



**NGU**

# **Kvartsressurser i Sør-Norge**

## **Eksempler fra Evje-Iveland og Froland**

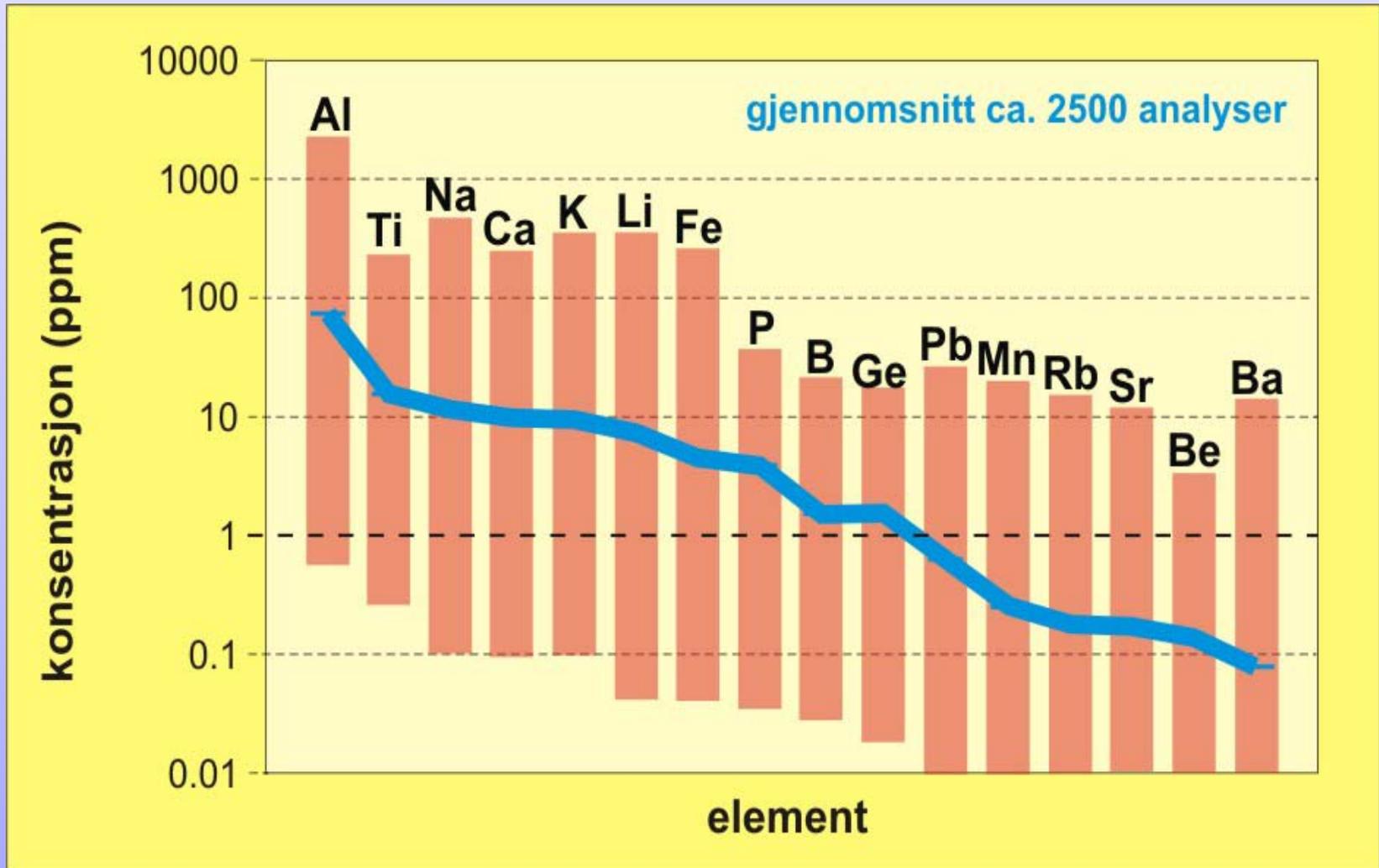
**Axel Müller<sup>1</sup>, Peter M. Ihlen<sup>1</sup>,  
Ben Snook<sup>1,2</sup>, Belinda Flem<sup>1</sup>**

**<sup>1</sup> Norges Geologiske Undersøkelse**

**<sup>2</sup> Camborne School of Mines**

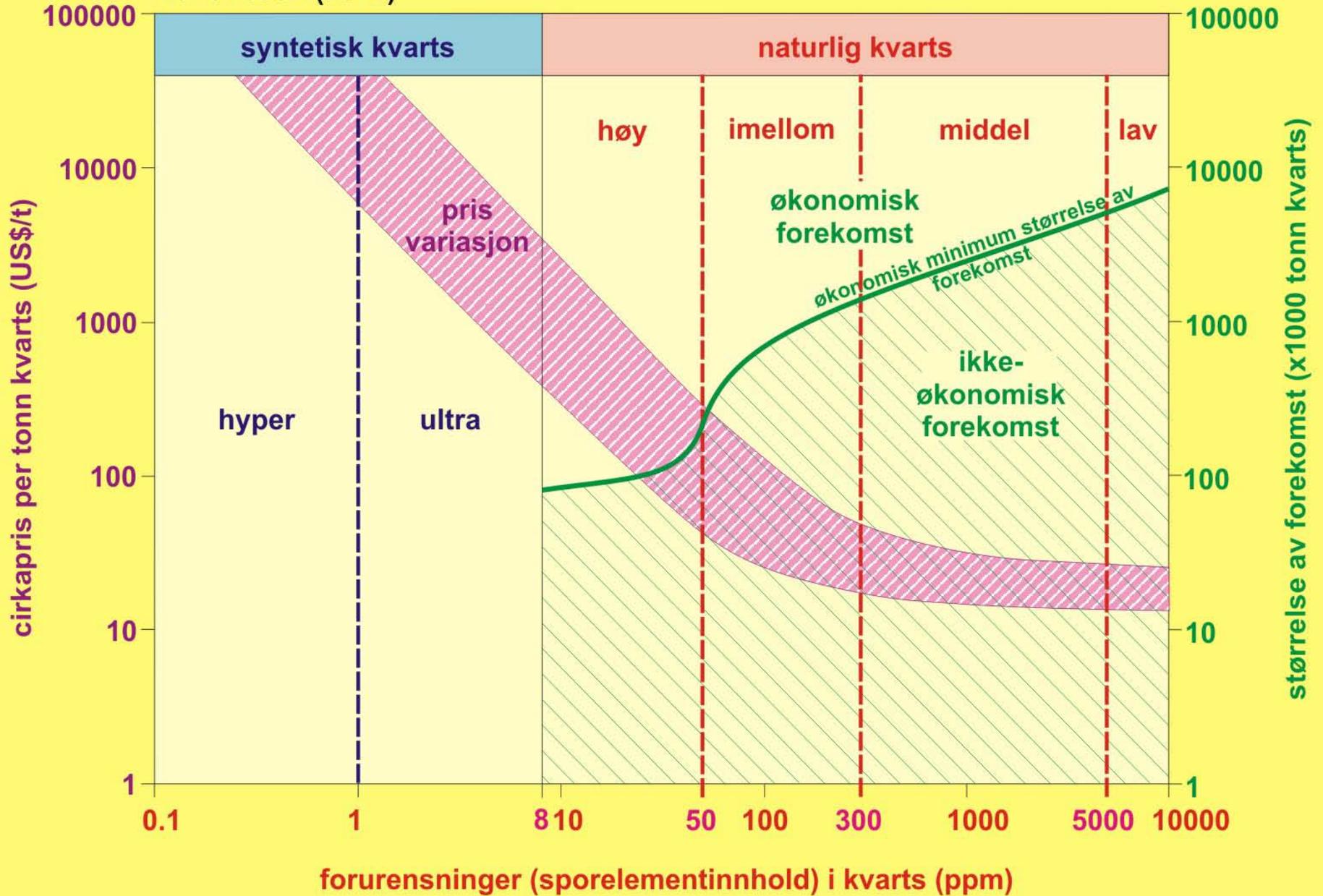


# Konsentrasjon av gitterbundne sporelementer i kvarts ( $\text{SiO}_2$ )



Müller et al. (2012)

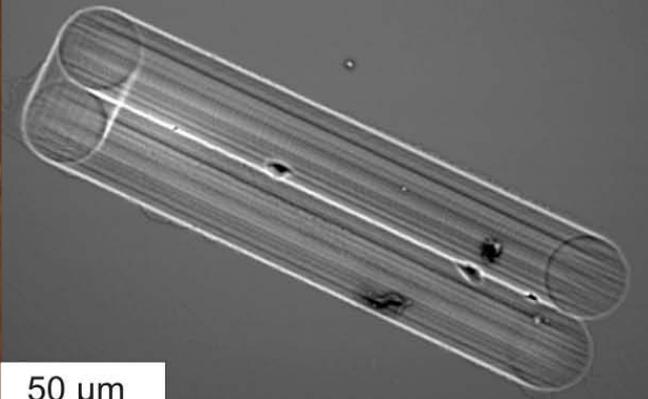
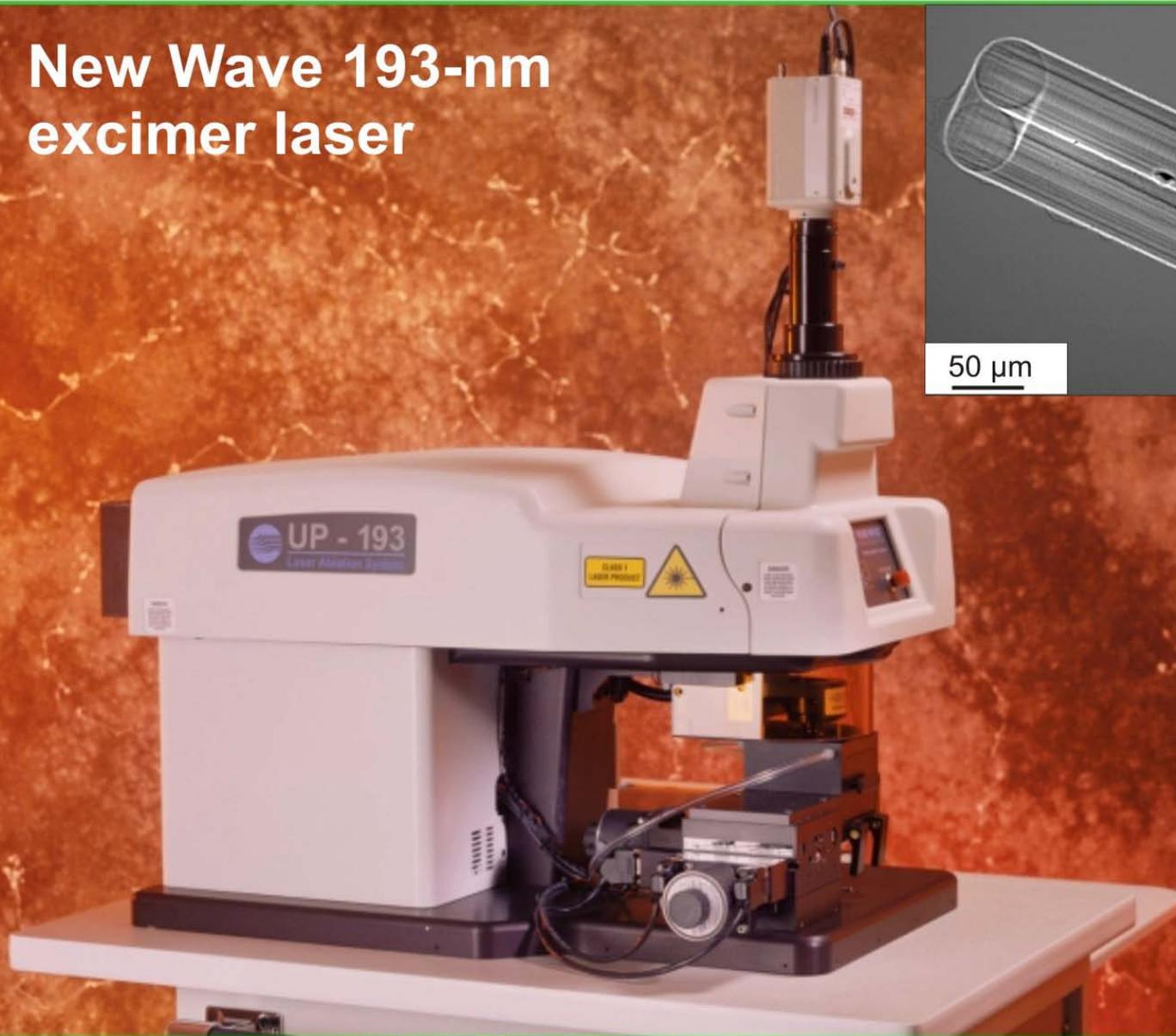
Müller et al. (2012)



UITGANG  
Uitgang  
Uitgang

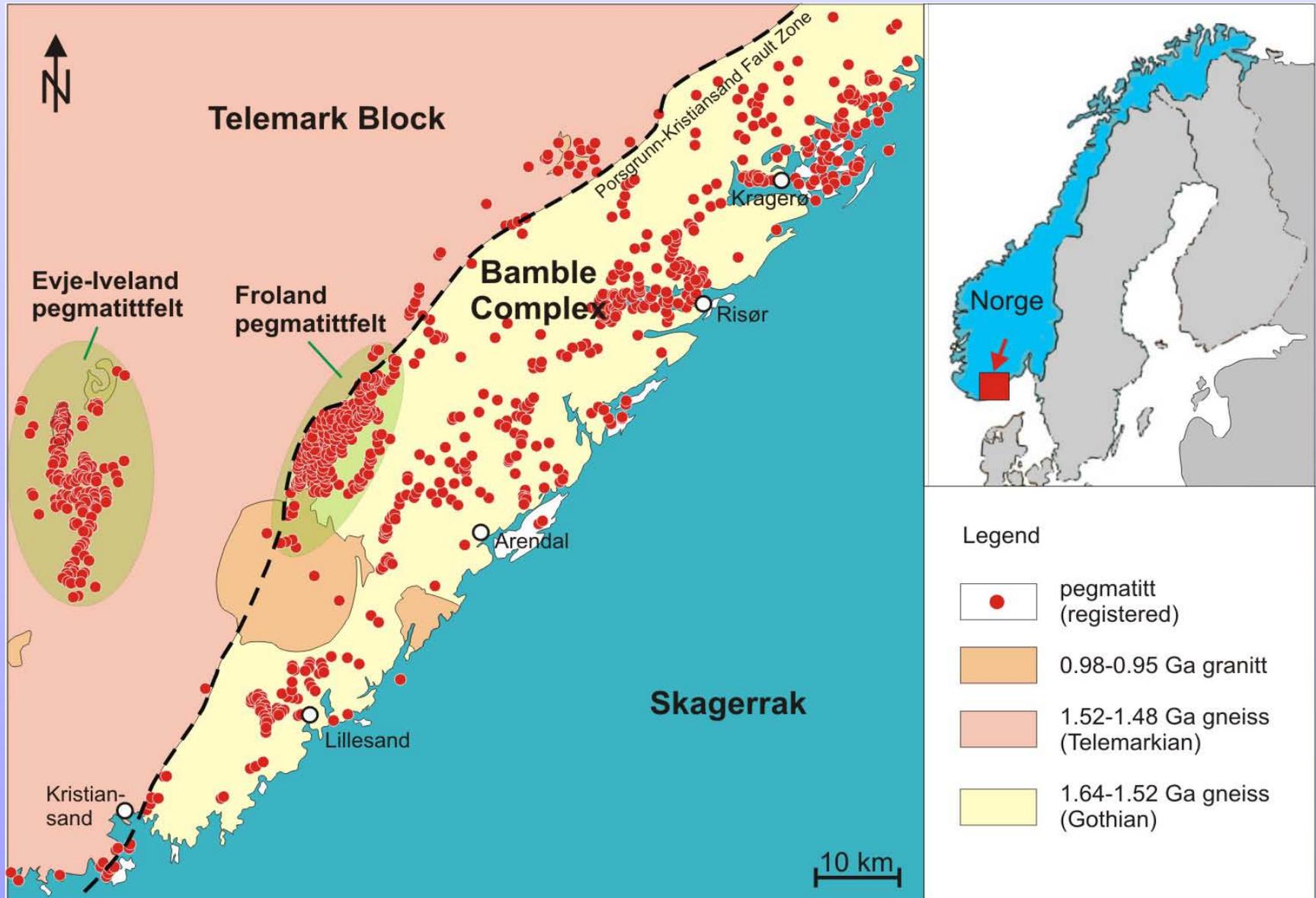


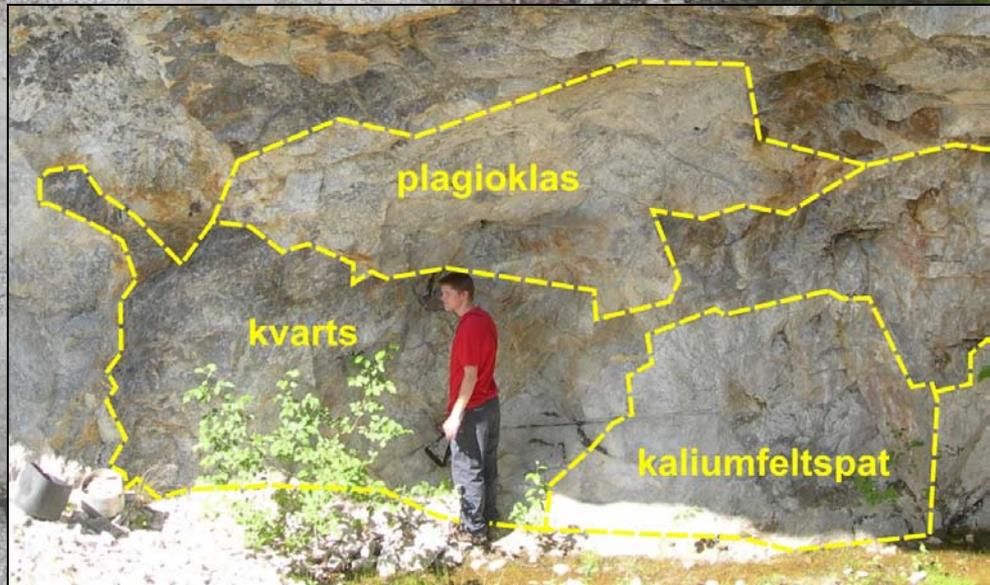
# New Wave 193-nm excimer laser



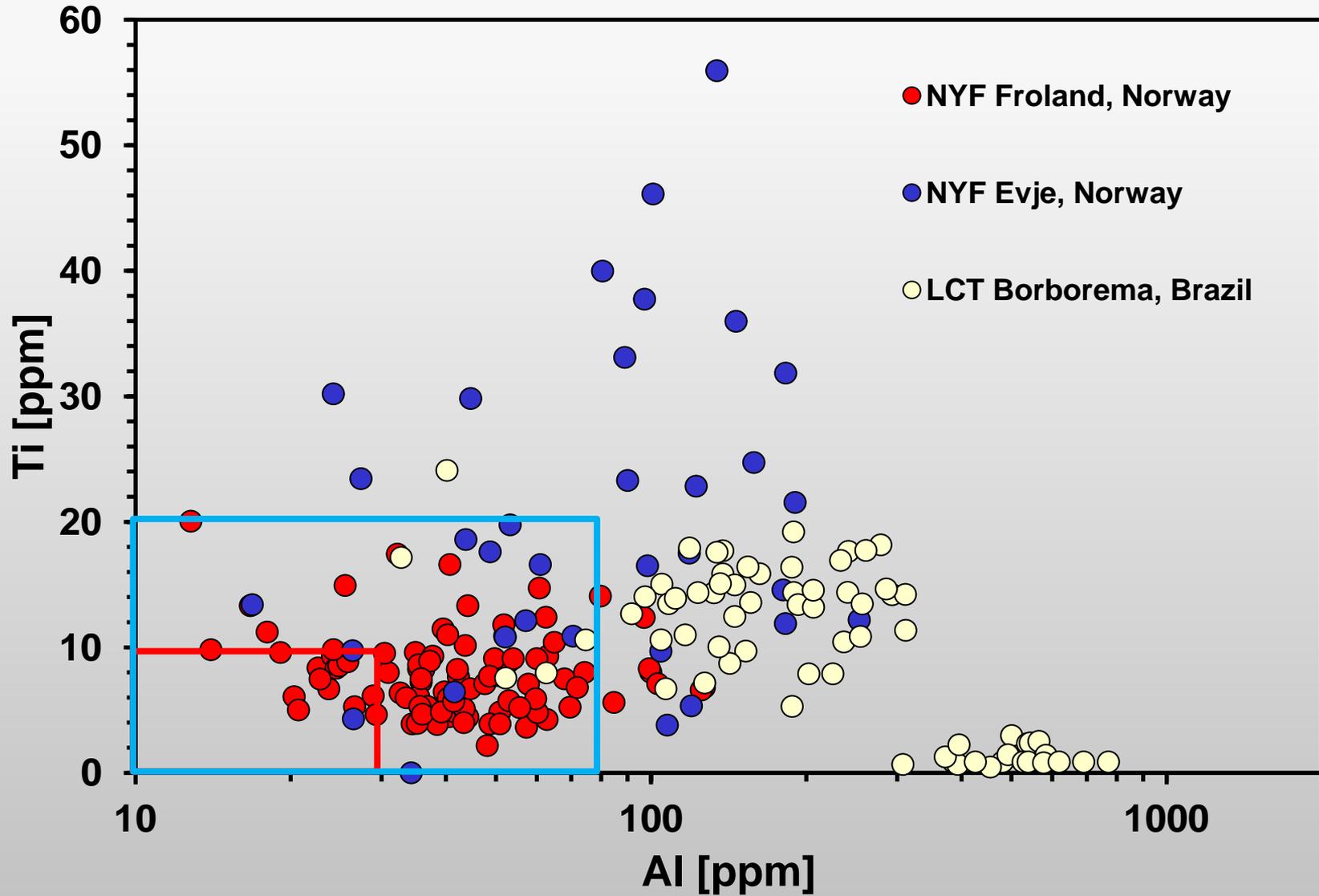
50  $\mu$ m

# Sør-norsk pegmatittbelte

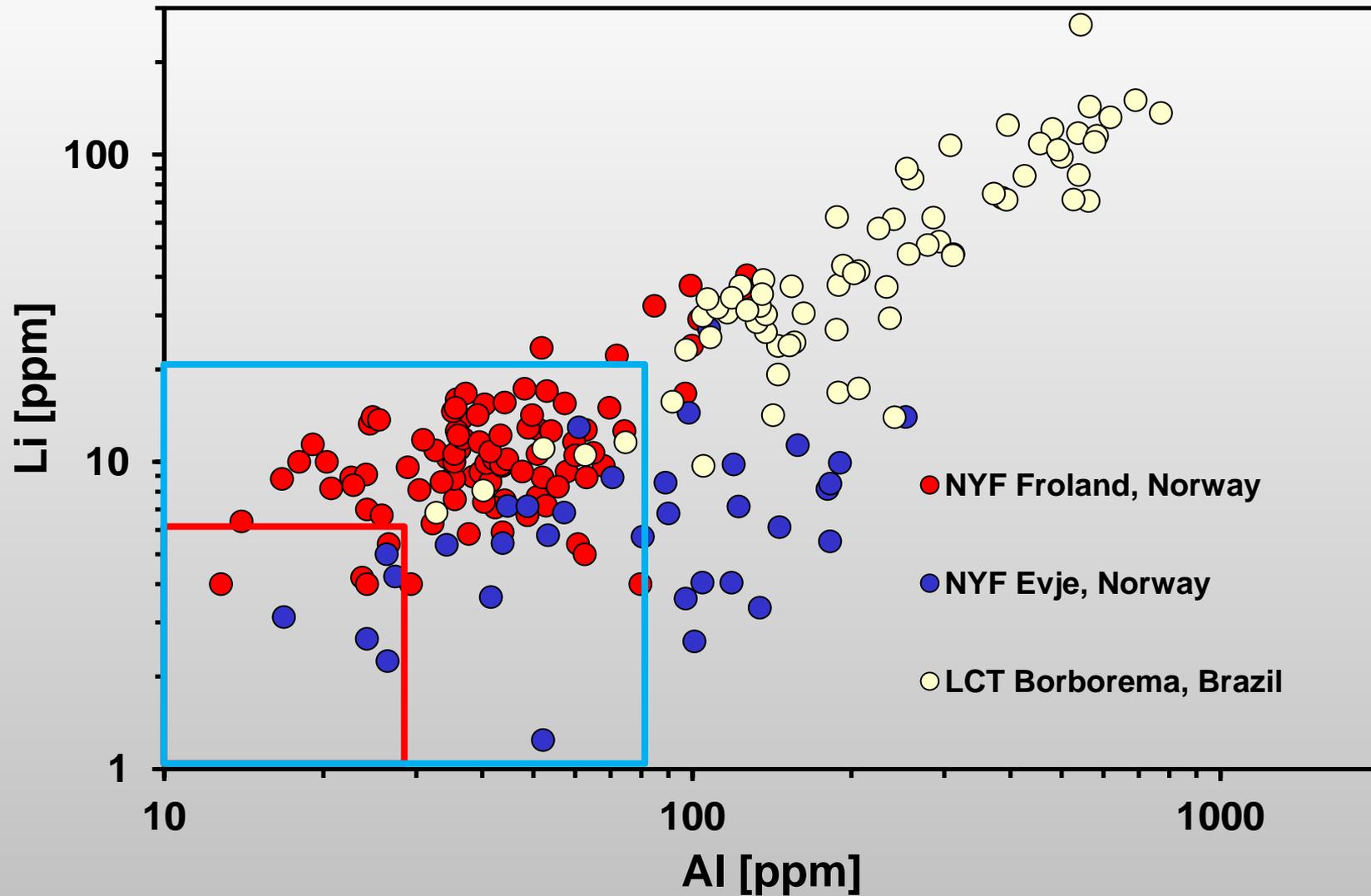




# Sporelementer i kvarts (ppm)

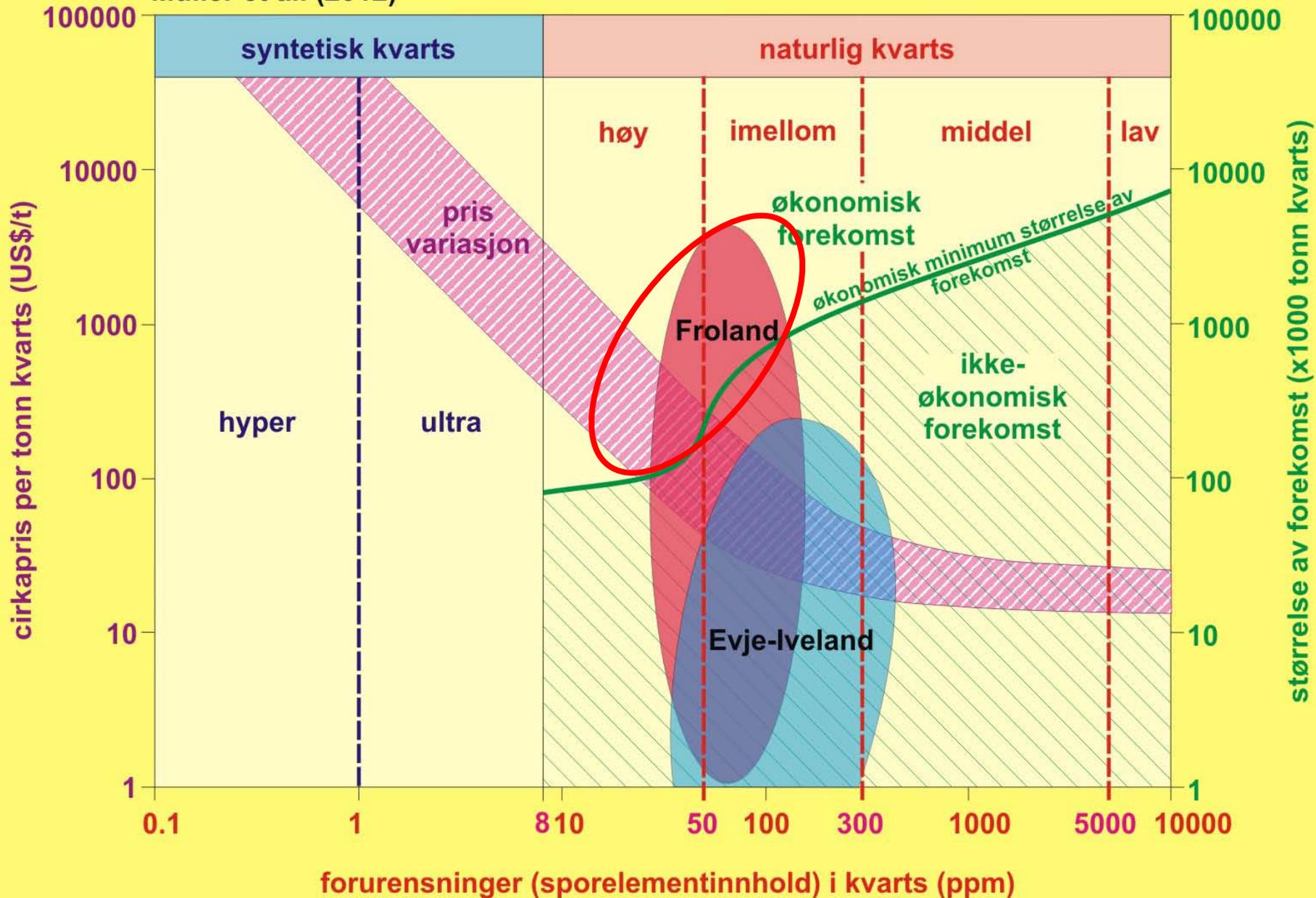


# Sporelementer i kvarts (ppm)



	<b>Høyren kvarts definisjon (Müller et al. 2012)</b>	<b>Froland Norge</b>	<b>Evje-Iveland Norge</b>	<b>Borborema Brazil</b>
		n=300	n=300	n=72
<b>Al</b>	<b>&lt;30</b>	<b>45±23</b>	<b>94±58</b>	<b>265±180</b>
<b>Li</b>	<b>&lt;5</b>	<b>12±7</b>	<b>7±5</b>	<b>56±46</b>
<b>Ti</b>	<b>&lt;10</b>	<b>8±3</b>	<b>20±13</b>	<b>10±6</b>
<b>Ge</b>	<b>&lt;2</b>	<b>2±1</b>	<b>3±3</b>	<b>5±5</b>
<b>sum</b>	<b>&lt;50</b>	<b>67±34</b>	<b>124±79</b>	<b>336±237</b>

Müller et al. (2012)



Jens Götze  
Robert Möckel *Editors*

# Quartz: Deposits, Mineralogy and Analytics

 Springer