Naturvernforbundet

EFTA Surveillance Authority's Internal Market Affairs
This letter is sent electronically only, on email

Oslo, 25 March 2022

Response to ESA's call for information on the effects of mining waste on Norwegian fjords and water bodies

The EFTA Surveillance Authority's (ESA) Internal Market Affairs Directorate has invited all interested parties to provide feedback and empirical evidence on past disposal of mining waste into Norwegian fjords and water bodies, including the consequences and effects on the environment and human health. Naturvernforbundet provides here some examples of how the chemical status in our fjords and water bodies has deteriorated from the dumping of mining tailings (Table 1). Planned future disposals in Førdefjorden (a declared healthy fjord[1]) and Repparfjorden, both with important seafood resources, are expected to lead to more pollution than historical mines due to larger disposal volumes as well as different content of the tailings.

Table 1. Examples of severe chemical pollution from existing and past mining tailing dumpsites in Norway waters.

Fjord area/water body	Time of dumping	Company	Pollutants	Evidence of effect on the environment and health
Paused tailing dumpsites				
Bøkfjorden	1906–25, 1927-42, 1952-97, 2010-14	Sydvaranger	Lilaflot D 817 M (flotation chemical)	NIVA (2010), attached
Ongoing tailing dumpsites				
Ranfjorden	1965-	Rana Gruber		
Elnesvågen/Frænfjorden	1982-	Omya Hustadmarmor		
Lillebukt/stjernøysundet	1961-	Sibelco Nordic		
Bergsfjorden	1932-	Skaland Graphite	Cr, CU.Ni	
Tysfjord	1985-	The Quartz Corp Drag		
Historic tailing dumpsites				
Repparfjord	1972-78	Folldal Verk	Cu	IMR -report (2021)
Jøssingfjord	1960-84			Schaanning et al (2019)
Hudningevatnet	1972-98	Grong Gruber	Zn, Cu, As, Cd	Multiconsult (2020)
Sulitjelma/Langvatnet	1887-1991			
Svensedammen (Konnerudfeltet, Drammen)	1731-89, 1851-52, 1866-75, 1906-18		Zn	https://vann-nett.no/portal-api/api/ArchiveDocument/12933
Røssvatn/Bleikvatn	1957-1998	Bleikvassli gruber	Zn, Pb, Ag, Hg	

[1] https://www.hi.no/hi/nettrapporter/rapport-fra-havforskningen-2019-48

Recently granted permission or proposed plans, not yet started tailing dumpsites				
Førdefjorden	-	Nordic Rutile	Zn,Cd, Pb, SIBX (flotation chemical), TiO2-nano	See details and references in Table 1, attached
Repparfjorden	-	Nussir	Cu,Zn,Ni,Cr,SIBX (flotation chemical)	
Proposed projects				
Tosefjorden		Bindal Gruber	Nanosized particles	https://www.hi.no/resources/HI-Horingsuttalelse-Bogadalen-og-Tosenfjorden-24-02-2020.pdf
Sulitjelma/Langvatnet				

Attached to this letter you find a document with more detailed information on ongoing, historical, paused and planed deposits of underwater mine tailings, and how the tailings including chemicals and heavy metals of concern have affected or will affect the chemical and ecological status of the fjord area/water body[2]. We could provide more detailed information on certain fjords and water bodies on request.

In its call for information, ESA asked about the spread of mining waste in fjords and water bodies, including spread of chemicals of concern in bulk or nano forms. Despite the severe environmental concerns, several of the environmental impact assessments (EIA) for new mining plans in Norway lack assessment of important aspects. For instance, the Norwegian Institute for Marine Research states in the public hearing of plans for gold mining in Bogadalen-Kolsvik[3] that the EIA does not assess the spreading of nanosized particles and does not consider the currents in the fjord. This they have also stated for Førdefjorden[4]. They also point at the importance of investigating plastic waste from the wear and tear of pipes etc, which is not investigated although similar usage of pipes in for instance aquaculture leads to significant release of micro-plastic. The Institute of Marine Research also points at insufficient assessment of the arsenic contents in the tailings, both the size of particles, the release of arsenic, the concentration of arsenic and the chemical composition of the tailings, especially other heavy metals (with reference to EU 2009/359, Articel 1,d)

In their reply to the public hearing of changes in the permit for Sydvaranger Drift AS[5], the Institute of Marine Research also point at several weaknesses in the EIA, such as poor assessment of the particle size distribution, leading to underestimates of the spreading of particles, and possibly large volumes in the nanofraction, that possible release of micro plastic is not considered at all and that the unknown fate of the flocculating agents Magnafloc 10 and LT38, in terms of possible toxicity and their polymeric plast-like structures. In the case of Bøkfjorden, the Institute of Marine Research state that there is too little attention given to the fact that the fjord is part of the National Salmon fjord Neiden-Bøkfjorden and that the consequences for spawning and nursery grounds.

We write more about nanoparticles in the attached document “Overview of projects, pollutants and environmental status”.

[2] «Overview of projects, pollutants and environmental status»

[3] https://www.hi.no/hi/nyheter/2020/mars/raar-mot-gullgruvedeponi-i-tosenfjorden

[4] https://www.hi.no/resources/publikasjoner/Tilleggsundersokelser-Engebofjellet-2014-.pdf

[5] https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjqlpqH8t72AhWpSfEDHSc1AywQFnoECAIQAQ&url=https%3A%2F%2Fwww.hi.no%2Fresources%2F20-02773-Rapport-om-horingsuttalelse-Sydvaranger-11122020.pdf&usg=AOvVaw1BPRYZtaanR9fU2D8D4B8k

The Norwegian Institute of Marine Research has collected all their relevant content on mining waste on this web page: https://www.hi.no/en/hi/temasider/ocean-and-coast/mining-waste.

We would also like to point out that for the case of Førdefjorden, the Norwegian Environment Agency (former Klif) confirms a deterioration in the environmental status of discharges in the Førdefjord and that paragraph 12 cannot be used unless the additional conditions are met[6]. The additional conditions have not been fulfilled, as there is more environmentally friendly technology for mineral extraction, cf. operational application from the mining company Arctic Mineral Resources (AMR)[7]. Also, extracting TiO_2 cannot be characterized as of overriding importance for society. There is not a lack of this substance in the world and it has harmful effects on health. The mineral garnet, however, can probably be said to have greater societal benefits.

Salmon farming, is referred to as being valued at 1 billion in the outer Førdefjord. 60 companies as well as other marine and affiliated industries including tourism, stipulate 16 billion in 2014 kroner[8]. The aquaculture industry is very large on the coast just outside Engebø and the surrounding fjord system, and EWOS has one of the world's largest salmon aquaculture feed-factories in Florø where there is a salmon slaughterhouse, salmon brokers etc, a large industry.

In December 2021, the Norwegian Friends of the Earth (Naturvernforbundet) had a meeting with the legal officer in ESA handling our cases 80570 and 78448. In the meeting we tried to explain our great concerns regarding the short- and long-term effects of submarine disposal of mining waste.

We thank the ESA for examining the effects of mining waste disposal on Norwegian fjords and water bodies. We however wish to underline that it is impossible for us, as an NGO, to give a full scientific briefing of the concerns and knowledge status. We therefore hope that the Authority, besides this call for action, has made sure to contact and gather information from the scientific institutions in this field, as well as requested, from Norwegian Authorities, the needed basis of facts and existing reports for conducting a full examination.

Your sincerely,

Truls Gulowsen
Elected head, Naturvernforbundet / Friends of the Earth Norway

[6] See page 57 in the attached document «Miljødirektoratet 2012 Gruvedrift i Engebofjellet - Klifs vurdering og anbefaling».
[7] We attach the mining company's operating plan, budget summary and an English summary of their project. These documents are confidential and should not be shared further without the company's permission.
[8] https://naturvernforbundet.no/getfile.php/1379631-1423474161/Dokumenter/Div.%20vedlegg%20til%20nettsaker/BREDT-KYSTN%C3%86RINGSENGASJEMENT-MOT-FJORDDEPONI.pdf