Cad

STATE ENGINEER
Salem, Oregon

MULT 002053

Well Record

GR- 1231

STATE WELL NO. 2N/7-21L
COUNTY Multnomah
APPLICATION NO. GR- 3512

OWNER: U. S. Corps of Engineers

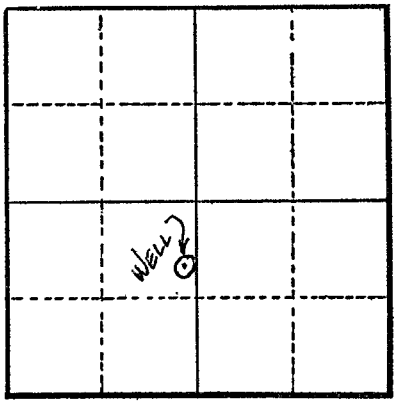
MAILING ADDRESS: 628 Pittock Blk.

CITY AND STATE: Portland 5, Oregon

LOCATION OF WELL: Owner's No. .....

NE ¼ SW ¼ Sec. 21 T. 2 ~~N.~~ S, R. 7 ~~E.~~ W, W.M.

Bearing and distance from section or subdivision corner 1740' S2°30'E. to S¼ cor. Sec. 21.



Section 21

Altitude at well 57 ft.

TYPE OF WELL: Drilled Date Constructed 1934

Depth drilled 128 ft. Depth cased 128 ft.

CASING RECORD:
12 inch

FINISH:
The casing was ripped after drilling and after well had been put in use. The extent of ripping is unknown.

AQUIFERS:

WATER LEVEL:
25 ft.

PUMPING EQUIPMENT: Type Kimball-Krogh Deep Well H.P. 60
Capacity 500 G.P.M.

WELL TESTS:
Drawdown ..... ft. after ..... hours ..... G.P.M.
Drawdown ..... ft. after ..... hours ..... G.P.M.

USE OF WATER Industrial Temp. ..... °F. ....., 19.....
SOURCE OF INFORMATION G. R. Record
DRILLER or DIGGER .....
ADDITIONAL DATA:
Log N.A. Water Level Measurements ..... Chemical Analysis ..... Aquifer Test .....

REMARKS:

State Printing 89316

2N/7
Muh

Jack

GROUND WATER BRANCH
Box 3418 - 1001 NE Lloyd Boulevard
Portland 8, Oregon

September 17, 1959

Mr. Virgil C. Summers
Oregon Fish Commission
State Office Building
5th and Columbia
Portland 1, Oregon

Dear Mr. Summers:

In regard to your telephone inquiry about the feasibility of drilling for ground water to use in raising the temperature of the hatchery water in winter at your Eagle Creek hatchery just southeast of Bonneville Dam:

I assume that a minimum supply of at least 500 gpm of water would be needed from wells to alleviate the shot-ice conditions that sometimes occur in your supply from Eagle Creek.

The information we have is largely geologic because few wells, similar to what you would need, have been drilled in that area. The geologic situation is fairly well known for the bedrock. The hatchery grounds are underlain by alluvium beneath which the Eagle Creek formation extends to considerable depth - probably for at least a thousand feet.

We have no information on the character of the alluvium, but I believe it is rather shallow and not apt to contain the gravel layers from which the wells draw water at the Bonneville Dam.

The Eagle Creek formation is a sequence of stratified sedimentary and volcanic materials. The strata have a common 5 to 10 degree dip to the south. Tuffs are the predominant material but there is a great variety of materials making up the different strata. Some "soapy" bentonitic clay beds are present as well as some hard massive andesite sills. The main bulk of the formation is an indurated volcanic dust-and-angular-fragment composite which is commonly called a tuff.

So far as we know, the Eagle Creek formation does not include many beds which have sufficient porosity and permeability to be good aquifers. The beds on which the spillway section of Bonneville Dam is founded were exposed and the concrete poured "in the dry" without undue amounts of water entering from the Eagle Creek strata. Because of the southward dip these same beds should continue beneath the hatchery site. The power house at Bonneville dam is founded on the andesite sill which crops out along the south side of the reservoir and probably also extends under the hatchery site. Thus, on a geologic basis, the Eagle Creek strata do not seem to hold promise for good wells at the hatchery. However, there is the long chance that a deep well might find an unknown coarsely granular layer that would provide water to a well. If the need is sufficiently imperative and the money is available a 500 to 600-foot test well, which would sample the alluvium and the bedrock, would certainly be warranted even though the geologic information may be lacking for the alluvium and may indicate the odds are against obtaining large yields of water from the bedrock.

South of the hatchery the Columbia River basalt comes down to creek level and a mile or so south of the hatchery might supply good wells, but I assume such a well site would be illogical because of the difficulty of getting drilling machines and pipe conduits into that area.

Sincerely yours,

R. C. Newcomb
District Geologist

cc: Mr. Stanley, St. Engr.

RCN:jz