

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.)

Portland, Oregon August 22, 1977

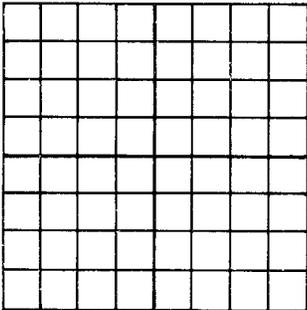
Department of Geology and Mineral Industries
Portland, Oregon 97201

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
(company or operator) (lease)

Well No. C in proj of sec. 19, T. 2S, R. 8E W. B. & M.,

Old Maid Flat (see location plat) Field, Clackamas County.



Section of land
Area 640 acres

This well is _____ feet (N) (S) of the _____ line and _____ feet
(E) (W) of the (see attached map) line of _____.

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

Elevation of ground above sea level is _____ feet. All depth measurements are taken from
top of Rotary Table, which is ± 3.0' above ground.

The lessee is Exploration Permit

Address U. S. Forest Service, Mt Hood District

The lessor is _____

LOCATE WELL CORRECTLY Address _____

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

Size of hole	Size of casing	Weight in pounds per foot	Grade and type	New or second hand	Depth	Landed or cemented No. sacks cement
20"	16"	55	F-25	New	50'	45 sacks
15"	10 3/4"	32	F-25	New	200'	115 Sacks

Method of drilling: rotary X, cable _____, other _____.

Proposed objectives: Drill 6" hole to a depth of 2000'
Install 2" tubing to 2000', capped on lower end and filled with water
Monitor earth temperature

Approved August 22, 19 77
except as follows:
USGS regs to apply
DEQ 2/27/75 stips. to apply
Condit. on archeol. requiremets
DEPT. OF GEOLOGY & MINERAL INDUS.
By [Signature] Director

Northwest Natural Gas Company
company or operator

By _____
position

Send communications regarding well to:

Name _____

Address _____

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.)

Portland, Oregon August 26, 19 76

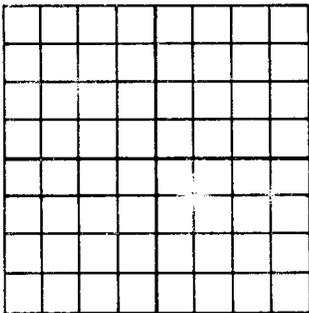
Department of Geology and Mineral Industries
Portland, Oregon 97201

In compliance with rules and regulations pursuant to ORS 522 (Chapter 776 OL 1971) application is hereby made for permit to drill
Northwest Natural Gas Company

a (new well / ~~prospect well~~): Department of Geology & Mineral Industries U. S. Forest Service
(company or operator) (lease)

Site C in Proj. of sec. 19, T. 2 S, R. E E W. B. & M.,

Vacated Pumice Mine Field, Clackamas County.



Section of land
Area 640 acres

This well is _____ feet (N) (S) of the _____ line and _____ feet

(E) (W) of the (See attached map) line of _____.

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

Elevation of ground above sea level is 2000 + feet. All depth measurements are taken from

top of Rotary Table, which is 3' ± above ground.

The lessee is No lease - Exploration Permit

Address U. S. Forest Service Land, Mt. Hood District

The lessor is _____

LOCATE WELL CORRECTLY Address _____

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

Size of hole	Size of casing	Weight in pounds per foot	Grade and type	New or second hand	Depth	Landed or cemented No. sacks cement
20"	16"	55 lbs.	F - 25	New	50'	45 sacks
15"	10 ³ / ₄ "	32 lbs.	F - 25	New	200'	115 sacks

Method of drilling: rotary X, cable _____, other _____.

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

Approved [Signature], 19 76
except as follows: Flowline temperature not to exceed 125°F, DEQ stipulations of February 27, 1975 to apply
DEPT. OF GEOLOGY & MINERAL INDUS.
By [Signature] Director

Dept. of Geology & Mineral Industries
company or operator

By _____ State Geologist
position

Send communications regarding well to:

Name Department of Geology & Mineral Industries

Address 1069 State Office Building

Portland, Oregon 97201