



# DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

## BAKER FIELD OFFICE

2033 FIRST STREET • BAKER, OREGON • 97814 • Phone (503) 523-3133

TOM McCALL  
GOVERNOR

November 25, 1968

STATE GEOLOGIST  
HOLLIS M. DOLE

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Mr. Norman Peterson  
State Department of Geology and Mineral Industries  
521 N. E. "E" Street  
Grants Pass, Oregon 97026

Dear Norm:

Your Hot Lake hot air (I couldn't resist that) reads perfectly fine to me and the only fallacy I can see is not in the report itself, but instead in your memo which accompanied the report. Here you indicate that with this exam the department will bow out. Perhaps it would be nice to and perhaps we should; however, after telling them in the report that they probably have enough potential to heat La Grande, my bet is that their appetite will just be wetted for a larger and more comprehensive investigation. Even if they should not wish to heat the town, with that amount of potential available they will be thinking of industry of some sort and will be wanting more data. Want to bet? At any rate enclosed here are all four copies of the report that Agnes typed out. I have proof read them but would rather have you look them over yourself before sending a copy to Detrick. You can either return two copies to me and I'll forward one on to Detrick, or you can send one back to me for our files and the other directly to Detrick, --- however you wish. Detrick's address is Mr. Gene Detrick, Mineral Resources Committee, Union County Planning Commission, 504 "N" Avenue, La Grande, Oregon, 97850.

Sincerely,

NORMAN S. WAGNER

NSW/aw  
enc.

# COPY

*Norm*

Nov. 14, 1968

Mr. Gene Detrick  
Mineral Resources Committee  
Union County Planning Commission  
504 "N" Avenue  
La Grande, Oregon 97850

Dear Gene:

Concerning your memo of the 10th, yes, I did receive a copy of your commission's 10-year report which appears nicely put together. Regarding the Hot Lake geothermal situation all I can say at the present time is that from the various comments Norm Peterson made during the course of our visit to Hot Lake and vicinity, it was my understanding that he felt there was sufficient evidence of potential to justify additional investigation of the area. It was also my understanding that he was going to summarize his recommendations in the form of a short written report for your committee. This, however, he has not done as yet, or if he has, I have not yet received a copy.

The way it is I know that Norm has been deeply involved in a major project in Lake County with the added pressure of a deadline to meet; hence I recognize his predicament when it comes to scheduling his time. Nevertheless, I will write him immediately pointing out that your committee will appreciate receiving this report at the earliest opportunity.

Sincerely,

NORMAN S. WAGNER  
Geologist

NSW/aw

*These guys are chopping at the bit, Norm; after all, they don't have a whole hell of a lot of anything else in the mineral resource line to play with.*  
*Jay.*



STATE DEPARTMENT OF GEOLOGY  
AND MINERAL INDUSTRIES

BAKER FIELD OFFICE  
2033 FIRST STREET  
BAKER, OREGON 97814

Jan. 26, 1968

*Geothermal*

Mr. Norman Peterson  
Grants Pass Field Office  
State Department of Geology and Mineral Industries  
521 N. E. "E" St.  
Grants Pass, Oregon 97526

Dear Norm:

The Almighty endowed Union County with Columbia River basalt and other essentially non-mineralized Tertiary volcanics over 90 plus percent of its area and the small patches of pre-Tertiary that are exposed exhibit precious little mineral resource potential. Under the circumstances, sand and gravel, crushed rock, decorative building stone and a very long shot hope for some diatomite constitute the principal mineral resources the Planning Commission has to deal with. For this reason, the Commission's Advisory Actions Committee is extremely interested in the potential for geothermal development in the vicinity of Hot Lake which is located about 8 miles southeast from La Grande and traversed by both the U.P. Railroad and U. S. Highway 30; hence they have asked if we, as a department, can contribute some guidance on the matter.

I have already discussed this with Hollis and he is interested in us doing what we can, and therefore since he is pretty much tied up with jury duty yet, he asked me to write you and outline the problem.

The way it is the Actions Committee realizes that the hot springs can be developed to supply heat for an extensive array of hot houses and enterprises of such nature. What concerns them is whether this is the highest possible use, or whether the area has potential for a greater level of industrial development. In other words, they want to recommend the most appropriate course of action to the Planning Commission but don't know how to evaluate the existent geothermal potential. They are concerned lest they under-estimate it but they don't want to go out on a limb over-estimating it either.

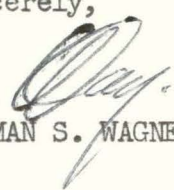
The guidance they hope we can provide, and what Hollis has in mind, is not detailed engineering analysis, but instead, simply enough of a reconnaissance to determine if the geologic situation looks geologically large enough

and strong enough to warrant serious additional study. For my money I am inclined to suspect that the structure is a bit too localized to have any great potential but then this is where you and your experience along this line fit into the picture.

Just guessing, the Hot Lake pool covers an area of about two acres. Its depth and temperature I don't know but according to Water Supply Paper 679-B, the spring that feeds it is 180° F and discharges an approximate 175 gpm's. The thing that counts most is that geologically, this Lake is located at the base of one end of a prominent fault scarp which extends for a distance of some 8 to 10 miles to the southeast before it fades out. Also, a belt of marshy land with pools of standing water comprised of both hot spring discharge and intermixed high natural water-table water parallels the fault for an unestablished distance southeastward from the lake. One mile is my guess; maybe two. Northward from the Lake, however, there is a thick accumulation of Late Tertiary to Recent sediments with no springs or fault displacement in evidence. Whether the fault continues in this direction underneath the sediments is problematical, but Gene Hampton's geologic map in Water Survey Bulletin 1597 shows it intersected by an E-W fault about at the lake and this may well be the point of termination.

Right now the fields around the lake are spotted with 3 or 4 inches of snow and access to the swamp area wouldn't be at all bad. It might even be better now while the ground is frozen than later in the spring. However, we can get more snow on short notice during February and early March so the access situation isn't stable; hence the logical time for examination would be from mid-March on through April. My supposition is that a couple days on the ground will suffice to give you all the data you need for a reconnaissance judgement; so therefore can you arrange your field schedule to include this examination during this period? If not, when do you estimate you might be able to make it. You can, of course, count on me accompanying you and furnishing moral support, some little geologic background and transportation should you elect to come over from Portland via the U.P.

Sincerely,

  
NORMAN S. WAGNER

NSW/aw

P. S: U.S.G.S. Water Supply Paper #1597 dates from 1964 and is the most comprehensive parcel of data currently available for the area. It gives good basic geology but very little information concerning the Hot Lake.

cc - Hollis M. Dole ✓  
R. E. Detrich, ✓

*Norm: We might combine this with going to the 40-mile crosses in Malheur Co with the BLM, but for this a mid to late April date would be best in order to avoid the spring thaw -*

COPY

*Norm*

May 23, 1968

*Ans. May 29<sup>th</sup>*

Mr. Gene Detrick, Chairman  
Mineral Resources Committee  
Union County Planning Commission  
Payless Drug Store  
La Grande, Oregon 97850

Dear Gene:

I am greatly pleased to learn that the data we supplied your committee proved to be of help in getting some of the County's zoning difficulties straightened out on a basis that gives recognition to the importance of your sand and gravel resources in the Island City area. And from our standpoint you are to be complimented for having battled this point through to its logical conclusion.

Concerning the matter of our agreed-upon investigation of the Hot Lake area to determine if the geothermal conditions in existence there exhibit indications of sufficient size and strength to merit additional study, I am writing today to Mr. Peterson to inquire as to his plans for visiting the area. I had anticipated that he might have come last week following a property inspection in the southeastern part of the state, but my inability to accompany the party on the occasion of that examination leaves me not knowing his schedule. I'll let you know the particulars as soon as I learn them myself.

Between them, the State Engineer, the State Water Resources Board and the U.S.G.S. Ground Water Branch do practically all of the groundwater work in the state, including systematic record keeping of logs. We are interested, however, in the logs of exceptionally deep wells, or those revealing data of unusual geologic interest, and these I do try to gather when the opportunity affords. Thanks, therefore, for sending me Ellsworth's log of the deep Clayton well at Imbler. I have made a photocopy and am returning the original herewith. As per your suggestion I will also see to it that Ellsworth gets copies of the Ore-Bins you mentioned.

It is good to know you have someone sharing your interest in the geothermal matter.

Sincerely,

*Gene - what's the good word?*

NORMAN S. WAGNER  
Geologist

NSW/aw  
enc.

**COPY**

-2-

P.S: I already know of the Brown Foundation at Walla Walla and their meteorite collection, but thanks for calling this to my attention anyway.