gravel.

In general, further exploration for sand and gravel deposits in Edmunds County should be considered in the red and yellow areas shown on the map. Although other areas of gravel do exist, they are widely scattered and difficult to locate.

**TABLE 1. List of Sand and Gravel Pits in Edmunds County, South Dakota,
Having Logs on File at the District Highway Office,
South Dakota Department of Highways, Aberdeen, South Dakota
(from South Dakota Department of Highways)**

Pit No.	Description	Type	Average Depth in Feet	Average Depth of Stripping in Feet
1	NW¼ 2-124-73	Gravel	6.0	3.3
2	S½ 5-124-72	Gravel	7.3	2.5
3	SE¼ 5-124-72	Gravel	7.0	1.0
4	SE¼ 8-124-72	Gravel	8.7	1.8
5	SW¼ 9-124-72	Gravel	7.5	1.0
6	W½ 16-124-72	Gravel	5.8	0.5
7	SE¼ 16-124-72	Gravel	8.5	1.4
8	NW¼ 31-124-71	Gravel	17.0	1.5
9	SE¼ 18-124-71	Gravel	7.5	2.5
10	N½ 34-123-73	Gravel	9.8	2.6
11	NE¼ 26-123-73	Sand	11.0	2.0
12	NW¼ 25-123-73	Gravel	12.0	2.5
13	NE¼ 6-123-71	Sand	14.1	2.3
14	NE¼ 30-123-67	Gravel	4.0	1.5
15	NE¼ 14-123-66	Sand	4.5	3.1
16	NE¼ 9-122-73	Gravel	12.8	2.0
17	NE¼ 2-122-73	Gravel	7.5	1.4
18	SW¼ 35-122-68	Sand	5.0	2.0
19	E½ 30-122-66	Gravel	10.8	2.8
20	NW¼ 31-122-66	Gravel	7.7	1.3
21	SW¼ 29-122-66	Gravel	10.6	1.3
22	SW¼ 34-121-73	Gravel	10.8	2.2
23	NW¼ 31-121-66	Gravel	7.8	1.5

**TABLE 2. List of Known Sand, Gravel, and Filler Pits in Edmunds County, South Dakota,
Which are Recorded in the Files at the District Office,
South Dakota Department of Highways, Aberdeen, South Dakota**

Owner and Address	Description	Type
Roesch, John - Roscoe	NW 32-124-70	Filler
Kirshenmann, Edwin A. - Hosmer	NE 6-123-71	Filler
Gross, Milton - Bowdle	NE 9-122-73	
Roberts, William & Richard - Ipswich	SW 23-121-68	
Hales, O. R. - Ipswich	NE 30-123-67	
Department of School & Public Lands - Pierre	SWNW 16-124-72 NWSW 16-124-72	
Dosch, W. B. - Aberdeen	SESW 19-123-67 SE 30-123-67	
Mercual, Louis - Bowdle	NW 27-123-73	
Heckenlable, John - Hosmer	SE 22-124-72	
Forkel, Mathew M. - Roscoe	NW 23-124-70	
Malson, Frank - Hosmer	SE 5-124-72	
Gramm, Jacob - Roscoe	NW 27-124-70	
Kirschenmann, Alvin - Hosmer	SE 18-124-71	
Jung, Henry F. - Hosmer	NWSW 14-124-70	
Clifford, Pat - Watertown, Wisconsin	SW 31-123-67	
Hales, O. R. - Ipswich	S½NE¼ 30-123-67	
Department of School & Public Lands - Pierre	SENE 13-124-70	Sand and Gravel
Schurr, W. - Roscoe	NESW 27-124-70	Sand and Gravel
Pfieffer, Chris - Ipswich	NWNE 4-123-68	
Forkel, William - Roscoe	NENW 12-124-70	
Habeck, Julius - Aberdeen	SESE 14-123-68	Sand and Gravel
Department of School & Public Lands - Pierre	NENE 12-124-70	
Piezler, Arthur - Hosmer	NE 1-123-71	
Department of School & Public Lands - Pierre	SW 8-124-70	

Table 2 -- continued.

Owner and Address	Description	Type
Department of School & Public Lands - Pierre	SE 16-124-69 SWSW 16-124-69	
Jung, Emil - Roscoe	NWSW 26-124-70	
Pitz, John - Aberdeen	N½ 7-121-66	
Wallburg, Clifford - Aberdeen	NW 31-121-6	
Feiock, Christ - Bowdle	SW 23-123-73	
Eisenbeisz, Fred - Bowdle	NE 2-122-73 S½SW¼ 3-122-73	
Haver, Joseph L. - Ipswich	NE 13-122-68	
Schinger, Joe - Hosmer	SW 9-124-72	
Pitz, John - Aberdeen	NE 7-121-66	Sand
Hieb, Herbert E. - Hosmer	NW 31-124-71	
Huft, Gretchon - Bowdle	NWNWNE 34-123-73	
Schmierer, Alvin	SWSE 27-123-73	
Beitelspacher, Erwin O. - Bowdle	NW 25-123-73	
Gisi, Benedict - Hosmer	SE 8-124-72	
Gisi, Benedict - Hosmer	NWNW 16-124-72	
Department of School & Public Lands - Pierre	SW 25-123-73	
Eisenbeisz, Emil - Aberdeen	SE 16-124-72	
Eisenbeisz, Emil - Aberdeen	NE 21-124-72	
Kirschenmann, Edwin A. - Hosmer	NE 6-123-71	Sand
Schock, Felix - Hosmer	NW 31-124-72	Sand
Schaible, Jacob	NESE 7-124-71	
Minnie Light - Aberdeen	NE 14-123-66	Sand
Achenpach, William - Ipswich	SE 14-121-67	Gravel
Zak, Jerry (Estate) Joe Suzama - Adm. Stanton, Nebraska	NW 30-122-66	Gravel
Stoner, Linden and Gladys - Ipswich	SW 35-122-68	Sand
Beitelspacher, Erwin O. - Bowdle	NENE 26-123-73	Sand
Salwei, George - Bowdle	NW 2-124-73	Gravel

Table 2 -- continued.

Owner and Address	Description	Type
Heilman, Regina - Bowdle	SE 35-124-73	Gravel
Schwinger, Anton - Bowdle	NE 6-124-73	Gravel
Geier, Anton - Bowdle	SW 3-123-73	Gravel
Holweger, Elmer - Tolstoy	SW 34-121-73	Gravel
Palmer, Gertrude - R.R. No. 3 - Aberdeen	SW 29-122-66	Gravel
Wolter, Alva - Ipswich	SWNE 26-122-67	Gravel
Stroschein, Larry - Mansfield	NW 31-122-66	Gravel
Weismantel	NW 18-122-66	Gravel
Ulmer, Julius - Hosmer	NW 17-124-71	Gravel
Swanson, Harris and Wolters, Alva - Ipswich	SENE 26-122-67	Gravel

TABLE 3. List of Test Holes Drilled in Edmunds County, South Dakota, Which Have Been Found to Contain Sand and/or Gravel With Less Than Twenty Feet of Overburden

Locations have been plotted on a map of the area using symbols to indicate extent of the overburden. (● - Sand and/or gravel with less than 10 feet of overburden; ○ - Sand and/or gravel with over 10 feet of overburden). Lithologic descriptions, as listed, have been condensed from data contained in driller's logs on file at the South Dakota State Geological Survey Office, Vermillion, South Dakota, and contain only information which has been deemed most useful for this study.

Test Hole No.	Location	Geologic Unit	Lithologic Description	From-to Feet
1	SWSWSESW 5-124-73	Sand Gravel	Medium to fine, silty Approximately 1-inch size, impure	2- 3 3- 8
2	NESWSWSE 5-124-73	Sand	Medium to coarse, silty, cobbles included	2-10
3	NWNWNWNW 16-124-72	Sand Gravel	Medium to coarse, silt layers at 6 feet Medium- to pebble-size, sandy	1- 9 9-16
4	SESENE 27-124-72	Gravel	Up to large cobble-size, very impure, silty, clayey (Driller struck boulder at 9 feet and abandoned test hole)	1- 9
5	SESESWSW 14-124-70	Gravel	(Not described in driller's log)	7- 9
6	SWNWNWSW 26-124-70	Sand Gravel	Medium, silty, some gravel pebbles included Sandy, impure	1- 4 5- 6
7	NENENE 11-124-68	Gravel	Fine to coarse, with some sand	4- 7
8	SESESWSE 29-124-67	Sand	Fine, slightly silty	1- 6
9	NWNWNWNW 34-124-67	Sand	Medium to coarse, gravelly	10-30
10	SENEENW 26-124-67	Sand	Medium to fine, silty	7-19
11	NENENE 36-124-67	Gravel	Coarse to fine	5-14
12	NWNWSWSW 8-124-66	Sand	Silty, moist	2- 8

Test Hole No.	Location	Geologic Unit	Lithologic Description	From-to Feet
13	SESWSWSW 7-123-73	Sand Gravel	Silty, gravelly Very coarse, sandy	1- 7 7- 8
14	NWNWNWNW 30-123-73	Gravel	Approximately 1-inch size, sandy	0- 6
15	NWNWSWSW 31-123-73	Sand	Medium, silt included	2- 7
16	SWSWSWE 31-123-73	Sand Sand	Poorly sorted, silty and pebbly Coarse and saturated	1-18 18-30
17	NESWSWNW 29-123-73	Sand	Medium, pebbly, coarse below 7 feet	3-32
18	SWWSWNW 29-123-73	Gravel	Sandy, high clay content	0-29
19	NESESE 20-123-73	Gravel Sand	Very coarse, sandy Medium to fine, silty, some pebbles, gravelly below 17 feet	1- 3 3-26
20	SESESE 20-123-73	Gravel	Sandy, clayey, unsorted	0-24
21	NENWNWE 4-123-73	Gravel	Very coarse, silty	7- 9
22	NWNENWSE 4-123-73	Sand	Medium to fine, silty	2- 7
23	SESESE 16-123-73	Gravel	(Not described in driller's log)	0- 9
24	SESESE 28-123-73	Sand	Medium to fine, gravelly	5-28
25	SESESE 28-123-73	Gravel Sand	Pea-size, very clayey Fine	0- 9 9-14
26	NENWSWSW 3-123-73	Sand Gravel	Fine, silty, some pebbles included Very coarse	0-12 12-13
27	NWSENWNE 22-123-73	Sand	Silty, gravelly, boulders included	0-15
28	SWSWSWNW 31-123-68	Gravel	Up to ¼-inch size, silty	6-10

29	NWNWNE 30-123-68	Sand	Medium, saturated	19-22
30	NWNWSE 14-123-68	Sand Boulders	Medium to fine, clean Numerous large clasts included	7-18 18-19
31	SESESE 14-123-68	Sand Silt Sand Cobbles	Coarse, silty Sandy, carboniferous Medium to fine, silty With large rocks	5-6 6-9 9-18 18-20
32	NENENW 12-123-68	Sand Sand	Coarse Fine to medium	9-14 14-34
33	NENWNNW 13-123-68	Sand	Fine, silty	7-27
34	NESWNNW 24-123-68	Gravel Sand	Medium, clay included Coarse	3-7 7-19
35	NESENE 19-123-67	Gravel Sand	Fine, small amount of clay included Medium, gray clay included	7-22 22-29
36	NENENW 30-123-67	Sand Clay Sand	Medium, moist Moist Medium, moist	0-6 6-13 13-24
37	NENESWNE 30-123-67	Gravel	Medium, approximately 10 percent clay included	9-27
38	SWSEWSE 30-123-67	Sand Sand	Coarse to medium Fine to medium	7-17 17-37
39	SWSWSE 30-123-67	Sand Sand	Coarse to medium Fine to medium	7-17 17-33
40	SWSESE 30-123-67	Sand	Medium to fine, silty	0-10
41	NENWNE 31-123-67	Gravel Sand	Medium, with approximately 25 percent clay included Coarse to fine	9-14 14-34
42	SESESEW 31-123-67	Sand	Fine, some clay included	0-14

Test Hole No.	Location	Geologic Unit	Lithologic Description	From-to Feet
43	NENENWNW 29-123-67	Sand	Coarse, approximately 10 percent clay included Fine, gray, approximately 30 percent gray clay included	7- 9 9-34
44	SESWSWSW 29-123-67	Gravel Sand	Sandy, moist Fine to medium, clean	1- 4 4-36
45	SWSESWSW 29-123-67	Sand	Fine, moist	7-10
46	NWNWNWSW 32-123-67	Gravel Sand	Medium, with some clay included Coarse, with gravel and some clay included	12-17 17-32
47	SWSWSWSW 32-123-67	Sand	Silt included	5-17
48	NWSWNWNW 28-123-67	Sand & Gravel	(Not described in driller's log)	10-20
49	SWSWSESW 10-123-67	Sand	Fine to coarse, silty	3-16
50	SWSWNWNW 6-122-73	Sand	Medium, some pebbles and silt included	2-36
51	SWSWSWSE 30-122-73	Gravel Sand Gravel Sand	Coarse, cobble-size to sand Medium to coarse, gravelly Small cobble-size, sandy, silty Medium to coarse, gravelly (Driller struck boulder at 24 feet and abandoned test hole)	1- 9 9-12 12-13 13-24
52	NENWNE 31-122-73	Gravel	Silty, sandy (Driller struck boulder at 8 feet and abandoned test hole)	1- 8
53	NESEENW 31-122-73	Gravel Sand Gravel	Fine sand to ¼-inch pebbles Medium to coarse Cobbles and coarse sand included	1- 6 6-10 10-17
54	SWSWSWNW 31-122-73	Gravel	Clasts average approximately 1-inch size, sand included (Gravel very coarse below	2- 9

54 -- continued.				5 feet; driller abandoned test hole at 9 feet due to difficult drilling)
55	NWNWSWSW 31-122-73	Gravel Sand	Approximately ½-inch size, silty, boulders at 7 feet Fine to coarse	2- 8 8-26
56	NENESWNE 32-122-73	Gravel Sand	Silty, sandy stringers included Medium to coarse, gravelly (Driller struck boulder at 10 feet and abandoned test hole)	1- 6 6-10
57	NENESENE 32-122-73	Sand Gravel	Medium to fine, silty Small cobbles to medium-size	3-14 14-65
58	NWNWNWNE 9-122-73	Sand Gravel	Impure, gravelly and silty Sandy and silty	1- 6 6-12
59	NWNEWNE 9-122-73	Gravel Sand	Cobble- to medium-size Medium to coarse, gravelly	0- 6 6-12
60	SWSWSWSW 21-122-73	Gravel Sand	Silty and sandy with ½-inch pebbles included Fine to medium	1- 6 6-10
61	NWSWNWNE 28-122-73	Sand Gravel Sand	Coarse, silty, some gravel included 1- to 1½-inch size, sandy, silty Medium, slightly silty	0- 4 4- 6 6-20
62	NWNWNESE 28-122-73	Sand	Medium to coarse, silty	5-19
63	NENWNESE 28-122-73	Gravel Sand	Silty Pebbly, silty	1- 4 4- 6
64	SWNWNWSW 33-122-73	Gravel Sand	Approximately 1-inch size, fine to medium sand included Medium to fine, gravelly	1- 3 3-16
65	SWSWNESE 33-122-73	Gravel	Cobble- to medium-size, sandy, silty	1- 7
66	NESESESW 3-122-73	Gravel	Very impure, clasts average approximately 1 inch	0- 6

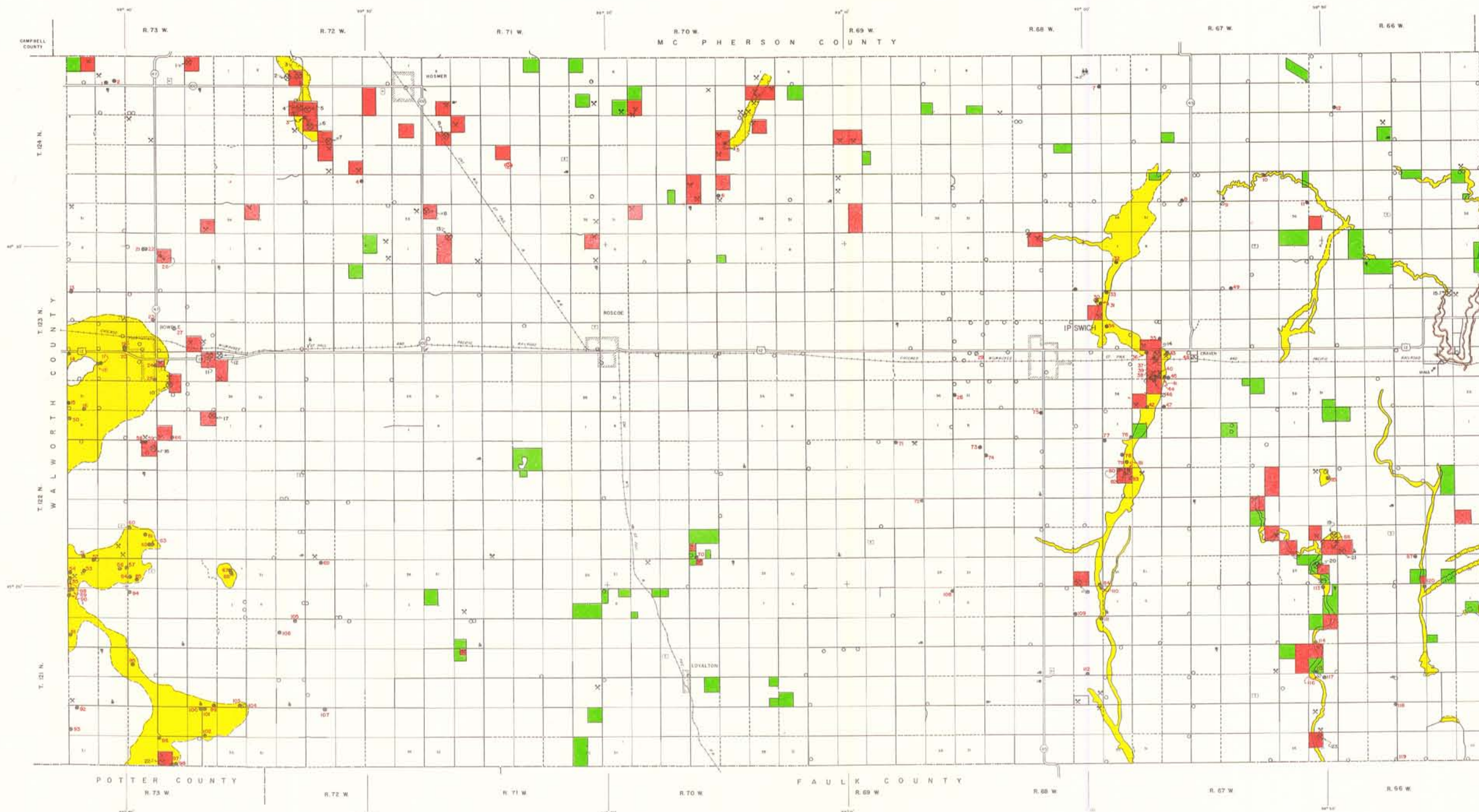
Test Hole No.	Location	Geologic Unit	Lithologic Description	From-to Feet
67	NWSESENW 36-122-73	Sand	Medium to fine, silty and clayey	8-11
68	SESESENW 36-122-73	Sand Sand	Fine, some clay included Fairly clean	0-4 4-10
69	SWNNWNWNE 33-122-72	Gravel	Impure, coarse sand included, clasts up to 2-inch size	0-30
70	SESESWSW 27-122-70	Sand	Coarse to medium, impure	2-50
71	NWNWNWNW 11-122-69	Gravel	Cobble-size, silty	0-3
72	NENENENE 23-122-69	Sand	Clayey, saturated	5-10
73	NWNESENE 7-122-68	Gravel Sand	Coarse, small cobbles included Medium, slightly silty	1-6 6-7
74	NWNWNWSW 8-122-68	Gravel	Medium-size cobbles to medium-size, very sandy and silty	4-12
75	NESENE 4-122-68	Sand Sand	Very silty Medium, with gray clay	0-4 4-14
76	SESESE 1-122-68	Sand Sand	Fine, clean Medium, clean	2-9 9-34
77	NWNWNWNW 12-122-68	Sand	Coarse to fine	3-24
78	NWNENWSE 12-122-68	Sand	Coarse	3-34
79	NWNWSESE 12-122-68	Sand	Coarse	7-29
80	NENWNWNE 13-122-68	Sand & Gravel	Clean	0-35
81	NENWNENE 13-122-68	Sand	Pea-size gravel and clay included	0-4
82	SWSWNENE 13-122-68	Gravel	Coarse, sandy	2-7

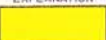



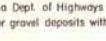
82 -- continued.				Medium to coarse Moist Coarse, grading to gravel Medium to fine, silty		7-12 12-18 18-22 22-26
83	NWNESENE 13-122-68	Gravel		Pea-size, with sand and high percent of clay included		10-19
84	SWSESESE 35-122-68	Sand		Clay included		4-16
85	SWNESWNE 18-122-66	Gravel		Scattered rocks included		5- 7
86	NENENESE 30-122-66	Sand Sand		Coarse, with gravel Medium, with some clay included		1- 5 5-10
87	NENWNWNE 34-122-66	Gravel Sand		Cobbles included Medium to fine		2- 3 3-14
88	NWNWNWNW 6-121-73	Gravel		Medium to coarse (Driller abandoned test hole at 31 feet due to difficult drilling)		1-31
89	NENWNWNW 6-121-73	Gravel Gravel		Coarse, sandy Very coarse (Driller struck boulder at 17 feet and abandoned test hole)		1-12 12-17
90	SWSWNWNW 6-121-73	Gravel Sand		Sand and boulders included Very coarse to fine, gravelly		5-40 40-45
91	SWNWNWSW 7-121-73	Sand		Medium to coarse, gravelly		0-15
92	NENENWNW 30-121-73	Sand Sand		Medium, grading to gravel with cobbles included Coarse		1-10 10-16
93	NWNWSWSW 30-121-73	Gravel Sand		Very coarse Medium to coarse		1- 3 3- 4
94	SWNWNWNW 4-121-73	Gravel Sand		Coarse Coarse to fine, gravelly and silty		1- 4 4-11
95	SWNENWSW 16-121-73	Sand		Medium to coarse, gravelly		1-17

Test Hole No.	Location	Geologic Unit	Lithologic Description	From-to Feet
96	NWNWNWNW 34-121-73	Sand & Gravel	(Not described in driller's log)	2-13
97	SESESEW 34-121-73	Gravel Sand Sand	(Not described in driller's log) Coarse, with pea-size gravel Very coarse	3-18 18-24 24-38
98	SWSWSWE 34-121-73	Gravel Sand	Coarse, to fine sand Coarse, some gravel included	1-16 16-56
99	SWESESE 23-121-73	Silt Sand	Sandy, gravelly Medium, gravelly	0- 2 2-22
100	NENENENW 26-121-73	Sand Sand	Medium, clean Medium to coarse, with gravel	7-12 12-37
101	NWNWNWNE 26-121-73	Sand	Medium to coarse, slightly silty	2-23
102	SESWSWE 26-121-73	Sand	Coarse to medium, silty	5-20
103	SWSWESE 24-121-73	Sand	Coarse to fine, some gravel stringers	7-32
104	SESESE 24-121-73	Sand Sand	Medium, with high percent of clay Very coarse to fine gravel	14-19 19-38
105	NWNENWNE 8-121-72	Gravel Gravel	Impure, sandy to silty (Not described in driller's log)	0- 2 15-16
106	NESWSWNW 8-121-72	Sand	Medium to fine, silty, some gravel included	0-17
107	NWNENWNE 28-121-72	Gravel	Coarse, sandy	1-10
108	SENEENE 1-121-69	Gravel	Pea-size, mixed with coarse sand	0- 4
109	NWSWSWSW 2-121-68	Sand Sand	Medium, very clean Medium to coarse	5-11 12-15
110	NENENENE 2-121-68	Sand	Medium, well sorted	1- 4






111	NENENENE 11-121-68	Sand Gravel	Fine, clean Very impure, with sand, silt and clay included	4-6 6-7
112	SWSESESW 14-121-68	Sand	Coarse to fine, with 25 to 35 percent gravel pebbles included	4-29
113	NWNWNWNE 6-121-66	Gravel Silt Sand	Sandy, poorly sorted Sandy Coarse to medium	1-19 19-21 21-30
114	SESESWSW 7-121-66	Gravel Gravel	Pebbles to cobbles Pebbles to silts, poorly sorted	1-7 7-16
115	SESESWSW 18-121-66	Sand Gravel Gravel	Very coarse to coarse gravel Sandy, silty Impure, 1½-inch maximum size	1-6 7-11 11-21
116	NWNWNENW 19-121-66	Gravel Silt Gravel	Impure Sandy Silty and sandy	10-13 13-15 15-21
117	SENENENW 19-121-66	Sand	Coarse to fine	4-27
118	NENENENE 28-121-66	Sand	Medium, moist to dry	6-19
119	SESESESE 33-121-66	Sand	Fine to medium, very clean	14-20
120	NENENENE 3-121-66	Sand	Fine to medium	0-6

MAP SHOWING SAND AND GRAVEL DEPOSITS OF EDMUNDS COUNTY



- EXPLANATION**
-  Good probability of finding sand or gravel deposits
 -  Poor probability of finding sand or gravel deposits
 -  No probability of finding sand or gravel deposits
 -  General areas which have been field checked in part by the South Dakota Dept. of Highways and are known to contain sand and/or gravel deposits within 10 feet of the surface
 -  General areas which have been field checked in part by the South Dakota Dept. of Highways and are known not to contain sand and/or gravel deposits in sufficient quantities to be deemed useable according to standards set by the Dept. of Highways (This is not intended to indicate that sand and/or gravel is not present in these areas in useable amounts for other purposes.)

Data was compiled from information on file of the District Office, S.D. Dept. of Highways, Aberdeen, S.D.

-  Test hole—does not contain sand or gravel in upper 20 feet.
-  Test hole—contains sand or gravel with less than 10 feet of overburden.
-  Test hole—contains sand or gravel with 10 to 20 feet of overburden.
-  Gravel pit—no distinction between those presently used or abandoned (number denotes additional information is available—see Table I).
-  Meltwater channel from which sand and gravel has been wholly or partly removed.



SCALE IN MILES

0	1	2	3	4	5	6
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Sectionized township

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

By Cleo M. Christensen