APPLICATION FOR PERMIT TO DRILL A GEOTHERMAL WELL

(To be accompanied by a $25.00 permit fee for new wells only and a surety bond conditioned as provided by law.)

Department of Geology and Mineral Industries
Portland, Oregon 97201

In compliance with rules and regulations pursuant to ORS 522 (Chapter 776 OL 1971) application is hereby made for permit to drill a (new well / prospect well): Northwest Natural Gas Company, U.S. Forest Service, Zigzag River SW 1/4 of Well No. 1 in NW 1/4 of sec. 14 T. 35 S. R. 8E, W. B. & M., Field, Clackamas County.

This well is 1,800 feet NW (S) of the north line and 400 feet (E) of the west line of Section 14.

(Give location from section or other legal subdivision lines or corners; cross out wrong directions.)

Elevation of ground above sea level is 3,120 feet. All depth measurements are taken from top of rotary table, which is 3.0' above ground.

The lessor is on application

Address: U.S. Forest Service Mt. Hood District
The lessor is

LOCATE WELL CORRECTLY

We propose to use the following strings of casing and to land or cement them as herein indicated:

<table>
<thead>
<tr>
<th>Size of hole</th>
<th>Size of casing</th>
<th>Weight in pounds per foot</th>
<th>Grade and type</th>
<th>New or second hand</th>
<th>Depth</th>
<th>Landed or cemented</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>8-5/8</td>
<td>22</td>
<td>F-25</td>
<td>New</td>
<td>200</td>
<td>Cement to Surface</td>
</tr>
</tbody>
</table>

Method of drilling: rotary X, cable , other.

Proposed objectives: Drill 6" hole to a depth of 2,000 ft.
Install 2" tubing to 2,000 ft., capped on lower end and filled with water
Monitor earth temperature

Northwest Natural Gas Company

By ________________________ Director

Sent communications regarding well to:

Name ________________________
Address ________________________

(Approve June 1 , 1979, except as follows: Stipulations approved by the Governing Board of the Department will be made a condition of this permit.

DEPT. OF GEOLOGY & MINERAL INDUS.

By ________________________ Director

(Submit in triplicate)