

(12)

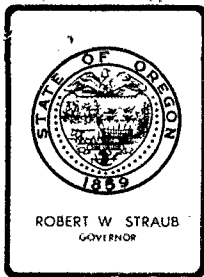
Material	From	To
Top soil	0	6
Clay, brown silty	6	47
Clay, light brown soft	47	68
Sand, black fine	68	72
Sand, black fine-medium	72	76
Gravel w/ clay, gray up to 3/4"	76	77
Clay, gray medium	77	82
Clay, dark gray, fine sandy	82	89
Sand, fine black	89	92
Sand, medium-coarse black	92	95
Clay, hard gray	95	98
Gravel up to 3/4 w/ clay, green	98	99
Clay, gray	99	103
Clay, brownish green dry	103	107
Clay, green fine sandy	107	111
Clay, greenish-gray	111	114
Clay, gray fine sandy	114	118
Sand, fine-medium, black	118	119
Sand, cemented fine-medium w/ wood	119	121
Clay, gray	121	123
Clay, green, medium hard	123	127
Clay, green, fine sandy w/ wood	127	132
Pea gravel w/ some clay	132	133
Gravel pea size to 3/4"	133	139
Gravel pea size up to 1" w/ wood	139	141
Clay, greenish gray	141	147
Clay, blue gray	147	154
Clay, blue gray fine sandy	154	162
Clay, dark gray, medium sandy w/ wood	162	164
Clay, dark greenish gray, hard fine sandy dry	164	171
Gravel w/ some clay	171	174
Sand, black medium-coarse w/ some gravel	174	182
Clay, green medium hard	182	189
Clay, green medium sandy	189	193
Sand, black fine-medium	193	197
Gravel, pea up to 1"	197	198
Clay, green medium sandy	198	202
Clay, gray fine sandy w/ some wood	202	207
Sand, black fine	207	211
Clay, green & gray, hard	211	214
Clay, green hard	214	218
Clay, blue gray w/ wood	218	223
Clay, blue green, sandy	223	232
Clay, gray, sandy	232	235

(5) Casing Installed

8" diam. from +2'8" to 133'1"	Gage.250
8" diam. from 133'1" to 150'11"	Gage.330
8" diam from 150'11" to 170'11"	Gage.250
8" diam from 170'11" to 207'5"	Gage.330
8" diam from 207'5" to 232'5"	Gage.250
4" diam from +1' to 26'6"	Gage.237

WATER RESOURCES DEPT
 SALEM, OREGON

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Water Resources Department

MILL CREEK OFFICE PARK

555 13th STREET N.E., SALEM, OREGON 97310

PHONE 378-8455

May 24, 1978

RECEIVED

MAR 4 1980

WATER RESOURCES DEPT
SALEM, OREGON

Milo Schneider
Schneider Equipment, Inc.
21881 River Road N.E.
St. Paul, Oregon 97137

Dear Mr. Schneider:

Please accept my apologies for the delay in responding to your recent letter requesting special standards for the use of concrete instead of cement grout as a sealing material in large diameter wells that provide excessive space between the drill hole wall and the outside casing of the well. You are hereby granted special permission to use concrete instead of neat cement with the following provisions and conditions:

- 1) Concrete shall consist of clean, hard, durable aggregate, and not less than five sacks of Portland cement per cubic yard of concrete. Maximum diameter of the aggregate shall not exceed 3/4 of an inch in diameter.
- 2) If the well bore hole to be sealed is not dry, concrete shall be pumped from the bottom of the seal zone upward in one continuous operation to land surface.
- 3) In the event that the well bore annular space to be sealed is dry, concrete shall be placed through a tremie pipe to prevent segregation of the aggregate and cement mixture and to prevent bridging.
- 4) The space between the sealing surfaces of all casings and between all casings and the bore hole shall exceed 3-inches or more.

Special standards to construct a well as described above shall be considered to apply to all wells constructed in such a manner. Please refer to these special standards on the well reports of all well constructed in this manner.

Sincerely,

WILLIAM B. MCCALL
Hydrogeologist

WBM:clh

cc: Clifton R. King, Watermaster, District #16