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**Petty**

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(54) **SYSTEM AND METHOD FOR AQUIFER  
GEO-COOLING**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 168 days.

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(21) Appl. No.: **12/433,611**

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(Continued)

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**Related U.S. Application Data**

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(51) **Int. Cl.**  
**F03G 7/00** (2006.01)

(57) **ABSTRACT**

(52) **U.S. Cl.** ..... **60/641.2; 60/641.6**  
(58) **Field of Classification Search** ..... **60/641.2–641.4, 60/641.6–641.7**  
See application file for complete search history.

A geo-cooling system of specified cooling capacity for cooling a known heat load is disclosed. The system includes a cool water aquifer, a cool water production well and a heated water injection well. The cool water production well is open to the cool water aquifer and in hydrologic communication with a subterranean heat exchange area that provides requisite cooling capacity to a known heat load. The heated water injection well is in hydrologic communication with the subterranean heat exchange area and open to the cool water aquifer at a prescribed distance from the cool water production well. The prescribed distance between the cool water production well and the heated water injection well is at least based on the available size of a subterranean heat exchange area including a portion of the cool water aquifer that hydrologically communicates between the heated water injection well and the cool water production well.

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**19 Claims, 4 Drawing Sheets**

