



WELL DRILLING
IRRIGATION
CONTROL SYSTEMS

OR CCB #39265
WA Gen. Cont. #SCHNEI*226LG

**SCHNEIDER
EQUIPMENT, INC.
AND DRILLING CO.**

PUMPS
ENGINEERED WATER SYSTEMS
SALES AND SERVICE

FAX (503) 633-2666

21881 River Road N.E. St. Paul, Oregon 97137 (503) 633-2666

FAX TRANSMITTAL

DATE: 10/6/93

TO: Rob Carter
WRD
378-8130

NUMBER OF PAGES (INCLUDING COVER SHEET): 7

RE: Echo Well #5 Variance

MEMO: Rob - I further explained and
drew up a sketch of the proposed
completion to simplify understanding
of the situation. Please review as
soon as possible so we can complete
the grouting. We have bottomed the
hole at 1280 and are going to working
with Red McKee (Andersen-Perry) on
the liner design for installation hopefully
next week. Please call if you have any
questions. Regards, Steve S.

STATE OF OREGON
WATER RESOURCES DEPARTMENT

**REQUEST FOR WRITTEN APPROVAL TO USE CONSTRUCTION METHODS NOT
INCLUDED IN THE RULES AND REGULATIONS PRESCRIBING GENERAL STANDARDS
FOR THE CONSTRUCTION AND MAINTENANCE OF WELLS IN OREGON**

Before approval can be considered the following questions must be answered.

Requests shall be submitted to the Watermaster Division, 3850 Portland Road, NE, Salem, OR 97310.

Date: October 5, 1993

Well Constructor: Steve Schneider, Vice President Schneider Drilling Co.
21881 River Road NE, St. Paul, OR 97137

(1) Location of Well: NE 1/4 NE 1/4 of Section 16,
Township 3N, Range 29E, Umatilla County.

Address at well site or nearest known address: Golf Course Road
Echo, OR

(2) Name and address of Landowner: City of Echo
P.O. Box 9
Echo, OR 97826

(3) The distance to the nearest well and septic drainfield: See attached map.
Houses in the area are on City sewage system except club house (~1500 horizontal & 70' vertical down gradient distance) is reportedly still on septic tank until it plugs up.

(4) The unusual conditions existing at the well site: Unpredictable grout
returns (see attached synopsis) has resulted in the cementing of the 'temporary'
20" casing to the permanent 12" casing and owner wants to install a pitless
unit as part of pump installation at a later date.

(5) The proposed construction methods that the well constructor or landowner constructing the well believes will be adequate for his particular well:
This well is located at the approximate top of ridge/hill thereby protecting it from shallow contamination sources since both surface and any alluvial ground water will gravitate away from the well. The 20" casing was installed without a shoe since it was originally planned to be removed, and has accordingly resulted in little over-excavation of the borehole. Consequently, the native alluvial formations (see attached draft log of the upper part of the well) containing significant clay will readily squeeze and bond naturally to the driven 20" casing creating more than adequate and natural protection of any trace amounts of ground water found in the alluvials. The basalt ground waters are more than adequately protected by hundreds of feet of grout seal and casing. Leaving the surface seal & 20" casing 6'+/- below ground will not increase contamination risk since this interval contained no significant clay and existing well construction rules (OAR 690-210-270) do not require a grout seal within a pitless unit interval. Anderson-Perry & Associates,

W-CA, OT

SC 46232

- (6) A diagram showing the pertinent features of the proposed well design and construction (attach additional sheet if necessary):
See attached sheet.

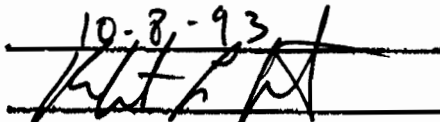
(Signed)


(WELL CONSTRUCTOR)

Stephen J. Schneider, V.P. Drilling - WWC649
Schneider Drilling Co.

For Water Resources Department Use Only

Date:

10-8-93


Approved by:

Denied by:

Remarks:

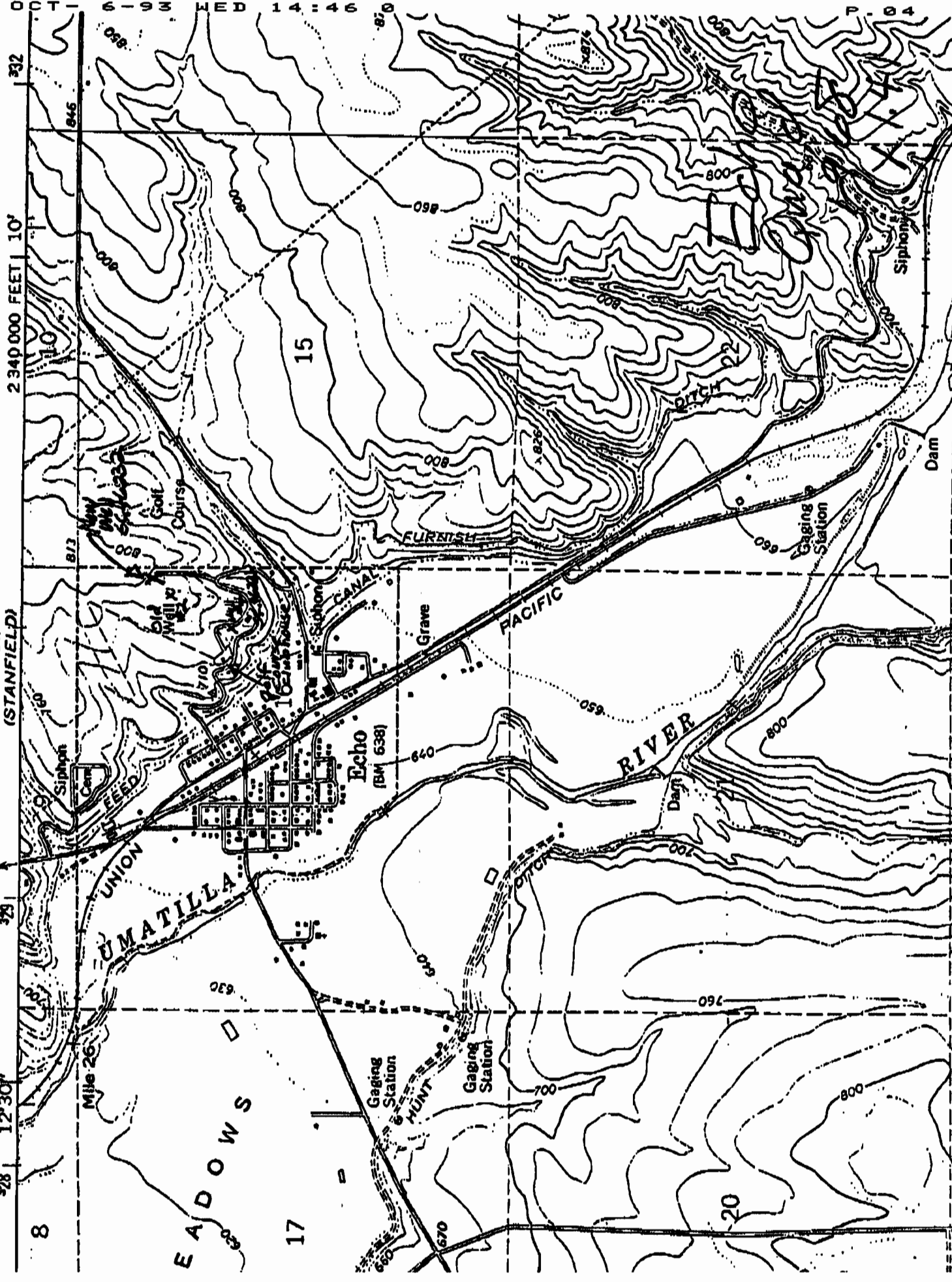
NOTE:

- (1) If approval, all other phases of construction must be in compliance with State Well Construction Standards.
- (2) If it should be determined at some future date that the well, due to its construction, is offering an avenue for pollution of the ground water body, it will be necessary for you to return to the site to correct any well deficiencies.

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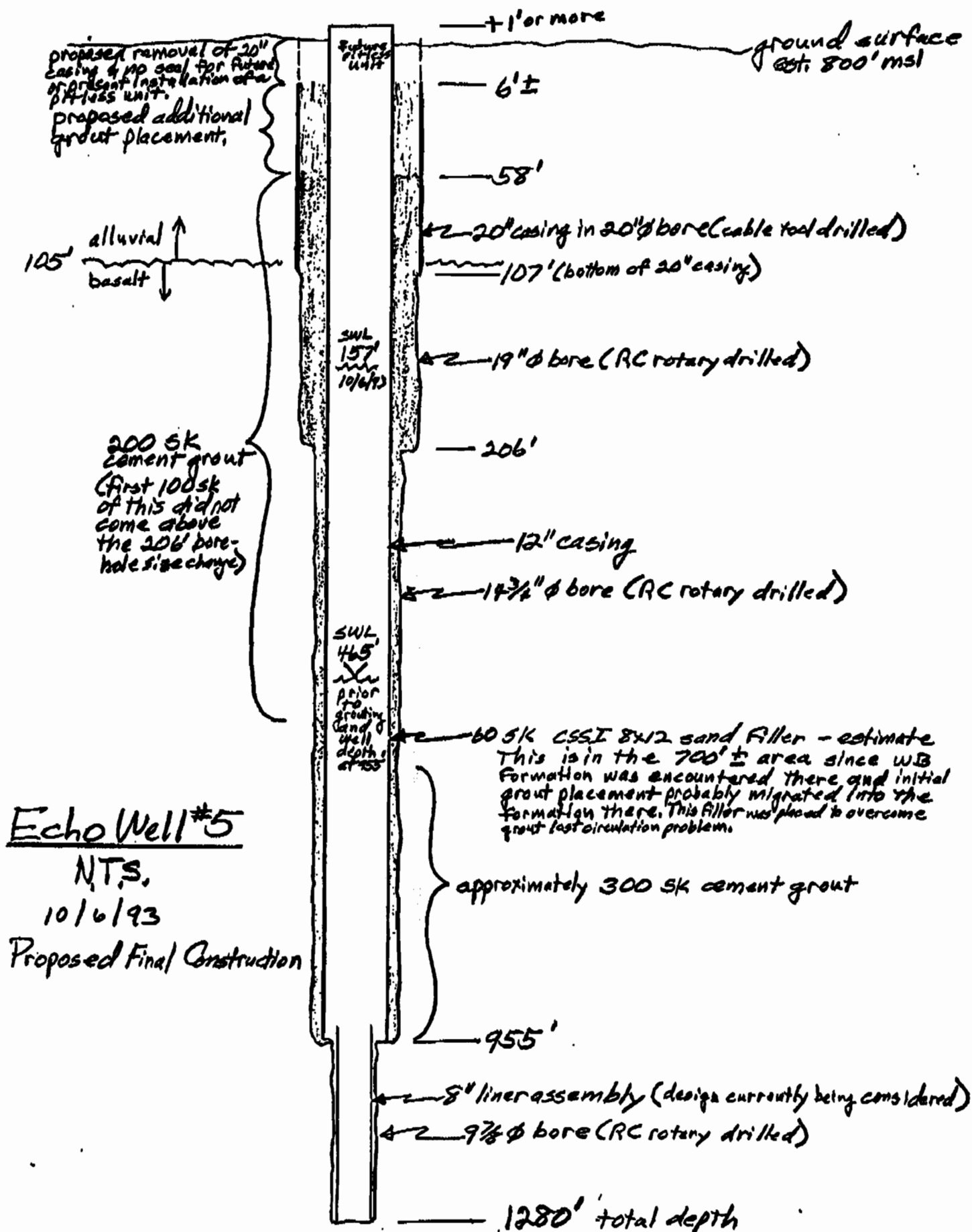
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10/6/93 Synopsis of Grouting Echo Well #5

- Well depth at 956'. 12" casing installed to 955' with stab-in cementing shoe. Pumped an estimated 300 sacks of cement grout through shoe which was calculated to rise above the 206' borehole size change ($956' - 206' = 750'$ of $14\frac{3}{4}" - 12\frac{3}{4}"$ annulus = 225 ft^3). Suspected lost grout in WB strata at $\sim 700'$ as no returns above 206' were measured.
- Placed 60 sacks of filler to attempt to overcome lost circulation problem. Top of filler was not above 206'. Drop rock sounding indicated top of filler was $> 465'$.
- Placed 100 sacks of grout on top of filler and tried to sound top after initial set. Top was not above 206' but drop rock sounding indicated grout was noticeably up the annulus from previous sounding trying to locate the top of filler. Hole annulus volume below 20" 'temporary' casing and 206' size change computes to 107 ft^3 ($206' - 107' = 99'$ of $19" - 12\frac{3}{4}"$ annulus) but prior video indicated some of this hole is larger. Accordingly, it was considered safe to place another 100 sacks of grout without removing the temporary 20" casing. We were wrong! Upon sounding the grout the next morning, it was found to be at 58', almost 50' overlapping the 'temporary' 20" casing. Note: Our ^{original} objective was to get the top of grout in the approximately 100' interval between the bottom of the 20" casing and borehole size change so equipment could be prepared to simultaneously place grout while extracting the 20" casing.



City of Echo
 Start Card No. ~~46231~~ 46232
 by Schneider Drilling Co.
~~May 18, 1992~~
 Sept. 30, 1993

Draft

Depth		Description
From	To	
0	6	Sand & gravel, brown
6	11	Gravel, 5"-, & sand, w/some clay, brown
11	21	Clay & gravel, 3"-, conglomerate , brown
21	32	Clay, brn, w/crse sand & sml grvl, conglomerate
32	38	Gravel & sand, cemented
38	52	Clay, brown, sandy, w/some cs & sml grvl, (soft)
52	55	Gravel & sand, cemented, (3"-), brown
55	57	Gravel, 3"- & sand, med, cemented, brown
57	67	Gravel, 1/2"-, w/some clay, cemented, brown
67	70	Gravel, 1-1/2"-, w/some clay, brown, cemented
70	76	Clay, brown, w/claystone & some gravel, small
76	84	Clay, brown, sandy, & claystone
84	90	Gravel, 3/4"-, & sand, cemented, w/some clay, brn
90	93	Clay, brown, sandy, & claystone
93	105	Gravel, 3"-, & clay, tan-brown
105	115	Basalt, gray, hard
115	118	Basalt, blk & red, fractured, med
118	124	Basalt, red & blk, fractured, med
124	125	Basalt, drk red & blk, frac, w/some cs
125	130	Basalt, drk red & blk, frac, med
130	131	Basalt, drk gray & red, frac, med
131	132	Basalt, drk gray & red, frac, med-hard
132	140	Basalt, drk red, frac, med
140	180	Basalt, gray, w/some frac, hard
180	191	Basalt, gray, fractured, hard
191	192	Basalt, blk & red, ves, w/blue-grn cs, medium
192	193	Basalt, blk & red, some blue-grn, brkn, ves, med
193	200	Basalt, brown, some blue-grn cs, med, some frac
200	203	Basalt, gray, w/some brown
203	206	Basalt, brn & gry, w/some cs, blue-grn, med-hd, frac
206	207	Basalt, lt gray, frac, smooth, med-hard
207	215	Basalt, gray, frac, hard
215	216	Basalt, gray, w/some cs, blue-grn, med, broken
216	220	Basalt, gray & brown, w/cs, blue-grn, med, brkn, ves
220	225	Basalt, gray & red, w/some cs, blue-grn, med, brkn
225	230	Basalt, gray, w/some cs, blue-grn, med-hard, brkn
230	235	Basalt, gray, med-hard, brkn

October 11, 1993

WATER
RESOURCES
DEPARTMENT

ed

Steve Schneider
Schneider Drilling Co.
21881 River Road NE
St. Paul, OR 97137

Dear Steve:

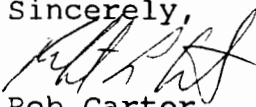
The Water Resources Department has received your request for special standards on the City of Echo well located in Township 3N, Range 29E, Section 16 of Umatilla County.

The current construction of the well is described in your submittal. The 20 inch temporary surface casing became accidentally grouted in the hole to a depth of 107 feet. Annular seal exists outside the 12 inch casing from 107 to 955 feet, and between the 12 inch and 20 inch casing from 6 feet to 107 feet. The upper 6 feet will be sealed with bentonite after placement of a pitless unit.

You are proposing to leave the 20 inch surface casing in place considering the existing annular seal and the lack of water within the upper 107 feet. According to the rough log information submitted by you, it does not appear that the lack of a seal outside the 20 inch would allow commingling of waters between two unlike water producing zones. The annular seal below 107 feet appears to effectively protect the water producing zones within the basalts. Therefore your request is approved. Please note, however, that if it should be determined at some future date that the well is offering an avenue for pollution, you will be required to repair the well.

If you have any questions concerning this letter, please contact me at the address or phone number listed below.

Sincerely,


Rob Carter
Well Construction Specialist

cc: Tony Justice, Watermaster
Brian Mayer, Well Inspector

m:\wp51\ss93\echo



3850 Portland Rd NE
Salem, OR 97310
(503) 378-3739
FAX (503) 378-8130

RECEIVEDSTATE OF OREGON
WATER RESOURCES DEPARTMENT

OCT 08 1993

REQUEST FOR WRITTEN APPROVAL TO USE CONSTRUCTION METHODS NOT INCLUDED IN THE RULES AND REGULATIONS PRESCRIBING GENERAL STANDARDS FOR THE CONSTRUCTION AND MAINTENANCE OF WELLS IN OREGON

Before approval can be considered the following questions must be answered.

Requests shall be submitted to the Watermaster Division, 3850 Portland Road, NE, Salem, OR 97310.

Date: October 5, 1993

Well Constructor: Steve Schneider, Vice President Schneider Drilling Co.

21881 River Road NE, St. Paul, OR 97137

(1) Location of Well: NE 1/4 NE 1/4 of Section 16,

Township 3N, Range 29E, Umatilla County.

Address at well site or nearest known address: Golf Course Road

Echo, OR

(2) Name and address of Landowner: City of Echo

P.O. Box 9

Echo, OR 97826

(3) The distance to the nearest well and septic drainfield: See attached map.
Houses in the area are on City sewage system except club house (~1500 horizontal & 70' vertical down gradient distance) is reportedly still on septic tank until it plugs up.

(4) The unusual conditions existing at the well site: Unpredictable grout
returns (see attached synopsis) has resulted in the cementing of the 'temporary' 20" casing to the permanent 12" casing and owner wants to install a pitless unit as part of pump installation at a later date.

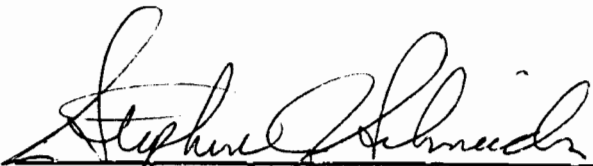
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W-C-90T

- (6) A diagram showing the pertinent features of the proposed well design and construction (attach additional sheet if necessary):

See attached sheet.

(Signed)


(WELL CONSTRUCTOR)

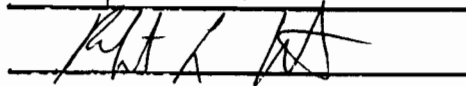
Stephen J. Schneider, V.P. Drilling - WWC649
Schneider Drilling Co.

For Water Resources Department Use Only

Date:

10-8-93

Approved by:



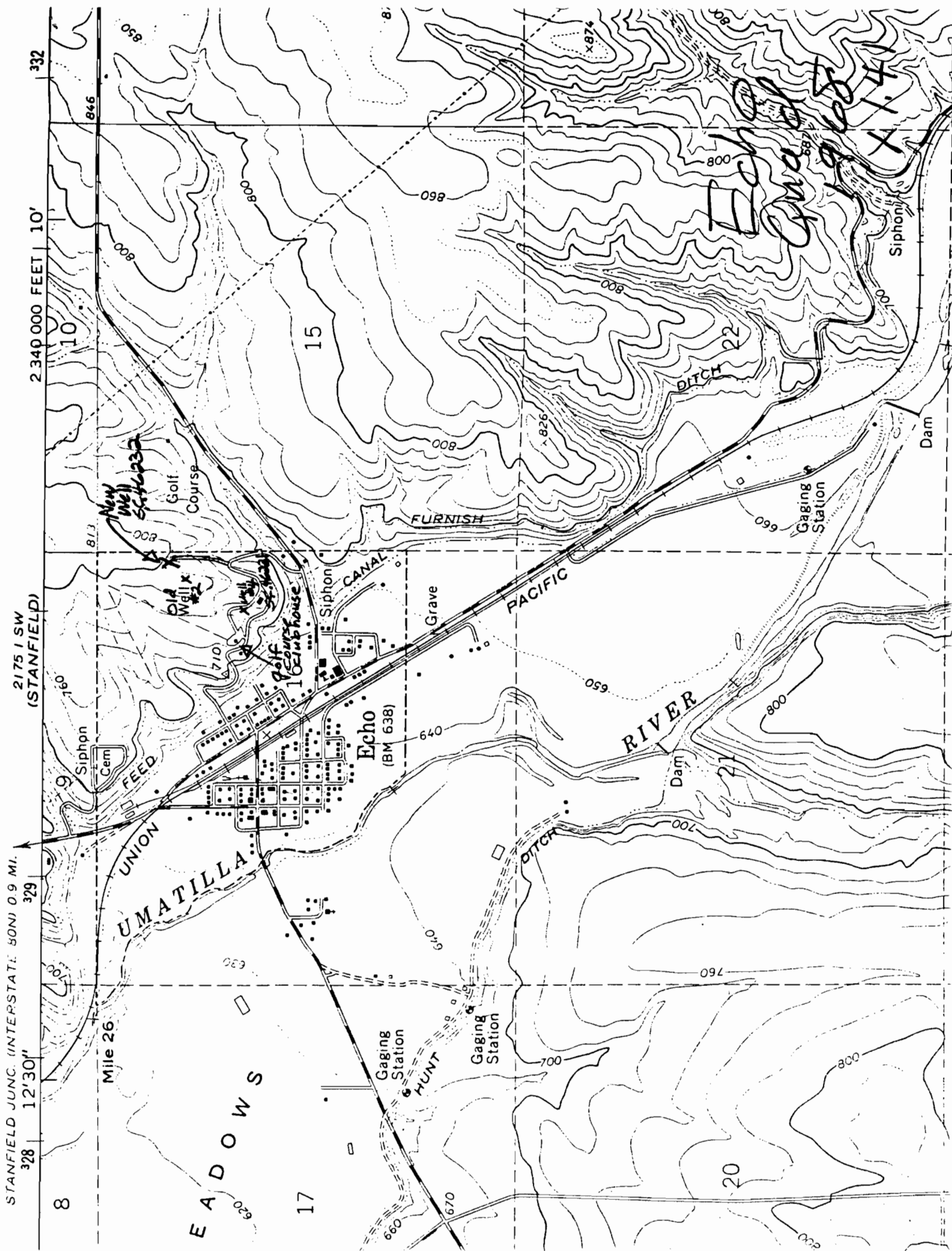
Denied by:

Remarks:

see attached letter

NOTE:

- (1) If approval, all other phases of construction must be in compliance with State Well Construction Standards.
- (2) If it should be determined at some future date that the well, due to its construction, is offering an avenue for pollution of the ground water body, it will be necessary for you to return to the site to correct any well deficiencies.



10/6/93 Synopsis of Grouting Echo Well #5

- Well depth at 956'. 12" casing installed to 955' with stab-in cementing shoe. Pumped an estimated 300 sacks of cement grout through shoe which was calculated to rise above the 206' borehole size change ($956' - 206' = 750'$ of $14\frac{3}{4}" - 12\frac{3}{4}"$ annulus = 225 ft^3). Suspected lost grout in WB strata at $\sim 700'$ as no returns above 206' were measured.
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proposed removal of 20" casing & no seal for future or present installation of a pit-less unit.
proposed additional grout placement,

105' alluvial
basalt

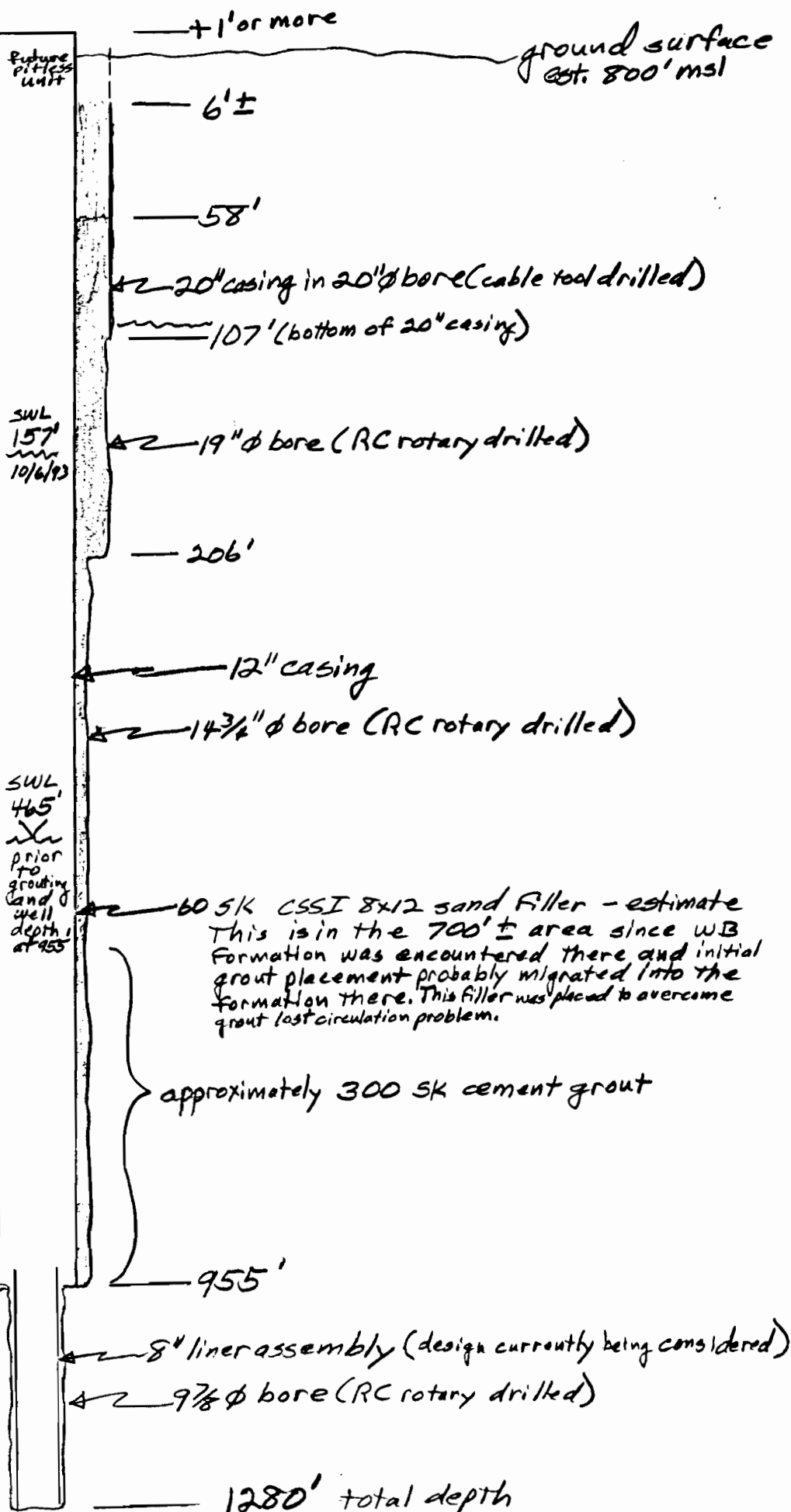
200 SK cement grout
(first 100 SK of this did not come above the 206' bore-hole size change)

Echo Well #5

N.T.S.

10/6/93

Proposed Final Construction



City of Echo
Start Card No. ~~46231~~ 46232
by Schneider Drilling Co.
~~May 18, 1993~~
Sept. 30, 1993

Draft

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