

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

RECEIVED
DEC 22 1965
STATE ENGINEER

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

254
GRANT 254
State Well No. 13/27-3
State Permit No.

(1) OWNER:
Name James G. Driscoll
Address Prairie Springs Trout farm
Dessville Oregon

(2) LOCATION OF WELL:
County GRANT Driller's well number
1/4 1/4 Section 3 T. 13S R. 27E W.M.
Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):
New Well Deepening Reconditioning Abandon
Abandonment, describe material and procedure in Item 12.

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

(5) TYPE OF WELL:
Rotary Driven
Cable Jetted
Dug Bored

(6) CASING INSTALLED:
Threaded Welded
6" Diam. from 0 ft. to 24 ft. Gage 1/4
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:
Perforated? Yes No
Type of perforator used Torch
Size of perforations 1/4 in. by 4 in.
36 perforations from 18 ft. to 23 ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

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

(9) CONSTRUCTION:
Well seal—Material used in seal BENTONITE & CEMENT
Depth of seal 18 ft. Was a packer used? no
Diameter of well bore to bottom of seal 8 in.
Were any loose strata cemented off? Yes No Depth
Was a drive shoe used? Yes No
Was well gravel packed? Yes No Size of gravel:
Gravel placed from ft. to ft.
Did any strata contain unusuable water? Yes No
Type of water? depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level ft. below land surface Date
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " " "
" " " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow approx 100 g.p.m. Date 12/13/65
Temperature of water 68 Was a chemical analysis made? Yes No

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 62 ft. Depth of completed well 62 ft.
Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
white clay	0	4
sand gravel & clay	4	18
gravel medium	18	23
grey shattered Rock	23	34
hard grey Rock	34	43
yellow clay stone	43	56
Grey hard rock	56	62

Work started 12-9 1965 Completed 12/13 1965
Date well drilling machine moved off of well 12/13 1965

(13) PUMP:
Manufacturer's Name
Type: H.P.

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 DICK AKINS WELL DRILLING
(B.O. BOX 264) (Type or print)
Address PRINEVILLE, OREGON
Drilling Machine Operator's License No. 249
[Signed] Dick Akina (Water Well Contractor)
Contractor's License No. 260 Date 12/13, 1965

State Engineer

Lock

IN REPLY REFER TO:



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
GROUND WATER BRANCH
Box 3087
Portland 8, Oregon

APR 22 1963
STATE OF OREGON
PAID

April 22, 1963

Mr. James G. Driscoll
Prairie Springs Trout Farm
Dayville, Oregon

13/27-3
Grant

Dear Mr. Driscoll:

Mr. Brooks of Baker is correct; in cooperation with the State Engineer, the Survey runs an inquiry service to help in the public application of the water data the two agencies have collected.

In response to your inquiry of April 18 about the possibility of getting more flowing water of a temperature lower than the present 65°F water you obtain from your two 100-foot artesian wells in the N½ sec. 3, T. 13 S., R. 27 E.:

To answer your questions properly, we may need some additional information. Your exact location in section 3 would be helpful, because we could then relate your water situation to the geology mapped by Tom Thayer on the Aldrich Mountain Quadrangle.

The most pertinent summarization I can make is based on the partial information at hand. It is, that drilling deeper in your present wells, from which water is flowing from the formation called the Columbia River basalt, would probably obtain more water, but it would be warm like the 65°F water you are now getting. However, if I am guessing the well locations correctly, it may be possible elsewhere in that area to obtain cooler water from the basalt.

The general geological situation, as mapped by Thayer, shows that the layered black lava flows of the Columbia River Basalt dip south toward the valley in the mountain slope which underlies the north half of section 3 and the area farther north. This is a good situation to bring ground water under pressure toward the valley. On top of the basalt and underlying much of the slope is a deposit of the chalky sedimentary beds called the Mascall Formation. Faults offset the layered lava flows of the basalt along the foot of the mountain slope and cause water to rise from depth along the near-vertical fault zones and to form springs along the edge of the valley plain. Some of this rising water saturates the overlying Mascall Formation, and in turn flows as springs from gravelly strata. Since it rises from

considerable depths and along fault zones, in which the rock may be warmer than elsewhere, this rising water is warmer than other ground water.

The Aldrich Mountain Quadrangle map (copy enclosed) shows a house north of the highway in section 1 at a point three-fourths of a mile east of Stewarts Crossing and also two springs on the slope north of the house. I wonder if this is the location of your trout farm and if the artesian wells are near the springs. Possibly we can interpret the geologic cause of the warmth of the water in your wells if we know the exact location. From that location perhaps areas of cooler water would be suggested.

We have copies of the drillers' records of five wells that Rudd Davis and Dick Akins drilled for you in 1961 and 1962. Apparently, the two artesian wells that flow from the basalt are the ones to which you refer. We have no information except a reference to section 3 and one puzzling remark about "west of N.E. corner 2700 feet." Such a location would place them up on the slope 300 feet above the valley floor. Can you send us a closely placed location for these wells?

I wonder if the warm water could be cooled in a regular flash-board cooling tower? A trout farmer I knew some years ago northeast of Everett, Washington, cooled 57°F water to about 55° to 50°F by running it over a vertical succession of flash boards like a regular commercial water tower. He had a vertical inlet pipe with which he could run the water clear to the top in warm weather and let it into the tower only part way up during cool weather. As I recall, he kept the inflow to the fish well within the 45° to 55°F range. He was talking about improvising a thermostat control to govern the amount of cooling the inflow received, but I never learned whether or not he constructed such a control.

Possibly we can find some useful indications in the data we have if you can send us the well locations and any other information that will help.

I had a nice talk with Herman Oliver last night. He's down here in a clinic trying to find out what took the bounce out of him after his operation last fall.

Sincerely yours,

R. C. Newcomb
R. C. Newcomb
Research Geologist

Enclosure