

Introduced: 3/4/80  
Referred: Resources

BY THE RULES COMMITTEE BY REQUEST  
OF THE LEGISLATIVE COUNCIL (for the  
Joint Committee on Small  
Hydroelectric and Geothermal Power)

1 IN THE HOUSE

2 SPONSOR SUBSTITUTE FOR HOUSE BILL NO. 779

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 ELEVENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act relating to the development of geothermal re-  
7 sources."

8 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

9 \* Section 1. DECLARATION OF POLICY. It is declared to be in the public  
10 interest to foster and promote the discovery, development, production, pri-  
11 mary and cascaded use, and disposal of geothermal resources in the state in a  
12 manner that will prevent waste, provide for maximum economic recovery, pro-  
13 tect correlative rights, and safeguard the natural environment and the public  
14 welfare.

15 \* Sec. 2. AS 38.05.125 is amended to read:

16 Sec. 38.05.125. RESERVATION. Each contract for the sale, lease or  
17 grant of state land, and each deed to state land, properties or interest  
18 in state land, made under AS 38.05.315 - 38.05.325, 38.05.045 - 38.05.-  
19 120, AS 38.08, or AS 38.50 except as provided in AS 38.50.050 is subject  
20 to the following reservations: "The party of the first part, Alaska,  
21 hereby expressly saves, excepts and reserves out of the grant hereby  
22 made, unto itself, its lessees, successors, and assigns forever, all  
23 oils, gases, coal, ores, minerals, fissionable materials, geothermal  
24 resources, and fossils of every name, kind or description, and which may  
25 be in or upon said lands above described, or any part thereof, and the  
26 right to explore the same for such oils, gases, coal, ores, minerals,  
27 fissionable materials, geothermal resources, and fossils, and it also  
28 hereby expressly saves and reserves out of the grant hereby made, unto  
29 itself, its lessees, successors, and assigns forever, the right to enter

1 by itself, its or their agents, attorneys, and servants upon said lands,  
2 or any part or parts thereof, at any and all times for the purpose of  
3 opening, developing, drilling, and working mines or wells on these or  
4 other lands and taking out and removing therefrom all such oils, gases,  
5 coal, ores, minerals, fissionable materials, geothermal resources, and  
6 fossils, and to that end it further expressly reserves out of the grant  
7 hereby made, unto itself, its lessees, successors, and assigns forever,  
8 the right by its or their agents, servants and attorneys [ATTORNEY] at  
9 any and all times to erect, construct, maintain, and use all such build-  
10 ings, machinery, roads, pipelines, powerlines, and railroads, sink such  
11 shafts, drill such wells, remove such soil, and to remain on said lands  
12 or any part thereof for the foregoing purposes and to occupy as much of  
13 said lands as may be necessary or convenient for such purposes hereby  
14 expressly reserving to itself, its lessees, successors, and assigns, as  
15 aforesaid, generally all rights and power in, to, and over said land,  
16 whether herein expressed or not, reasonably necessary or convenient to  
17 render beneficial and efficient the complete enjoyment of the property  
18 and rights hereby expressly reserved."

19 \* Sec. 3. AS 38.05.130 is amended to read:

20 Sec. 38.05.130. DAMAGES AND POSTING OF BOND. No rights shall be  
21 exercised by the state, its lessees, successors or assigns under the  
22 reservation as set out in AS 38.05.125 [OR] until the state, its lessees,  
23 successors, or assigns make provision [PROVISIONS] to pay the owner of  
24 the land full payment for all damages sustained by the owner, by reason  
25 of entering upon the land. If the owner for any cause refuses or ne-  
26 glects to settle the damages, the state, its lessees, successors,  
27 assigns, or an applicant for a lease or contract from the state for the  
28 purpose of prospecting for valuable minerals, or option, contract or  
29 lease for mining coal or lease for extracting geothermal resources.

1 petroleum or natural gas, may enter upon the land in the exercise of the  
2 reserved rights after posting a surety bond determined by the director,  
3 after notice and an opportunity to be heard, to be sufficient as to  
4 form, amount, and security to secure to the owner payment for damages,  
5 and may institute legal proceedings in a court where the land is located  
6 as may be necessary to determine the damages which the owner may suffer.

7 \* Sec. 4. AS 38.05.181 is repealed and re-enacted to read:

8 Sec. 38.05.181. GEOTHERMAL RESOURCES. (a) Permits and leases;  
9 preference. The commissioner may, under regulations he adopts, grant  
10 prospecting permits and leases to a qualified person to explore for,  
11 develop, or use geothermal resources. When title to the surface parcel  
12 is held by a person other than the state, that person shall have a pre-  
13 ferential right to a geothermal prospecting permit or lease for the area  
14 underlying the surface parcel. The surface owner must exercise the  
15 preference right within 30 days after receiving notice of the applica-  
16 tion for a permit, or by agreeing to meet the terms of a bid within 60  
17 days after receiving notice of the acceptance of the bid for a lease.

18 (b) Competitive geothermal areas. The commissioner may designate  
19 a geothermal area or portion of it a competitive geothermal area. A  
20 designation as a competitive geothermal area must be on the basis of  
21 substantial geologic indications of geothermal resources or on the basis  
22 of competitive interest in geothermal resources of the area.

23 (c) Prospecting permits. On state land that has not been declared  
24 a competitive geothermal area or withdrawn from geothermal prospecting,  
25 the commissioner may issue a prospecting permit to the first qualified  
26 applicant. The permit conveys an exclusive right, for a period of two  
27 years, to prospect for geothermal resources on state land included under  
28 the permit. The commissioner may, at his discretion, renew the permit  
29 for an additional one-year term. A holder of a prospecting permit has

1 the right, upon the showing of a discovery of geothermal resources in  
2 commercial quantities and the submission of a development plan accept-  
3 able to the commissioner, to convert the permit to a noncompetitive  
4 lease at a rent, under (e) of this section, and royalty rate, under (g)  
5 of this section. The conversion privilege must be exercised not later  
6 than 30 days after the expiration of the permit. If the land included  
7 within the permit is designated a competitive geothermal area during the  
8 permit term, the permittee must apply for a noncompetitive lease within  
9 30 days after notification of the designation or forfeit his conversion  
10 privileges and his exclusive right to prospect.

11 (d) Competitive leasing. On state land that is designated a  
12 competitive geothermal area and is not subject to an existing prospect-  
13 ing permit, the commissioner may issue geothermal leases to the highest  
14 bidder by competitive bidding procedures established by regulations  
15 adopted by him. At the discretion of the commissioner, competitive  
16 lease sales may be by oral or sealed bid, on the basis of a cash bonus,  
17 profit share, or royalty share.

18 (e) Acreage limitations and rentals. Prospecting permits and  
19 geothermal leases granted under this section must, except in the case of  
20 parcels subject to a preference right under (b) of this section, be  
21 issued for at least 40 acres but not more than 2,560 acres. A person  
22 may not own, or hold an interest in, geothermal leases covering more  
23 than 51,200 acres. However, geothermal leases in commercial production,  
24 individually or under a unit operation, do not count against the acreage  
25 limitation. All prospecting permits and geothermal leases are subject  
26 to an annual rental, payable in advance, of \$3 per acre. The rental for  
27 a year shall be credited against royalties accruing for that year.

28 (f) Lease term and renegotiation. A geothermal lease shall be  
29 issued for a primary term of 10 years and may be renewed for an addi-

1 tional term of five years if the lessee is actively engaged in drilling  
2 operations. A geothermal lease is valid for the duration of commercial  
3 production. Beginning 20 years after the initiation of commercial  
4 production and at 10-year intervals thereafter, the commissioner may  
5 renegotiate the rentals and royalties due on a geothermal lease.

6 (g) Royalties. Each geothermal lease shall be conditioned upon  
7 payment by the lessee of a royalty of not less than 10 percent but not  
8 more than 15 percent of the gross revenues derived from the production,  
9 sale, or use of geothermal resources under the lease. Royalties may be  
10 taken in kind rather than in value if the commissioner determines that  
11 taking in kind would be in the best interest of the state. The com-  
12 missioner may also, if the lessee shows that he cannot otherwise econom-  
13 ically operate, reduce, suspend, or waive the rentals and royalties due  
14 on a geothermal lease.

15 (h) Regulations. Regulations adopted by the commissioner to  
16 implement this section shall be adopted in accordance with the Adminis-  
17 trative Procedure Act (AS 44.62).

18 \* Sec. 5. AS 38.05.365 is amended by adding a new paragraph to read:

19 (24) "geothermal resources" means the natural heat of the  
20 earth at temperatures greater than 120 degrees Celsius, measured at the  
21 point where the highest-temperature resources encountered enter or  
22 contact a well shaft or other resource extraction device, and includes

23 (A) the energy, including pressure, in whatever form  
24 present in, resulting from, created by, or that may be extracted  
25 from that natural heat;

26 (B) the material medium, including the brines, water and  
27 steam naturally present, as well as the fluids or substances arti-  
28 ficially introduced to serve as a heat transfer medium; and

29 (C) all dissolved or entrained minerals and gases that

1           may be obtained from the material medium, but excluding hydrocarbon  
2           substances and helium.

3 \* Sec. 6. AS 41 is amended by adding a new chapter to read:

4                   CHAPTER 06. GEOTHERMAL RESOURCES.

5           Sec. 41.06.010. WASTE PROHIBITED. The waste of geothermal re-  
6           sources in the state is prohibited.

7           Sec. 41.06.020. APPLICATION. (a) The commissioner has juris-  
8           diction over all persons and property, public and private, necessary to  
9           carry out the purposes and intent of this chapter.

10           (b) The authority of the commissioner applies to all private,  
11           municipal, state, and federal land in the state lawfully subject to the  
12           police power of the state. When any of that land is committed to a unit  
13           agreement involving land subject to federal jurisdiction, the operation  
14           of this chapter or a part of this chapter may be suspended, if the unit  
15           operations are regulated by the United States and if the conservation of  
16           geothermal resources is accomplished under the unit agreement.

17           Sec. 41.06.030. RESERVOIR MANAGEMENT. (a) The commissioner shall  
18           require the filing and approval of a plan of development and operation  
19           on each producing geothermal system and may issue well-spacing and  
20           pooling orders, limits on production, and reinjection requirements, in  
21           order to prevent waste, promote maximum economic recovery, and protect  
22           correlative rights.

23           (b) Lessees of all or part of a geothermal system may enter into a  
24           unit agreement for cooperative development, with the approval of the  
25           commissioner. The commissioner may suspend or modify the approved  
26           development plan in accordance with the unit agreement.

27           (c) If the owners of at least two-thirds of the leasehold in-  
28           terests in a geothermal system ratify a unit agreement approved by the  
29           commissioner, the commissioner may enforce the agreement as to lessees

1 not a party to the agreement by allocating production under the prin-  
2 ciple of correlative rights and by apportioning costs and revenues.

3 (d) Lease operations under an approved development plan or unit  
4 agreement are considered to be in compliance with individual lease  
5 requirements.

6 Sec. 41.06.040. DRILLING REGULATIONS. (a) The commissioner shall  
7 adopt regulations in accordance with the Administrative Procedure Act  
8 (AS 44.62) relating to the siting, spacing, drilling, casing, cementing,  
9 testing, logging, operating, producing, and abandonment of geothermal  
10 wells so as to prevent

11 (1) geothermal resources, water or other fluids, and gases  
12 from escaping into strata other than that in which they are found (un-  
13 less in accordance with an approved reinjection program);

14 (2) contamination of surface and groundwater;

15 (3) premature cooling of a geothermal system by water en-  
16 croachment or otherwise;

17 (4) blowouts, cavings and seepage; and

18 (5) unreasonable disturbance or injury to neighboring proper-  
19 ties, prior water rights, human life, health and the natural environ-  
20 ment.

21 (b) The commissioner shall cause the operator of a geothermal well  
22 or wells to file adequate individual or blanket surety bonds to ensure  
23 compliance with his regulations.

24 (c) The commissioner may enter upon any property, public or pri-  
25 vate, to inspect a geothermal operation for compliance with his regu-  
26 lations.

27 (d) Geothermal wells regulated by the commissioner under this  
28 chapter are exempt from the jurisdiction of the Alaska Oil and Gas  
29 Conservation Commission under AS 31.05.030(g).

1           Sec. 41.06.050. RELATIONSHIP OF GEOTHERMAL RESOURCES TO WATER.

2           (a) An operator shall, before drilling or constructing a geothermal  
3 well or group of wells to be operated in concert, file an application  
4 with the commissioner for approval to drill the well or wells. The date  
5 of filing of the application establishes priority as to later appro-  
6 priators of non-geothermal fluids. The application must contain suffi-  
7 cient information to enable the commissioner to determine whether the  
8 operation of the well or wells will interfere with or impair a prior  
9 water right.

10           (b) An operator may not begin well drilling or construction with-  
11 out the approval of the commissioner. The commissioner shall approve  
12 the well construction upon the conditions he considers necessary to  
13 protect the public interest, if

14                   (1) the proposed geothermal operation will not significantly  
15 interfere with or substantially impair a prior water right;

16                   (2) the geothermal owner has acquired through purchase or  
17 condemnation adequate water rights to offset the potential interference  
18 or impairment; or

19                   (3) the geothermal owner has obtained and dedicated to the  
20 affected party or parties an equivalent amount of replacement water of  
21 comparable quality.

22           (c) The withdrawal of geothermal fluid from a geothermal system  
23 does not require a certificate of appropriation under AS 46.15 and no  
24 priority may be established among geothermal owners in a geothermal  
25 system.

26           Sec. 41.06.060. DEFINITIONS. In this chapter

27                   (1) "commissioner" means the commissioner of natural re-  
28 sources;

29                   (2) "correlative rights" means the right of each geothermal

owner in a geothermal system to produce without waste his just and equitable share of the geothermal resources in the geothermal system;

(3) "geothermal fluid" means brines, water and steam at temperatures greater than 120 degrees Celsius naturally present in a geothermal system;

(4) "geothermal resources" means the natural heat of the earth at temperatures greater than 120 degrees Celsius, measured at the point where the highest-temperature resources encountered enter or contact a well shaft or other resource extraction device, and includes

(A) the energy, including pressure, in whatever form present in, resulting from, created by, or that may be extracted from that natural heat;

(B) the material medium, including the brines, water and steam naturally present, as well as the fluids or substances artificially introduced to serve as a heat transfer medium; and

(C) all dissolved or entrained minerals and gases that may be obtained from the material medium, but excluding hydrocarbon substances and helium.

(5) "geothermal system" means a stratum, pool, reservoir, or other geologic formation containing geothermal resources;

(6) "operator" means a person drilling, maintaining, operating, producing, or in control of a well;

(7) "owner" means a person who, by reason of an interest in real property, has the right to drill into, produce, and make use of geothermal resources;

(8) "waste" means an inefficient, excessive, or improper production, use, or dissipation of geothermal resources, including, but not limited to,

(A) drilling, transporting, or storage methods that

1 cause or tend to cause unnecessary surface loss of geothermal  
2 resources;

3 (B) locating, spacing, drilling, equipping, operating,  
4 producing, or venting of a well in a manner that results or tends  
5 to result in reducing the ultimate economic recovery of geothermal  
6 resources;

7 (9) "well" means a well drilled, converted, or reactivated  
8 for the discovery, testing, production, or subsurface injection of  
9 geothermal resources.

10 \* Sec. 7. AS 41.08.020(a) is amended to read:

11 (a) The state geologist shall conduct geological and geophysical  
12 surveys to determine the potential of Alaskan lands for production of  
13 metals, minerals, [AND] fuels, and geothermal resources; the locations  
14 and supplies of ground waters and construction materials; the potential  
15 geologic hazards to buildings, roads, bridges and other installations  
16 and structures; and shall conduct such other surveys and investigations  
17 as will advance knowledge of the geology of Alaska. With the approval  
18 of the commissioner, the state geologist may acquire, by gift or pur-  
19 chase, geological and geophysical reports, surveys and similar informa-  
20 tion.

21 \* Sec. 8. AS 46.15.120 is amended to read:

22 Sec. 46.15.120. CERTIFICATES. Upon completion of construction of  
23 the works and commencement of use of water, the permit holder shall  
24 notify the commissioner that he has perfected his appropriation. If the  
25 commissioner determines that the appropriation has been perfected in  
26 substantial accordance with the permit, he shall issue the permit holder  
27 a certificate of appropriation. The certificate shall set out any con-  
28 dition which [SUCH INFORMATION AS] the commissioner may prescribe by  
29 regulation, including conditions that are necessary to protect the cor-

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relative rights of the owners of geothermal resources as defined in AS 41.06.060(2).

\* Sec. 9. AS 46.15.260(5) is amended to read:

(5) "water" means all water of the state, surface and subsurface [SUBSURFACES], occurring in a natural state, except mineral and medicinal water;