Approved: 

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager

From: Travis Kelly, Well Construction Program Coordinator

Subject: Review of Water Right Application G-19008

Date: September 15, 2020

The attached application was forwarded to the Well Construction and Compliance Section by the Groundwater Section. Jen Woody reviewed the application. Please see Jen's review and the Well Report.

Applicant's Well #3A (TILL 822): Based on a review of the Well Report, Applicant's Well #3A seems to protect the groundwater resource.

The construction of Applicant's Well #3A may not satisfy hydraulic connection issues.

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310
within 30 days from the date of well completion.

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

TILL 922

State Well No. 3S/9W-31
State Permit No.

(1) OWNER:
Name Rivergreen Properties
Address 264 Lancaster Dr SE
Salem, Oregon 97301

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED: Threaded ☐ Welded ☒
See sheet attached" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS: Perforated? ☒ Yes ☐ No.
Type of perforator used Mill cut
Size of perforations 3/8 in. by 2½ in.
SEE SHEET ATTACHED perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS: Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☒ Yes ☐ No If yes, by whom? SEI
Yield: gal./min. with ft. drawdown after hrs.
See sheet attached " "
" " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used 6 yd of 5 sk readimix (to fill 38" Ø) 30 sk concrete premix 3 yd 5 sk readimix (in slab) *
Well sealed from land surface to 20½ ft.
Diameter of well bore to bottom of seal 36 in.
Diameter of well bore below seal 36 in.
Number of sacks of cement used in well seal see above sacks
How was cement grout placed? poured from top
(*see attached correspondence etc.)
on 36"
Was a drive shoe used? ☒ Yes ☐ No Plugs – Size: location – ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? – depth of strata –
Method of sealing strata off
Was well gravel packed? ☒ Yes ☐ No Size of gravel: 3/4 - ½
Gravel placed from 20½ ft. to bottom ft.

(10) LOCATION OF WELL: Customers well No. 3A
County Tillamook Driller's well number 7902
¼ ¼ Section 31 T. 3S R. 9W W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 21 ft.
Static level 20½ ft. below land surface. Date 10-31-78
Artesian pressure lbs. per square inch. Date

(12) WELL LOG: Diameter of well below casing
Depth drilled 42½ ft. Depth of completed well 42 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Clay, rusty brown	0	6	
Clay, rusty brown w/ some stray rocks	6	20	
Gravel & sand, brown fine	20	21	
Clay, sand & gravel conglomerate dry	21	26	21
Sandstone fractured w/ some clay, brown	26	36	21
Sandstone, light gray hard	36	36½	21
Clay, light gray	36½	42½	21

RECEIVED
MAY 30 1979
WATER RESOURCES DEPT.
SALEM, OREGON

Work started 9-21 19 78 Completed 5-16 19 79
Date well drilling machine moved off of well 1-24-79 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Donald G. Davis (Drilling Machine Operator) Date 5-21, 1979
Drilling Machine Operator's License No. 1085

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Schneider Equipment, Inc. (Person, firm or corporation) (Type or print)
Address 21881 River Rd NE, St. Paul, Ore.
[Signed] Stephen Schneider (Water Well Contractor)
Contractor's License No. 649 Date 5-21, 1979

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

Groundwater Application Review Summary Form

Application # G- _19008_

GW Reviewer _Jen Woody_ Date Review Completed: _09/02/2020_

Summary of GW Availability and Injury Review:

☐ Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

Summary of Potential for Substantial Interference Review:

☒ There is the potential for substantial interference per Section C of the attached review form.

Summary of Well Construction Assessment:

☐ The well does not appear to meet current well construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

WATER RESOURCES DEPARTMENT

MEMO **_09/02/2020_**

TO: **Application** G-**_19008_**

FROM: **GW:** **_Jen Woody_**
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☐ **YES**
☒ **NO** The source of appropriation is hydraulically connected to a State Scenic Waterway or its tributaries

☐ **YES**
☒ **NO** Use the Scenic Waterway Condition (Condition 7J)

☐ Per ORS 390.835, the Groundwater Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below

☐ Per ORS 390.835, the Groundwater Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway**

DISTRIBUTION OF INTERFERENCE

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is *unable to make a Preponderance of Evidence finding.*

Exercise of this permit is calculated to reduce monthly flows in _[Enter]_ Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 9/2/2020
FROM: Groundwater Section Jen Woody
Reviewer's Name
SUBJECT: Application G- **19008** Supersedes review of n/a
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review groundwater applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation**.

A. GENERAL INFORMATION: Applicant's Name: **Beaver Water District** County: **Tillamook**

A1. Applicant(s) seek(s) 0.123 cfs from 1 well(s) in the North Coast Basin, Nestucca subbasin

A2. Proposed use municipal Seasonality: year-round

A3. Well and aquifer data **(attach and number logs for existing wells; mark proposed wells as such under logid)**:

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	TILL 822	3A	Alluvium	0.123	3S/9W-31 SW ¼ NW ¼	2065'S, 1220' E fr NW cor S 31
2						
3						
4						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	89	21	21	10/31/1978	42.5	0-20.5	0-42.5	n/a	18.3-42.5	41	18	pump

Use data from application for proposed wells.

A4. **Comments:** none

A5. ☐ **Provisions of the** _____ Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☐ **are**, *or* ☐ **are not**, activated by this application. (Not all basin rules contain such provisions.)
Comments: No such provisions exist in the North Coast Basin Rules.

A6. ☐ **Well(s) #** _____ , _____ , _____ , _____ , _____ , tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: **n/a**
Comments: _____

B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that groundwater* for the proposed use:

a. ☐ **is** over appropriated, ☐ **is not** over appropriated, *or* ☒ **cannot be determined to be** over appropriated during any period of the proposed use. * This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;

b. ☐ **will not** *or* ☐ **will** likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;

c. ☐ **will not** *or* ☐ **will** likely to be available within the capacity of the groundwater resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:

i. ☒ The permit should contain condition #(s) **7C**;

ii. ☐ The permit should be conditioned as indicated in item 2 below.

iii. ☐ The permit should contain special condition(s) as indicated in item 3 below;

B2. a. ☐ **Condition** to allow groundwater production from no deeper than _____ ft. below land surface;

b. ☐ **Condition** to allow groundwater production from no shallower than _____ ft. below land surface;

c. ☒ **Condition** to allow groundwater production only from the **alluvial** groundwater reservoir ~~between approximately _____ ft. and _____ ft. below land surface;~~

d. ☐ **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

Describe injury –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): _____

B3. **Groundwater availability remarks:** The subject well is located adjacent to the Nestucca River. Nearby well logs report 0-30 feet of clay overlying coarse to fine-grained alluvial deposits and consolidated bedrock. Well yields are typically low, ranging from 0 to 60 gallons per minute (gpm) with a median yield of 15 gpm in T3S/R9W-31. The proposed POA appears to access a water-bearing zone in the gravel alluvium and the top of the weathered bedrock.

There are no nearby wells with time series water level data available.

C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	**Alluvial**	☐	☒
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: The reported static water level is the same as the first water-bearing zone, indicating the aquifer is unconfined.

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	**1**	**Nestucca River**	**68**	**62**	**800**	☒	☐	☐	☒	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: The water level in the well is coincident with the Nestucca River elevation within ¼ mile.

Water Availability Basin the well(s) are located within: Watershed ID #: 30120332 , NESTUCCA R > NESTUCCA BAY - AB SAILING CR AT GAGE 14303600

C3a. **690-09-040 (4):** Evaluation of stream impacts for each well that has been determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water (SW) source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that SW source, not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% *natural* flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked ☒ box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
1	**1**	☒	☐	**MF45B**	**80**	☐	**74.4**	☐	**<<25%**	☒
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells**. Otherwise same evaluation and limitations apply as in C3a above.

	SW #		Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: PSI is triggered because the well is in an unconfined aquifer and located less than ¼ mile from the Nestucca River.

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells

Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													

Distributed Wells

Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation: n/a

C4b. **690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.**

C5. ☐ **If properly conditioned**, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:

i. ☐ The permit should contain condition #(s)_____;

ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:** none

References Used:

Hunt, B., 2003, Unsteady stream depletion when pumping from semiconfined aquifer: Journal of Hydrologic Engineering, January/February, 2003.

OWRD Groundwater Information System, accessed 9/2/2020.

Pump test attached to well log for TILL 822

Theis, 1941, The effect of a well on the flow of a nearby stream: American Geophysical Union Trans., v. 22, pt. 3, p. 734-738.

USGS topographic maps, Beaver Quadrangle.

Wells, R.E., Snavely, P.D, MacLeod, N.S., Kelly, M.M., Parker, M.J., 1994, Geologic map of the Tillamook highlands, Northwest Oregon Coast Range, Open File Report 94-21.

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #**: _____ **Logid: TILL 822**

D2. **THE WELL does not appear to meet current well construction standards based upon:**

a. ☐ review of the well log;

b. ☐ field inspection by _____;

c. ☐ report of CWRE _____;

d. ☐ other: (specify) _____

D3. **THE WELL construction deficiency or other comment is described as follows:** This well was completed under special standards. It consists of two 8" casings set within a 36" casing that got stuck while removing it and placing the seal. It's not clear if the applicant plans to use one or both 8" casings as the POA.

D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Figure 1. Water Availability Table

Water Availability Analysis

Detailed Reports

NESTUCCA R > NESTUCCA BAY - AB SAILING CR AT GAGE 14303600

NORTH COAST BASIN

Water Availability as of 8/19/2020

Watershed ID #: 30120332 (Map) Exceedance Level:80%

Date: 8/19/2020 Time: 10:31 AM

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second

Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	781.00	43.10	738.00	0.00	250.00	488.00
FEB	932.00	42.10	890.00	0.00	250.00	640.00
MAR	815.00	22.60	792.00	0.00	250.00	542.00
APR	606.00	16.90	589.00	0.00	250.00	339.00
MAY	359.00	11.10	348.00	0.00	200.00	148.00
JUN	195.00	9.53	185.00	0.00	150.00	35.50
JUL	114.00	10.60	103.00	0.00	80.00	23.40
AUG	75.30	9.85	65.50	0.00	80.00	-14.50
SEP	74.40	7.69	66.70	0.00	80.00	-13.30
OCT	103.00	7.44	95.60	0.00	200.00	-104.00
NOV	486.00	31.50	454.00	0.00	250.00	204.00
DEC	969.00	47.30	922.00	0.00	250.00	672.00
ANN	586,000.00	15,600.00	570,000.00	0.00	138,000.00	432,000.00

Figure 2. Well Location Map

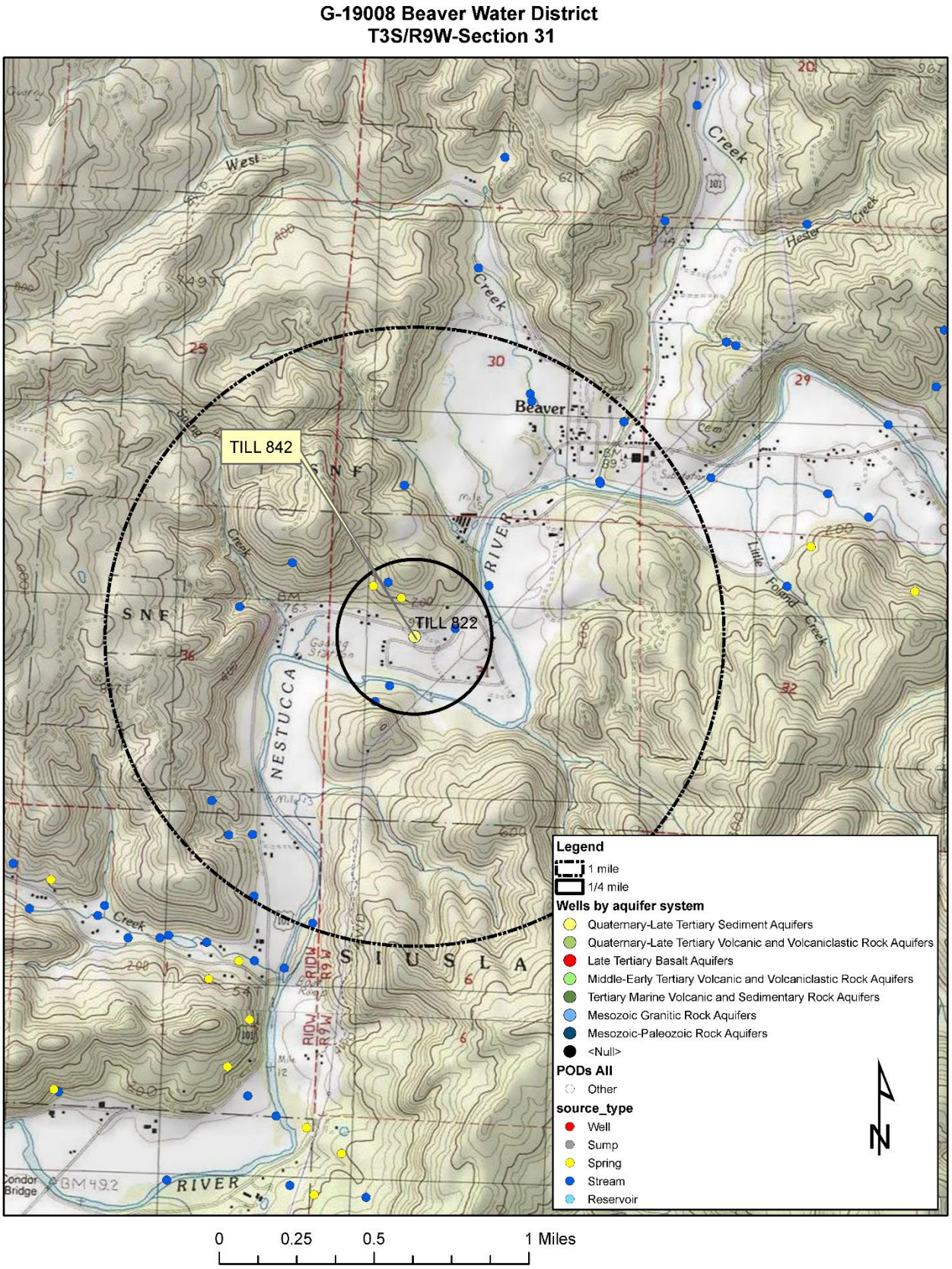
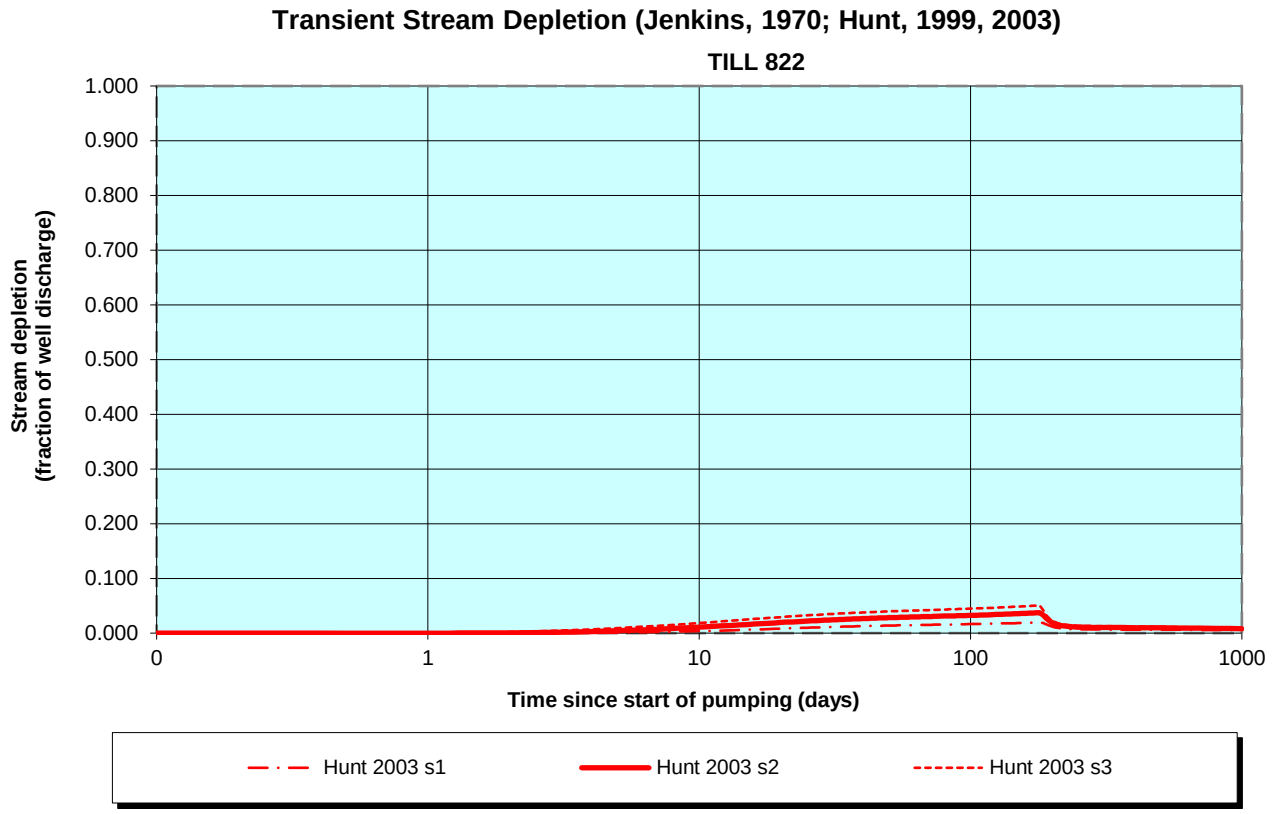


Figure 3. Stream Depletion



Output for Stream Depletion, Scenerio 2 (s2):						Time pump on (pumping duration) = 180 days						
Days	30	60	90	120	150	180	210	240	270	300	330	360
H SD 2003	2.39%	2.94%	3.18%	3.37%	3.55%	3.73%	1.51%	1.14%	1.07%	1.05%	1.03%	1.02%
Qw, cfs	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
H SD 99, cfs	0.004	0.007	0.010	0.012	0.013	0.015	0.012	0.010	0.009	0.008	0.007	0.006
H SD 03, cfs	0.002	0.003	0.003	0.003	0.003	0.003	0.001	0.001	0.001	0.001	0.001	0.001

Parameters:		Scenario 1	Scenario 2	Scenario 3	Units
Net steady pumping rate of well	Qw	41.00	41.00	41.00	gpm
Time pump on (pumping duration)	tpon	180	180	180	days
Perpendicular from well to stream	a	800	800	800	ft
Well depth	d	42.5	42.5	42.5	ft
Aquifer hydraulic conductivity	K	10	20	35	ft/day
Aquifer saturated thickness	b	20	20	20	ft
Aquifer transmissivity	T	200	400	700	ft*ft/day
Aquifer storativity or specific yield	S	0.01	0.01	0.01	
Aquitard vertical hydraulic conductivity	Kva	0.01	0.01	0.01	ft/day
Aquitard saturated thickness	ba	20	20	20	ft
Aquitard thickness below stream	babs	3	3	3	ft
Aquitard porosity	n	0.2	0.2	0.2	
Stream width	ws	10	20	30	ft

WELL DRILLING
IRRIGATION
CONTROL SYSTEMS

SCHNEIDER EQUIPMENT, INC.

PUMPS
ENGINFERED WATER SYSTEMS
SALES AND SERVICE

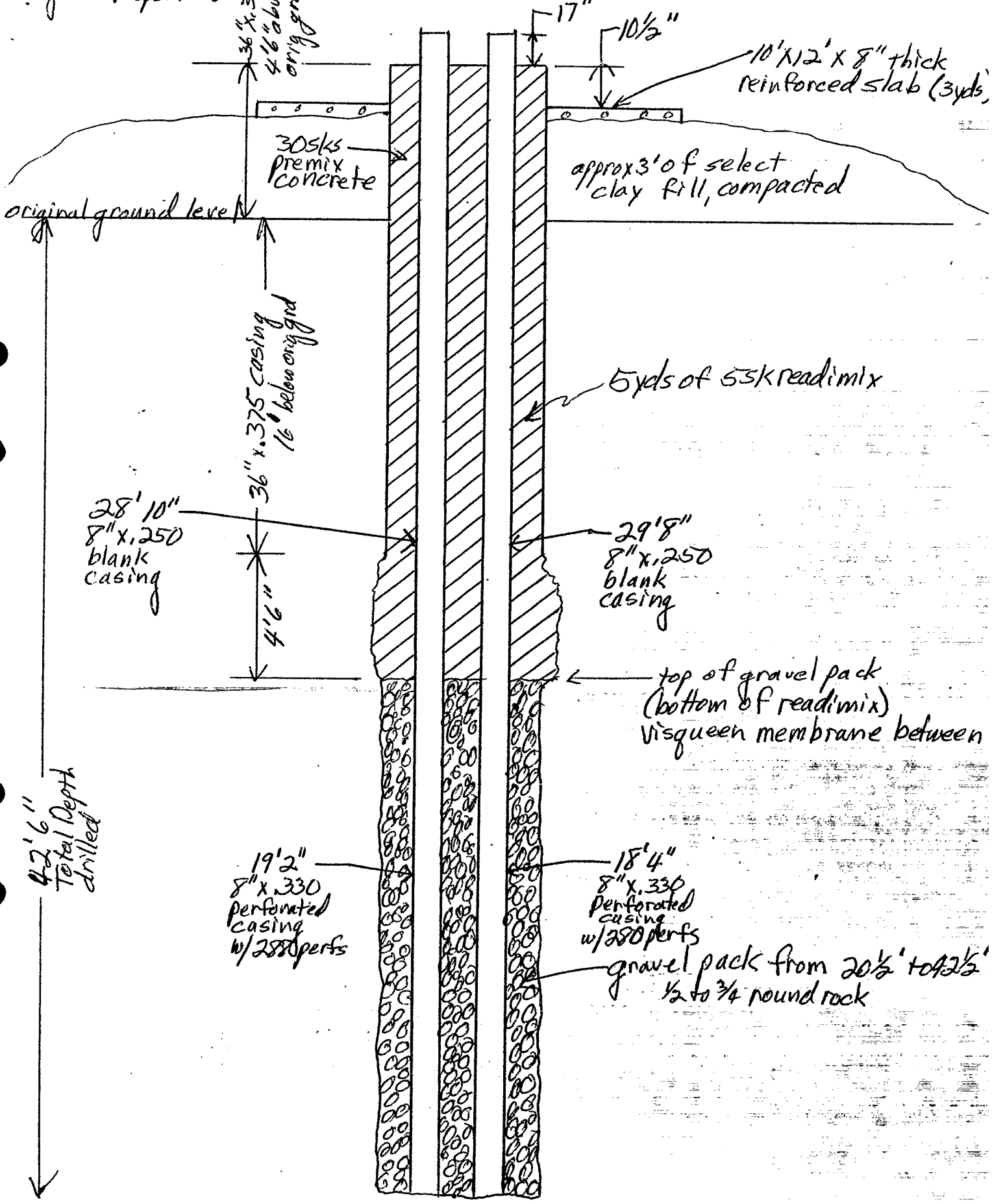
21881 River Road N.E. St. Paul, Oregon 97137 (503) 633-2666

RIVERGREEN PROPERTIES

NESTUCCA BEND WELL NO.3A WELL TEST
Static 21'0" Date of test 10-31-78

Time of Day	GPM	Pumping level	Remarks
11:10	60	21'0"	Started pump
11:15	60	23'6"	
11:25	60	26'3"	
12:00	60	29'10"	
12:20	60	34'9"	Restricted pump
12:32	52	39'4"	
12:40	52	39'3"	Restricted pump
12:50	49	39'3"	Restricted pump
1:00	47	39'3"	
1:10	47	39'3"	
1:35	47	39'3"	Restricted pump
1:45	46	39'3"	Restricted pump
2:30	44	39'3"	Restricted pump
3:00	43	39'3"	Restricted pump
3:30	41	39'3"	
4:00	41	39'3"	
4:10	41	39'3"	Shut off pump
4:11	-	36'7"	
4:12	-	34'7"	
4:17	-	29'0"	
4:22	-	24'1"	
4:27	-	23'9"	
4:32	-	23'6"	
4:40	-	23'3"	End of recovery

Rivergreen Properties — Nestucca Bend Well No. 3A — 5/18/79



WELL DRILLING
IRRIGATION
CONTROL SYSTEMS

SCHNEIDER EQUIPMENT, INC.

PUMPS
ENGINFERED WATER SYSTEMS
SALES AND SERVICE

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

October 12, 1978

Department of Protective Health Services
P. O. Box 231
Portland, Oregon 97207

Attention: Al Smythe

Dear Sirs:

Re: Rivergreen Properties Well at Nestucca Bend

We now have a well 36½ feet deep about 40 feet east of #1 well which was completed with 8" casing 55 feet deep and was dry after sealing. The new well has 34 ft. 8 in. of 36 inch casing (6 ft. 6 in. above ground and 27 ft. 6 in. below ground level) and was test pumped at 55 gpm with a pumping level of 30 ft. 1 in. on October 2, 1978.

We would like approval to possibly drill deeper and to set casing or casings and to fill with gravel to 20 ft. Water would be pumped below 20 ft. if it is above such depth, the well would be sealed with ready mix and the 36 in. casing would be pulled out.

We would leave the casing approximately 25 ft. above the bottom of the seal and after moving the rig out of the way we or the customer would fill around the casing to 22 or 23 ft. above the bottom of the seal with a slope approximately 5 to 1 to help drain the water away from the well area.

This would conform with our telephone conversation of October 11, 1978, and we ask for your approval to complete the well in this manner.

After completion we understand Jack Madison will send the final paper work.

Sincerely yours,

Milo O. Schneider

MOS/rs

Department of Human Resources
HEALTH DIVISION
1400 S.W. 5th AVENUE, PORTLAND, OREGON 97201 PHONE 229-5554
(EMERGENCY PHONE (503) 229-5599

October 12, 1978

Mr. Milo O. Schneider
21881 River Road N. E.
St. Paul, OR 97137

Re: W - Nestucca Bend

Dear Mr. Schneider:

This will confirm that your proposal for completing the well (#3-a) presently under construction at the Nestucca Bend subdivision in accordance with the procedures set forth in your letter of October 12, 1978, are hereby approved.

When the construction is completed, please provide us with copies of the well driller's log, the as-built drawing of the completed well, the pumping test report, particulars on the well pump, details of the well house, and the results of the chemical and bacteriological analysis.

Very truly yours,

A. D. Smythe, P.E.
Manager, Plan Review Section

ADS:hh

cc: Tillamook County Health Department
Jack H. Madison, 6530 Long Prairie Rd, Tillamook
River Green Properties, 264 Lancaster Drive, S.E., Salem

WELL DRILLING
IRRIGATION
CONTROL SYSTEMS

SCHNEIDER EQUIPMENT, INC.

PUMPS
ENGINFERED WATER SYSTEMS
SALES AND SERVICE

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

October 25, 1978

Water Resources Department
555 13th Street NE
Salem, Oregon 97310

Attention: Bill Mc Call

Dear Bill,

Re: Rivergreen Properties Well at Nestucca Bend
Well #3A and our letter of 10-12-78 and
Al Smythe letter of 10-12-78

At present the well was drilled to 42.' with 36" hole after which we set 2 - 8" casings from a +6' to 42' spaced 9" apart and filled with ½ to 3/4" gravel. Ready mix was then poured around the 8" casings and inside the 36" casing.

We then proceeded to pull the 36" casing out, and it came out to 16' (bottom of casing below ground) and stopped. We could not get it to move again, and the cement is set.

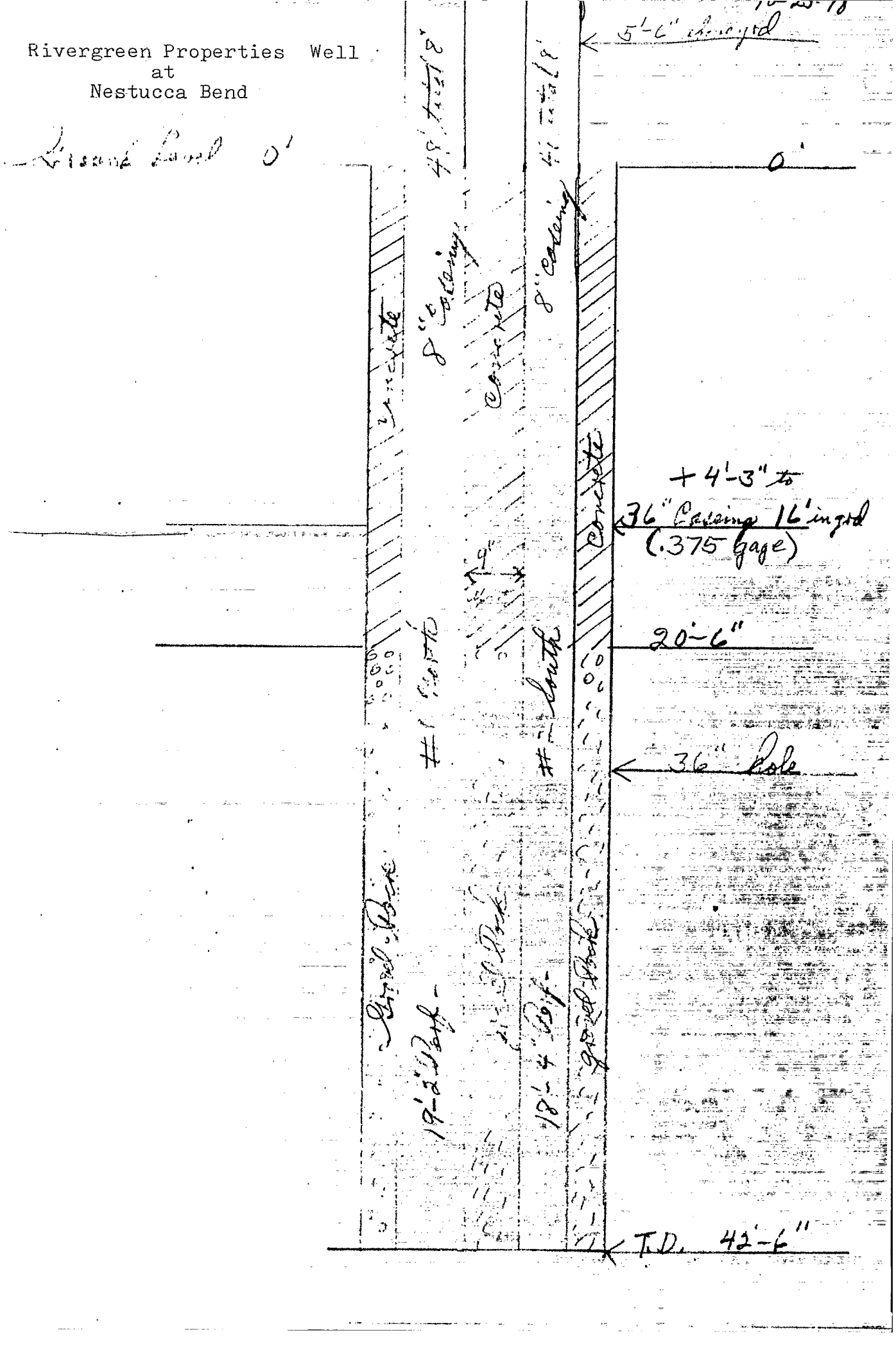
We would like to have approval for use to cut the 36" casing off at ground level and bulldoze the dirt up around the casing to 22 or 23' above the bottom of seal as per our letters of October 12, 1978.

Sincerely yours,

Milo O. Schneider

MOS/rs
Enc.

Rivergreen Properties Well
at
Nestucca Bend



STATE OF OREGON

INTEROFFICE MEMO

Plan Review
DEPT.

229-5554
TELEPHONE

TO: File

DATE: October 26, 1978

FROM: A. D. Smythe

SUBJECT: W - Nestucca Bend

Milo Schnieder, well driller, came in to discuss the status of the gravel-pack well he is putting in at Nestucca Bend. He said that they were not able to completely extract the 36" casing after they installed the redimix seal. He said that after the gravel-pack was placed around the permanent casings (two 8" pipes), the redimix was introduced on top of the gravel-pack (20'-6" depth).

He said the 36" casing was raised 4'-6", but then it stuck. He said that by the time they got the jacks out to the site, the concrete had set up and they were not able to budge the 36" casing. He said that the two 8" permanent casings are 9" apart and are encased in concrete 36" in diameter from the surface down to a depth of 20'-6" below ground level.

I called Bil McCall at the Water Resources Department, and we both agreed that this constituted an effective annular seal.

I told Schnieder that I would send him a letter approving the construction.

I drew a sketch of the well construction which is attached.

ADS/ls

81-125-1387

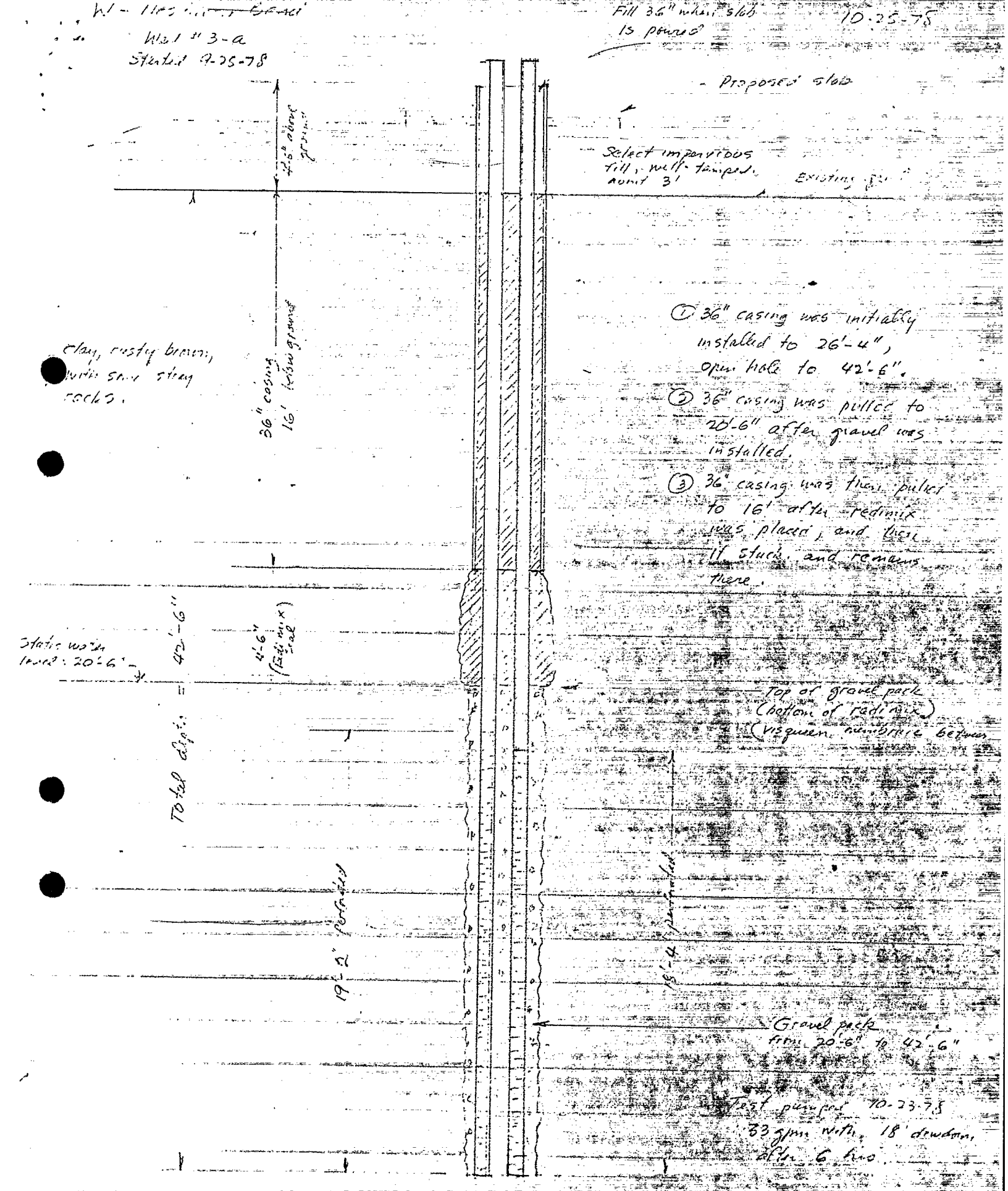
Well ~~[illegible]~~

Well # 3-a

Started 9-25-78

Fill 36" when slab is poured

10-25-78



① 36" casing was initially installed to 26'-4", open hole to 42'-6".

② 36" casing was pulled to 20'-6" after gravel was installed.

③ 36" casing was then pulled to 16' after redimix was placed, and then it stuck, and remains there.

Test pumped 10-23-78

33 gpm with 18' drawdown after 6 hrs.

Department of Human Resources
HEALTH DIVISION
1400 S.W. 5th AVENUE, PORTLAND, OREGON 97201 PHONE 229-5554

October 26, 1978

Mr. Milo O. Schneider
21881 River Road, NE
St. Paul, OR 97137

RE: W - Nestucca Bend, Well 3-A

Dear Mr. Schneider:

Thank you for coming in to my office on 10-25-78, to explain how the annular well seal was placed around the two 8" well casings installed in well #3-A at Nestucca Bend Subdivision in Tillamook County.

I discussed this matter with Bill McCall of the Water Resources Board and we both agreed that the redimix concrete seal which completely fills the 36" casing and encases the two 8" well casings, constitutes an effective annular seal.

Accordingly, this construction is hereby approved.

I would recommend that you leave the 36" casing as it is at present (4.5' above existing ground) so that when the area around the well is filled and the well slab is poured, the top of the 36" casing will be above the slab. The two 8" well casings must be 18" above the slab.

Very truly yours,

A. D. Smythe, P.E.
Manager, Plan Review

ADS/ls

cc: Bill McCall
Regional Office, Tillamook
Tillamook County Health Department

Water Resources Department

MILL CREEK OFFICE PARK

555 13th STREET N.E., SALEM, OREGON 97310 PHONE 378-8455

October 27, 1978

Milo Schneider
21891 River Road N.E.
St. Paul, Oregon 97137

Dear Mr. Schneider:

This is to acknowledge receipt of your request for special standards for the construction of the above referenced well reportedly located in the SW¼ of Section 31, Township 3 South, Range 9 West, W.M., Tillamook County, Oregon. Your letter, and an attached as-built drawing of the well, report that a 36-inch diameter drillhole was constructed to a depth of 42 feet using 36-inch diameter well casing. Thereafter, two 8-inch diameter production pipes were reportedly installed in the well with gravel-pack material placed in the drillhole between the 36-inch surface casing and the two production pipes from the total depth of the well at 42 feet to 20½ feet below land surface. Ready-mix concrete was then reportedly installed in the annular space of the well above the gravel-pack material between the production pipes and the 36-inch casing as it was pulled. Your letter reports, however, that you were unable to pull the oversize casing from the drillhole above a depth of 16 feet and, therefore, request permission to leave the 36-inch casing in the drillhole to a depth of 16 feet, cut it off at land surface, and place soil material surrounding the two production casings to 22 or 23 feet above the bottom of the lowermost annular concrete seal at 20½ feet below present land surface.

You are hereby granted special standards to construct the subject well as described above.

Sincerely,

WILLIAM B. MCCALL
Hydrogeologist

WBM:clh

WELL DRILLING
IRRIGATION
CONTROL SYSTEMS

SCHNEIDER EQUIPMENT, INC.

PUMPS
ENGINFERED WATER SYSTEMS
SALES AND SERVICE

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

October 25, 1978

Department of Protective Health Services
P. O. Box 231
Portland, Oregon 97207

Attention: Al Smythe

Dear Sir:

Re: Rivergreen Properties Well at Nestucca Bend
Well #3A and our letter of 10-12-78 and
Al Smythe letter of 10-12-78

At present the well was drilled to 42' with 36" hole after which we set 2 - 8" casings from a +6' to 42' spaced 9" apart and filled with ½ to 3/4 gravel. Ready mix was then poured around the 8" casings and inside the 36" casing.

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We would like to have approval for use to cut the 36" casing off at ground level and bulldoze the dirt up around the casing to 22 or 23' above the bottom of seal as per our letters of October 12, 1978.

Sincerely yours,

Milo O. Schneider

MOS/rs
Enc.
CC - Water Resources Department
Att'n: Bill Mc Call