

NEIL ABERCROMBIE  
GOVERNOR OF HAWAII



**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

**Testimony of  
WILLIAM J. AILA, JR.  
Chairperson**

**Before the House Committee on  
ENERGY & ENVIRONMENTAL PROTECTION**

**Friday, April 19, 2013  
8:45AM  
State Capitol, Conference Room 225**

**In consideration of  
SENATE CONCURRENT RESOLUTION 123, SENATE DRAFT 1  
EXPRESSING CONCERN ABOUT THE USE OF HYDRAULIC  
FRACTURING IN HAWAII**

Senate Concurrent Resolution 123, Senate Draft 1 expresses the Legislature's concern regarding the use of hydraulic fracturing - also known as "fracking" - in Hawaii. **The Department of Land and Natural Resources (Department) offers the following comments.**

The Department believes it is premature to dismiss a technology that has not been investigated in the context of the Hawaii environment and to conclude that this methodology can result in potentially adverse impacts to the environment.

The Department appreciates the resolution's intent to protect against potential adverse impacts to the environment from hydraulic fracturing operations generally associated with the oil and gas industry, and also recognizes the aim of the resolution to protect the State's natural resources and water supplies. The Department is unaware of any proposed plans to use this technique in Hawaii.

Hydraulic fracturing operations would require the use of an injection well and as such would be subject to existing State regulations which safeguard our environment and statewide ground water supplies. The Department and the Department of Health both have adequate statutory authorities to allow regulatory oversight regarding the construction, operation, and monitoring of both production and underground injection wells.

**WILLIAM J. AILA, JR.**  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

**ESTHER KIA'AINA**  
FIRST DEPUTY

**WILLIAM M. TAM**  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS



**SCR123 SD1**  
**EXPRESSING CONCERN ABOUT THE USE OF HYDRAULIC FRACTURING IN HAWAII.**  
House Committee on Agriculture  
House Committee on Energy & Environmental Protection

April 19, 2013

8:45 a.m.

Room 225

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The Office of Hawaiian Affairs (OHA) offers the following comments on SCR123 SD1, which expresses concerns on the use of hydraulic fracturing or “fracking” in Hawai‘i.

The use of fracking to expand the ability to exploit fossil fuel resources is troubling. The demand for cheap energy has made it economically feasible to use fracking technology that may contribute to earthquakes and devastation of water supplies. Determining that fracking causes this damage is difficult and places an unconscionable burden on the health and safety of nearby communities and our sensitive watersheds.

Nevertheless, it may be premature to create an automatic ban on hydraulic fracturing technology because this technology is rapidly changing. Any ban could become a game of “whack-a-mole” as the legislature has to chase down changes in the description of drilling technologies or we find out that we have eliminated a positive derivative of this technology. **In this case, it appears that the resolution should be expanded to look at the impacts of “Enhanced Geothermal Systems” which uses a technique similar to fracking.**

**To the extent that Hawai‘i may move towards geothermal development using hydraulic fracturing techniques, OHA is adamant that there should be an open and transparent process for evaluation of geothermal exploration or development, particularly for proposals that will impact Hawai‘i’s most fragile lands and communities.** Accordingly, experimenting with new technology in the most sensitive of protected regions, including fragile watershed areas and the habitats of threatened or endangered animal and plant species, may be unwise. Geothermal exploration and development may result in emission of noxious gases, water table disturbance, noise and ground surface disturbance. Due to these potential impacts, there needs to be an opportunity for public hearings in the proposed affected community and an opportunity for contested case hearing.

Mahalo for the opportunity to testify on this important measure.

## thielen3 - Charles

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**From:** Robert Petricci [nimo1767@gmail.com]  
**Sent:** Thursday, April 18, 2013 2:51 AM  
**To:** AGL Testimony; EEPtestimony

EEP/AGL 225 Apr 19, 2013 8:45 AM

Testimony RE: SCR 123

Position: Strong support with comments

Robert Petricci

Representing: Puna Pono Alliance

Aloha

Rep. Chris Lee, Chair, EEP, Rep. Cynthia Thielen, Vice Chair, and committee members

Rep. Jessica Wooley, Chair, AGL, Rep. Richard H.K. Onishi, Vice Chair, and committee members.

Thank you for the opportunity to present testimony on this very important issue.

Puna Pono Alliance strongly supports SCR123

Puna Hawaii is a farming community that has been identified for further geothermal development. IDG has proposed a 50 megawatt geothermal power plant at the only ocean access in Puna. Where we go to surf, fish, swim, and gather with our families. We have no other safe ocean access in the Puna district. What is scary is they claim to have "new technology". Is it fracking? They will not say, before that is allowed we must do more research on the ramifications of this in Hawaii.

Puna is a very seismically and volcanically active area, PPA is extremely concerned about the implications fracking - Enhanced Geothermal Systems (EGS) has as it relates to induced seismicity (causing earthquakes) and the potential to pollute our ground water.

Before any hydraulic fracturing experiments are done in Hawaii, the legislature needs to look at the induced seismicity and water pollution that have occurred in other places where this technology has been allowed. Both on the mainland and around the world problems associated with hydraulic fracturing (fracking) have been well documented.

A working group should be formed that includes members of the environmental community to examine the dangers both seismically and environmentally that have been reported. The working group should consult with lawmakers and regulators that have banned this technology around the country and around the world. Why was this drilling technology banned? A project in California was abandoned and another closed down in Switzerland because of induced earthquakes and technical difficulties.

On the mainland AltaRock Energy, the industry leader in geothermal hydraulic fracturing is already working with Ormat the parent company of Hawaii's PGV plant. Ormat is also involved in a project on Maui. AltaRock

Energy and Ormat have projects together where they have hydraulically fracture wells at Ormat geothermal projects in Nevada. AltaRock has been to Hawaii already even after they were forced to abandoned a project in California.

Dr Don Thomas from UH Manoa has been quoted publicly in the media as supporting hydraulic fracturing in Hawaii. Dr. Thomas should not be part of the working group as along with DLNR they have shown an eagerness to frack in Hawaii without considering the negative impacts. Both Dr. Thomas, and DLNR were heavily involved with the HGP-A power plant in Puna that was run with a total disregard for the health and safety of the surrounding community. With both Dr Thomas and DLNR fighting to keep HGP-A on line long after the dangers and health problems were known. A lot of people were hurt because of HGP-A and the blowouts at PGV and both Dr. Thomas, and DLNR have never showed any concern for our community always pushing for more geothermal at any cost.

In Basel Switzerland a \$60 million EGS power project was suspended in 2006 and finally shut down permanently in 2009 after a government study determined that earthquakes generated by the projects through induced seismicity caused about 9 million dollars in damage, and was likely to do millions of dollars in damage each year. These are things that need to be considered and taken seriously "before" fracking is allowed in Hawaii.

**AltaRock Energy**, started a EGS project in California financed with federal Department of Energy money at a site about 100 miles north of San Francisco. in 2009 Alta Rock informed federal officials that the government project would be abandoned after encountering crippling technical problems. AltaRock Energy's project collapse came the day after the Swiss government had permanently shut down the EGS project in Basel Switzerland, because of the damaging earthquakes it produced in 2006 and 2007. Residents of the area near the AltaRock project in California were quoted in the media as being relieved the project was shut down.

In Germany as well there has been concern about the earthquakes possibly associated with hydraulic fracturing (EGS).

More conventional geothermal in Hawaii has already experienced its own setbacks and problems including blowouts and other accidents that have occurred regularly. Geothermal development in Puna has resulted in heated community opposition. The existing PGV plant still has serious problems having vented toxic gasses into the community again 2 weeks ago on March 13 of this year. We need to ban fracking in Hawaii and a working group should be formed to issue a report to the legislature on the dangers and problems associated with this technology. If it is not being planned for Hawaii as some claim there is no reason not to ban it, if it is, we need to look at the dangers this technology presents to our island home.

Please support SCR 123 to protect Hawaii from fracking. On the mainland there are huge issues surrounding this type of technology. With communities accross the nation enacting laws against it for good reason. Talk to them to see why. Residents of Hawaii do not support fracking.

Thank you for your consideration.



Robert Petricci  
President Puna Pono Alliance

**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, April 17, 2013 4:51 PM  
**To:** EEPtestimony  
**Cc:** ja@malu-aina.org  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/17/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Jim Albertini	Malu 'Aina	Support	No

Comments: Our organization stands in strong support of this resolution which opposes fracking for geothermal energy. We stand with native Hawaiians in support of their religious beliefs and with people who have suffered from geothermal development in Puna. Don't frack Pele. Jim Albertini

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Aloha,

I am strongly in support of SCR123 that expresses concern about the use of hydraulic fracturing in Hawai'i. In the news we are getting reports from continental USA of many bad results from fracturing. Water has been polluted, there are even video's of water catching on fire because of the gas that has gotten in it. Many of us on the island of Hawai'i get our water from wells and of course don't want anything done to pollute our water.

Also earthquakes have resulted in areas that don't usually have earthquakes and the studies indicate they are due to the fracking. Please vote for SCR 123

Mahlo,  
Mary Marvin Porter  
Island Eyes Video  
808-982-9100

**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, April 17, 2013 12:49 PM  
**To:** EEPtestimony  
**Cc:** bill@puna.us  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/17/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Bill Smith	Individual	Support	No

Comments: Please amend SCR123 SD1 by adding the following language: "The Office of Environmental Quality Control shall, in preparing a report examining and analyzing enhanced geothermal system, hydraulic fracturing and hydro-shearing technologies, request assistance and advice from the U.S. Geological Survey's Hawaii Volcano Observatory. A draft of the report shall be published not less than 60 days before public hearings are held in Hilo, Wailuku and Honolulu. A final report, with written public comments and a summary of oral public testimony from the hearings, shall be submitted to the legislature no later than twenty days prior to the convening of the Regular Session of 2014." This amendment is especially appropriate in view of the April 12th report of the Senate Committees on Energy and Environment and Water and Land on SCR123 that requested that the Department of Land and Natural Resources and the University of Hawaii Center for the Study of Active Volcanoes to undertake a study of whether the use of hydraulic fracturing in Hawaii may have negative environmental impacts, but without including their request in the amended text of the resolution. The agencies proposed by the Senate report to do a study are not unbiased. The study should be done by an unbiased state environmental agency supported by local expertise from the USGS, and it should provide for public comment.

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**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, April 17, 2013 10:00 AM  
**To:** EEPtestimony  
**Cc:** hflamingo@msn.com  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/17/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Hilary Flaming	Individual	Support	No

Comments: Evidence from mainland hydraulic fracturing shows destruction to water tables which affects the health and livelihood of entire communities. I prefer to increase the health and livelihood of the community and island where I live.

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# JANEEL HEW

PO. BOX 101 Maunaloa, HI. 96770

## TESTIMONY IN “SUPPORT” OF SCR 123: EXPRESSING CONCERN ABOUT THE USE OF HYDRAULIC FRACTURING IN HAWAII

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HOUSE OF REPRESENTATIVES  
THE TWENTY-SEVENTH LEGISLATURE  
REGULAR SESSION OF 2013

### “SCR123”

#### COMMITTEE ON AGRICULTURE

Rep. Jessica Wooley, Chair  
Rep. Richard H.K. Onishi, Vice Chair

#### COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Chris Lee, Chair  
Rep. Cynthia Thielen, Vice Chair

#### HEARING

DATE: Friday, April 19, 2013  
TIME: 8:45AM  
PLACE: Conference Room 225  
State Capitol  
415 South Beretania Street

Greetings Chairs Wooley and Lee, Vice Chairs Onishi and Thielen, and Committee Members,

Thank you for hearing SCR123 and for the opportunity to submit testimony.

May it go on record that I, Janeel Hew, support SCR123.

In light of the potential hazards associated with hydraulic fracturing, it is imperative that more research/studies be performed in advance in order to set required safety regulation and mitigation guidelines. Too many times has technology taken a front seat to caution.

Water resources are very precious here in Hawaii and the utmost safeguard of it is essential for public health. To risk contamination of any kind would be unjustifiable and inhumane. Hawaii is a volcanic creation and is susceptible to earthquakes. Technology which can cause earthquakes should be used only with strict environmental impact evaluations completed and should show just cause for site specific projects in high impact areas.

U.S. Army Corps of Engineers and the U.S. Geological Survey accumulated data that links fracking and underground instability that can trigger earthquakes.

TESTIMONY IN “SUPPORT” OF SCR 123: EXPRESSING CONCERN ABOUT THE USE OF HYDRAULIC FRACTURING IN HAWAII

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One of the first large studies of an Oklahoma earthquake swarm which began early in 2011 was conducted by the Oklahoma Geological Survey. The results were released in August of 2011 and conclude with a probable correlation within this event, as well as citing a connection made from the historical record:

*The strong correlation in time and space as well as a reasonable fit to a physical model suggest that there is a possibility these earthquakes were induced by hydraulic fracturing.*

*Our analysis showed that shortly after hydraulic fracturing began small earthquakes started occurring, and more than 50 were identified, of which 43 were large enough to be located. Most of these occurred within a 24 hour period after hydraulic fracturing operations had ceased. There have been previous cases where seismologists have suggested a link between hydraulic fracturing and earthquakes, but data was limited, so drawing a definitive conclusion was not possible for these cases. The first case occurred in June 1978 in Carter and Love Counties, just south of Garvin County, with 70 cases in 6.2 hours. The second case occurred in Love County with 90 earthquakes following the first and second hydraulic fracturing stages. [Nicholson and Wesson, 1990]*

In the most recent study conducted by the Geological Society of America, the abstract of this study, which looked most specifically at the largest earthquake reported, a 5.7 event that occurred in November (*after the study cited above*):

*Significant earthquakes are increasingly occurring within the continental interior of the United States, including five of moment magnitude ( $M_w$ )  $\geq 5.0$  in 2011 alone. Concurrently, the volume of fluid injected into the subsurface related to the production of unconventional resources continues to rise. Here we identify the largest earthquake potentially related to injection, an  $M_w$  5.7 earthquake in November 2011 in Oklahoma. The earthquake was felt in at least 17 states and caused damage in the epicentral region. It occurred in a sequence, with 2 earthquakes of  $M_w$  5.0 and a prolific sequence of aftershocks.*

*Subsurface data indicate that fluid was injected into effectively sealed compartments, and we interpret that a net fluid volume increase after 18 yr of injection lowered effective stress on reservoir-bounding faults. **Significantly, this case indicates that decades-long lags between the commencement of fluid injection and the onset of induced earthquakes are possible, and modifies our common criteria for fluid-induced events.** The progressive rupture of three fault planes in this sequence suggests that stress changes from the initial rupture **triggered the successive earthquakes, including one larger than the first** [emphasis added].*

**JANEEL HEW**

PO. BOX 101 Maunaloa, HI. 96770

**TESTIMONY IN “SUPPORT” OF SCR 123: EXPRESSING CONCERN ABOUT THE USE OF HYDRAULIC FRACTURING IN HAWAII**

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Until more research is completed and deemed safe, a full ban should be placed on all hydraulic fracturing in Hawaii. I understand and respect the need to seek out alternative energy, but studies thus far show that this fracturing is indeed a method that should be approached using extreme caution.

I respectfully urge you to pass SCR 123.

Thank you for your time and consideration.

Janeel Hew

**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, April 17, 2013 10:49 AM  
**To:** EEPtestimony  
**Cc:** jenniferjangles@gmail.com  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/17/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Jennifer Ruggles	Individual	Support	No

Comments: Hydraulic fracturing, or “fracking”, is the process of drilling and injecting fluid into the ground at a high pressure in order to fracture shale rocks to release natural gas inside. 1-8 million gallons of water mixed with sand, and 40,000 gallons of chemicals are required per fracking. Up to 600 chemicals are used in fracking fluid, including known carcinogens and toxins such as mercury, uranium and formaldehyde. This fluid is then pressure injected into the ground through a drilled pipeline. The mixture reaches the end of the well where the high pressure causes the nearby shale rock to crack, creating fissures where natural gas flows into the well. During this process, methane gas and toxic chemicals leach out from the system and contaminate nearby groundwater. Only 30-50% of the fracturing fluid is recovered, the rest of the toxic fluid is left in the ground and is not biodegradable. Methane concentrations are 17x higher in drinking-water wells near fracturing sites than in normal wells. Contaminated well water is used for drinking water for nearby cities and towns. There have been over 1,000 documented cases of water contamination next to areas of gas drilling as well as cases of sensory, respiratory, and neurological damage due to ingested contaminated water. The waste fluid is left in open air pits to evaporate, releasing harmful VOC's (volatile organic compounds) into the atmosphere, creating contaminated air, acid rain, and ground level ozone. This measure is a step in the right direction.

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**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Thursday, April 18, 2013 8:23 AM  
**To:** EEPtestimony  
**Cc:** occupyhilomedia@gmail.com  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/18/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Kerri Marks	Individual	Support	No

Comments: No fracking

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**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, April 17, 2013 11:00 AM  
**To:** EEPtestimony  
**Cc:** kris@kimnkris.com  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/17/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Kris wilhelmsen	Individual	Support	No

Comments: Landscape evolution on the Big Island of Hawaii is dynamic owing to active volcanic activity. Volcanic terrains underlain by massive faults, lava tubes and near-surface magma are fragile and have the potential to respond unpredictably and catastrophically to human activities, such as drilling. For example, recent geological reports suggest a link between drilling/fracking and earthquakes, water table fluctuations, and water quality. Furthermore, other contributing factors increase the probability of hazardous conditions resulting from drilling and fracking, such as the 1992 blowout of PGV well KS-8 and subsequent episodes resulting in the release of toxic gases in residential areas. Owing to these, and other, significant problems resulting from drilling/fracking I am against any use of drilling and fracking in the state of Hawaii. I therefore fully support SCR 123.

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**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, April 17, 2013 9:33 AM  
**To:** EEPtestimony  
**Cc:** lynhowe1946@yahoo.com  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/17/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Lyn Howe	Individual	Support	No

Comments: Fracking is a very serious undertaking with results that could pose potential problems that may take a lifetime or more to undo and have serious consequences for health, the economy, agriculture and the future of Hawaii Island. Please support this measure Mahalo

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**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, April 17, 2013 12:54 PM  
**To:** EEPtestimony  
**Cc:** nredfeather@kohalacenter.org  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/17/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Nancy Redfeather	Individual	Support	No

Comments: Creating protocols for geothermal development that include the parameters of development systems that honor the environment and ecosystem is important. Now is the time to create such "guidelines" for geothermal development.

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**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Wednesday, April 17, 2013 10:00 AM  
**To:** EEPtestimony  
**Cc:** hourandahalf@icloud.com  
**Subject:** \*Submitted testimony for SCR123 on Apr 19, 2013 08:45AM\*

**SCR123**

Submitted on: 4/17/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Rosemarie Patronette	Individual	Support	No

Comments:

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**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Thursday, April 18, 2013 7:16 AM  
**To:** EEPtestimony  
**Cc:** saralegal@live.com  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/18/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Sara Steiner	Individual	Support	No

Comments: Dearest Legislators, Please pass this bill for the love of Hawaii! Fracking is destroying large parts of the mainland, ruining drinking wells, causing earthquakes, and it is just too destructive of a program to even consider using it here in Hawaii. Sincerely, Sara Steiner P.O. Box 1965 Pahoehoa, HI 96778

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**thielen3 - Charles**

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Thursday, April 18, 2013 8:35 AM  
**To:** EEPtestimony  
**Cc:** steve\_hirakami@notes.k12.hi.us  
**Subject:** Submitted testimony for SCR123 on Apr 19, 2013 08:45AM

**SCR123**

Submitted on: 4/18/2013

Testimony for EEP on Apr 19, 2013 08:45AM in Conference Room 225

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Steve Hirakami	Individual	Support	No

Comments: I am in support of this resolution. Fracking may sound like a swear word now, but if allowed it may become our worst nightmare. We are an island state and as such depend on our underground water resources to sustain our lives and our environment. Research has shown that this method of extracting sources from deep within our earth has definite adverse effects on the water table. Please don't let this compromise our health and safety in Hawaii.

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