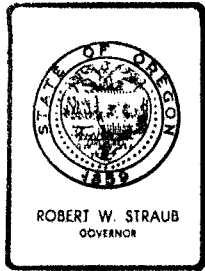


WASH 0565
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WATER RESOURCES DEPT
MILL CREEK OFFICE PARK
555 13th STREET N.E., SALEM, OREGON 97310
PHONE 378-8455

May 24, 1978

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
WILLIAM B. MCCALL
Hydrogeologist

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

(12) WELL LOG

| From | To | Material |
|------|-----|---|
| 0 | 3 | Top soil, brown |
| 3 | 8 | Clay, brown |
| 8 | 42 | Clay, brown, fine, sandy |
| 42 | 51 | Clay, gray silty w/ some gravel 1st 2' |
| 51 | 52 | Clay, brown |
| 52 | 55 | Clay, gray |
| 55 | 56 | Clay, brown, silty |
| 56 | 57 | Sand, silty, brown w/ clay, brown |
| 57 | 58 | Clay, gray |
| 58 | 60 | Sand, silty, gray |
| 60 | 61 | Clay, gray |
| 61 | 63 | Sand, silty, brown w/ clay |
| 63 | 66 | Clay, gray, & silty |
| 66 | 97 | Clay, gray, soft |
| 97 | 99 | Clay, dark gray, medium |
| 99 | 104 | Clay, blue-green, firm |
| 104 | 105 | Clay, blue-green, sandy |
| 105 | 108 | Sand, brown, rusty, medium |
| 108 | 109 | Sand, brown, rusty, medium-coarse w/ some gravel |
| 109 | 112 | Gravel, pea and sand, medium-coarse |
| 112 | 114 | Clay, gray |
| 114 | 117 | Clay, dark, blue-green, sandy, fine-medium |
| 117 | 120 | Sand, medium-coarse w/ some clay, blue-green w/ wood |
| 120 | 121 | Clay, & sand, medium-coarse |
| 121 | 125 | Clay, blue-green |
| 125 | 129 | Clay, grayish green, firm |
| 129 | 131 | Clay, brown, firm |
| 131 | 134 | Clay, brown & gray, streaked |
| 134 | 136 | Clay, blue-gray |
| 136 | 140 | Clay, dark gray |
| 140 | 142 | Clay, blue-green |
| 142 | 146 | Clay, blue-green, fine sandy, soft |
| 146 | 153 | Clay, blue-gray & brown, medium sandy, soft |
| 153 | 157 | Clay, gray, firm |
| 157 | 163 | Clay, blue-green |
| 163 | 165 | Sand, medium, blue-green w/ clay |
| 165 | 175 | Clay, blue, fine, sandy |
| 175 | 178 | Clay, blue, gritty |
| 178 | 181 | Clay & Sand, blue-gray, medium w/ some coarse sand & pea gravel |
| 181 | 183 | Clay, green & blue, streaked |
| 183 | 187 | Clay, green, fine, sandy |
| 187 | 194 | Clay, brownish-gray |
| 194 | 205 | Clay, blue-green |
| 205 | 208 | Clay, green & brown, streaked |
| 208 | 210 | Clay, blue & brown, streaked |
| 210 | 222 | Clay, green & brown, streaked, fine, sandy |
| 222 | 224 | Clay, gray, firm |
| 224 | 228 | Clay, green, fine, sandy, dry |
| 228 | 231 | Clay, dark green, fine, sandy w/ wood |
| 231 | 237 | Clay, dark green |
| 237 | 240 | Clay, brown |
| 240 | 242 | Clay, brown-green, fine, sandy |
| 242 | 245 | Clay, brown & blue, fine |