International ban on the use of claystone for the final disposal of nuclear waste.

Application for an EU ban on final repositories in friable Opalinus claystone

Claystone is:

Thin-layered – dries out under decay heat ! – falls from the ceiling – and smears when drilling.

Germany is very appalled by Nagra's construction project – which is polluting the river Rhine.
Germany is very appalled by Andra's construction project – which is polluting the Atlantic sea !

All of these consequences are expected medium- and long-term, but almost irreversible.

Current event:

In its endless opportunism, BGE GmbH (completely unsuccessful for 50 years!!!) wants to bring the Opalinus slag claystone „near Ulm“ into Germany's National Waste Management Program. **– NO !**

Without having thought, planned, or developed anything itself, but having persuaded BGR to develop a study ?, BGE is plunging Germany into a fifth non-repository construction disaster, hoping that the bad dispoals examples from Switzerland and France will serve as justification. Opportunism based on bad motives (salaries!)

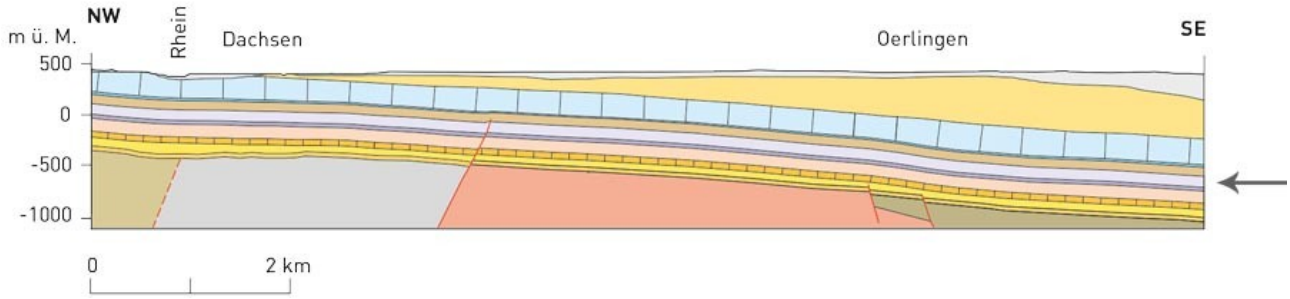
The three non-waste disposal companies BGE nagra Andra each have billions in budgets to gloss over their shallow, wet soil pollution of epic proportions to the public. – EXTREMELY DISGUSTING

Final repository construction projects have long time horizons and rights enshrined in law, and thus elude any control or correction by politicians. - Elections cannot be won with final repositories anyway. Geology and nuclear technology are topics that are virtually impenetrable for lawyers, political scientists, and even journalists specializing in un-technical German studies.

Back to friable clay:

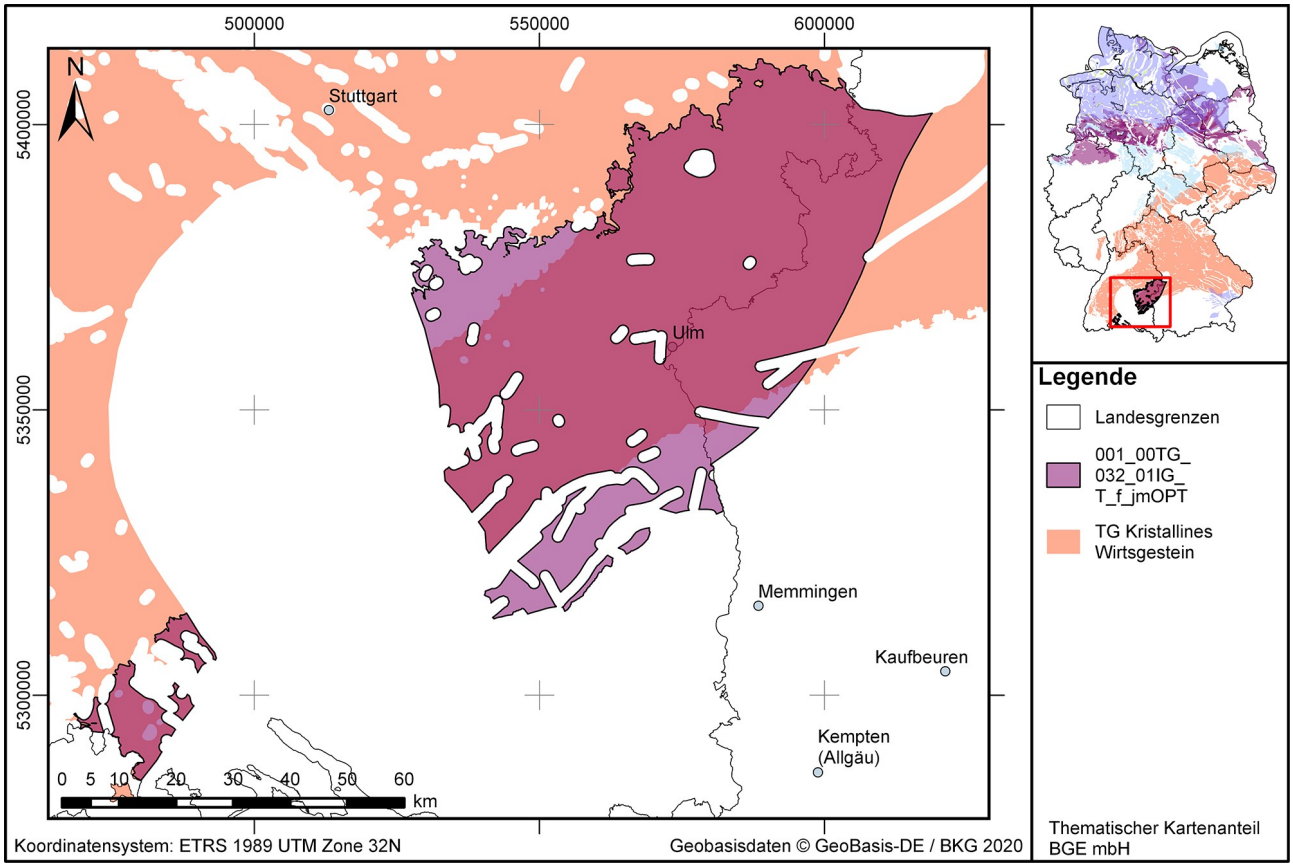
Mudstone consists of "debris platelets of aquatic origin" – i.e., dried mud from ancient river valleys ? – even science can't say exactly how mudstone came about. - What we've known for centuries is that pure clay is malleable and waterproof when moist – and in the fired = sintered state, it's also waterproof, hard, and brittle. – But - final disposal involves temperatures that only cause drying and cracking (approx. 70 to 150 °C) – and then the surface water flows directly into these non-final disposal sites. - Corrosion is the result. - Unfortunately, it can't be retrieved later ?

The Opalinus Crumbly Clay is less than 100 meters thick as a sloped layer in Switzerland, and reaches up to 300 meters in Germany as a very sloped layer in Baden-Württemberg and Bavaria.



Here is a picture of the too thin, sloping 99 m Nagra Opalinus-Bröckelton layer in Switzerland

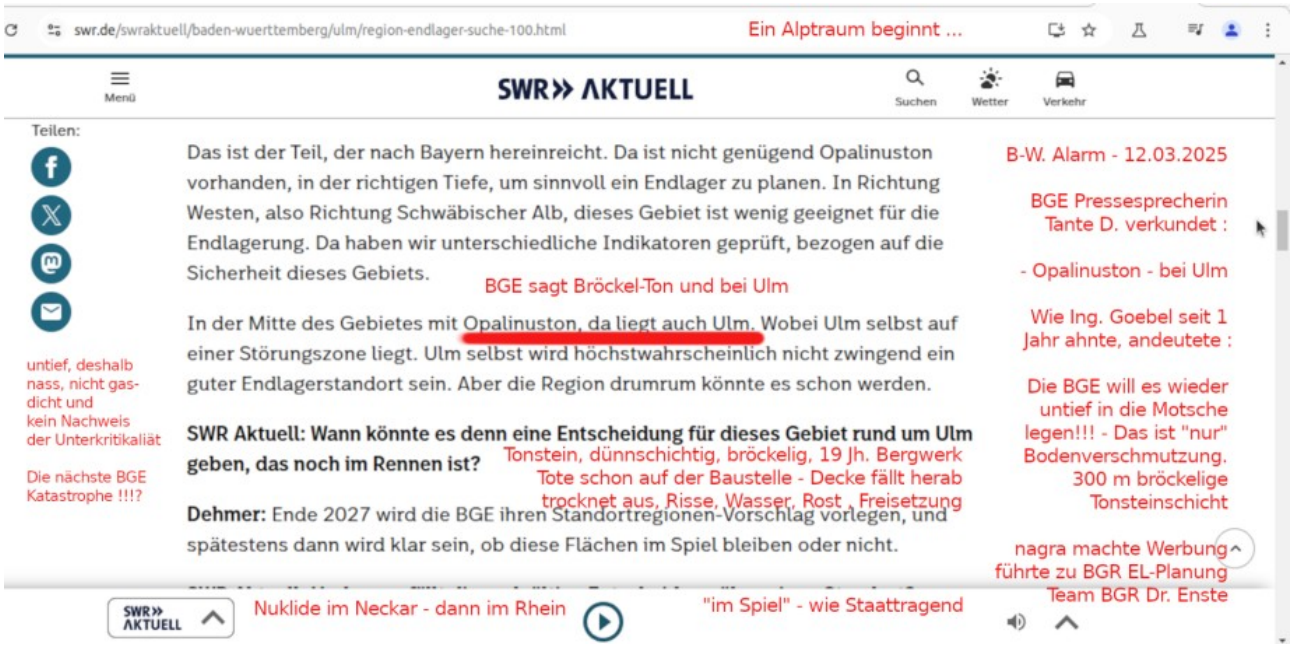
The German Development Agency (DBE) BGE has had the claystone deposit **"near Ulm"** as sub-area 001! on its shortlist for some time. Depths of 400 to 1,500 m ? below ground level. Therefore, it is very shallow and can still be reached with dripping wet mines featuring long horizontal tunnels. This is precisely where BGE's fifth construction disaster begins – and it is extremely expensive – and also deadly, because in Bure, France, collapsing thin-layer cover has already killed 3 miners.



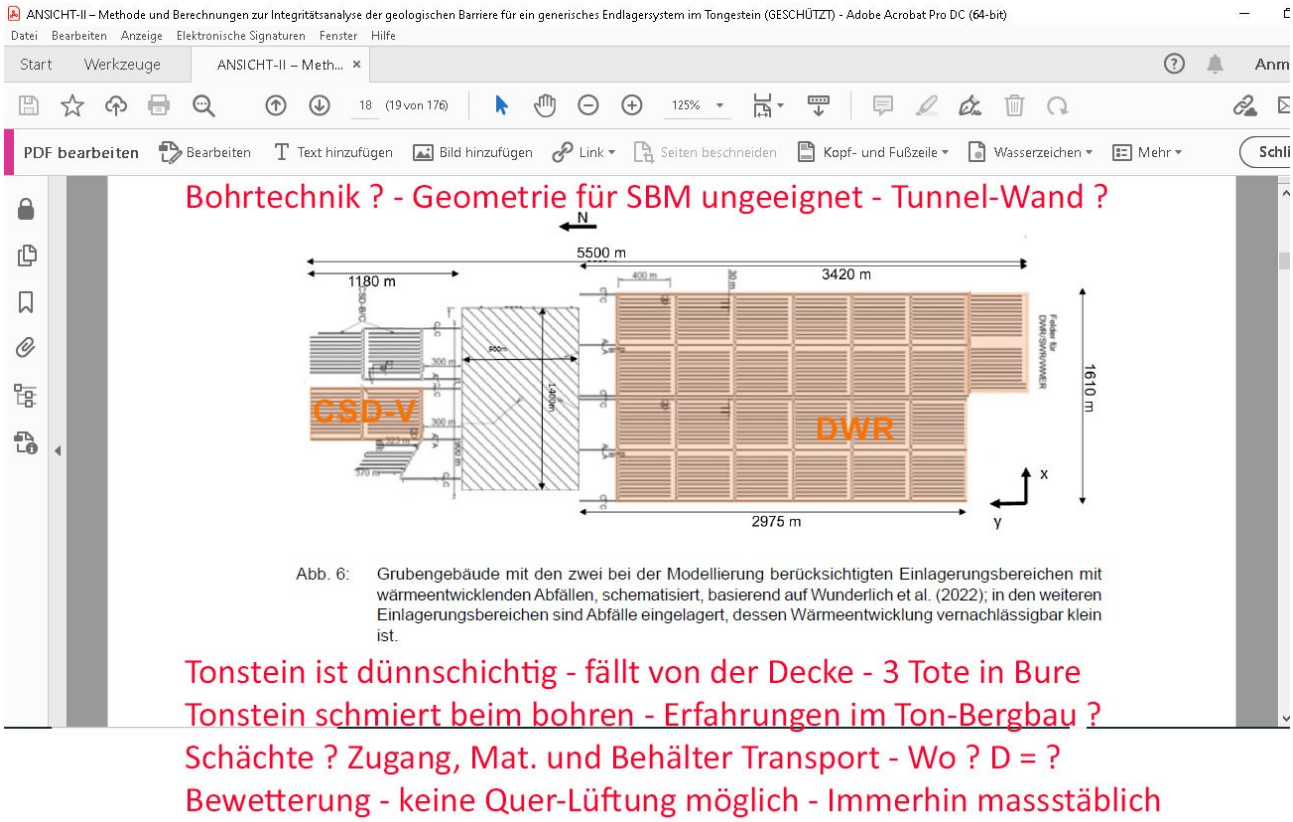
Extract from the BGE interim report – Opalinus Bröckelton DE sub-area map – “near Ulm”

https://www.bge.de/de/endlagersuche/zwischenbericht-teilgebiete/001-00tg-032-01ig-t-f-jmopt/#gallery-item-24787

We're dealing with **a construction company** that has a geology department, but no planning department, and, **after 45 years of complete failure**, has mistakenly been "entrusted" with the search for and construction of a repository site by Jochen Flasbarth again. A monopoly, and we know that monopolies tend to ignore all engineering common sense. - Engineer Goebel was in Peine and saw a company there where overweight women handle tenders whose content they don't understand. Is there anything more to it! ? But the desire to continue receiving fat salaries and pensions leads to another 5 th mistake, which also leads to further salaries.



Newspaper articles from SWR – they're still completely clueless – but they can already smell it



Excerpt from the BGR non-final repository in claystone study, which was commissioned by BGE.

There's a fear that the BGE will rehash the non-final storage study in claystone and label it with BGE stickers – and that the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Climate Protection (BMUKN) will be stupid enough to submit it to the EU as a National Waste Management Program DE. – Then it's happened!! – Then the cat is out of the bag! – Try arguing against an official national program, you'll have to go to the Federal Administrative Court, and there only lawyers, and they understand absolutely nothing about geology and mining technology. – And we all know, the government is never wrong ?

Schrumpfspannungsrisse aus Wärmeeintrag HAA !

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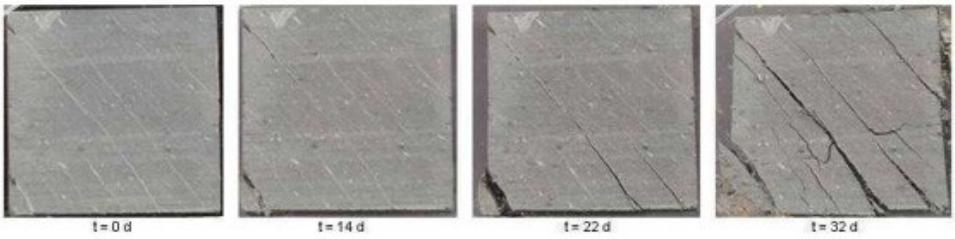
Antwort 1.8b



Thermisch induzierte Rissbildung an Opalinuston durch Feuchteverlust (105 °C, offenes System) (aus: ZHANG ET AL., 2007)

Tonstein:

- Beste Barrierewirkung bei Wassersättigung
- Erwärmung (Porendruckerhöhung) kann bei Wassersättigung zur Überschreitung des Minimalspannungskriteriums führen
- Erwärmung (Austrocknung durch Thermomigration in offenen Systemen) kann zu Schrumpfrissen führen
- Thermomigration in situ bislang nicht ausreichend untersucht

nagra. Materialien

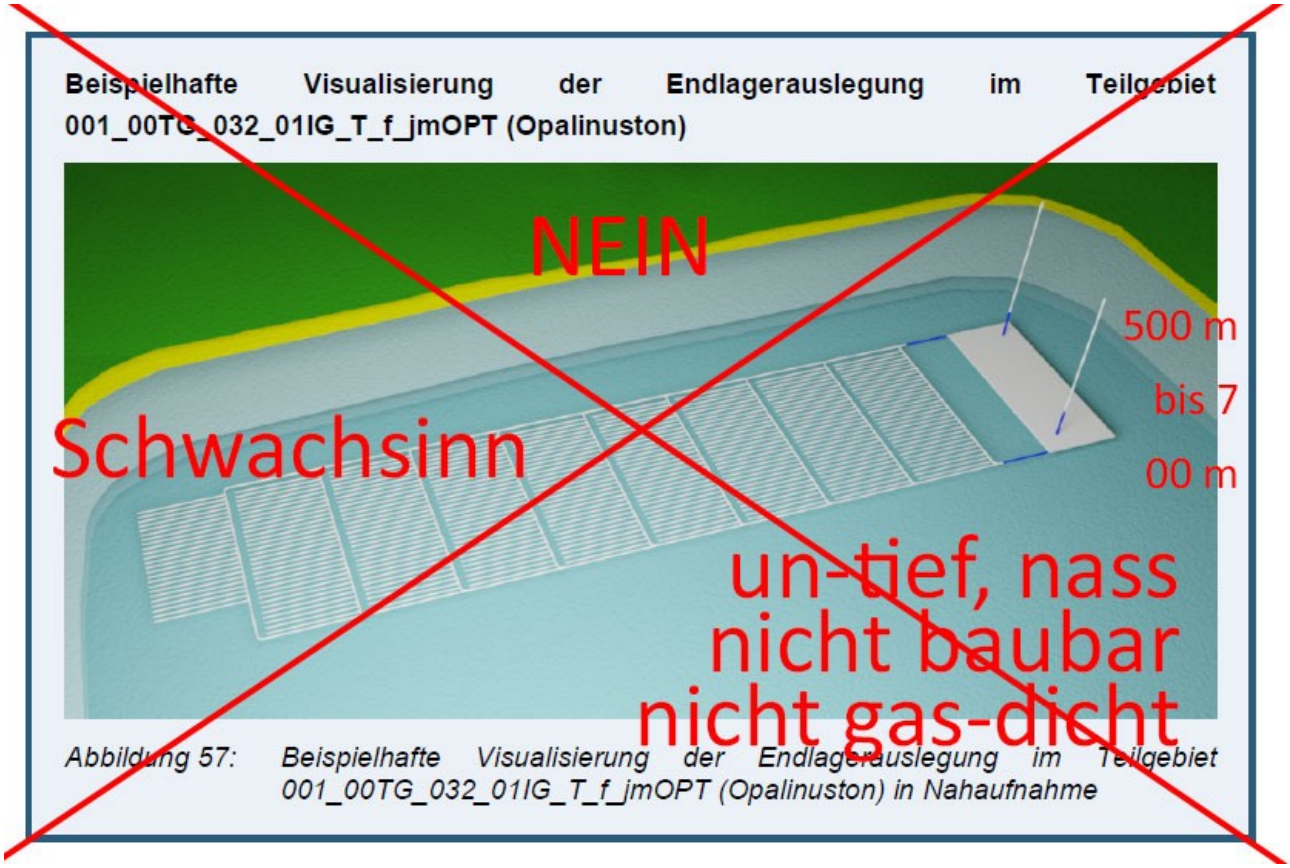


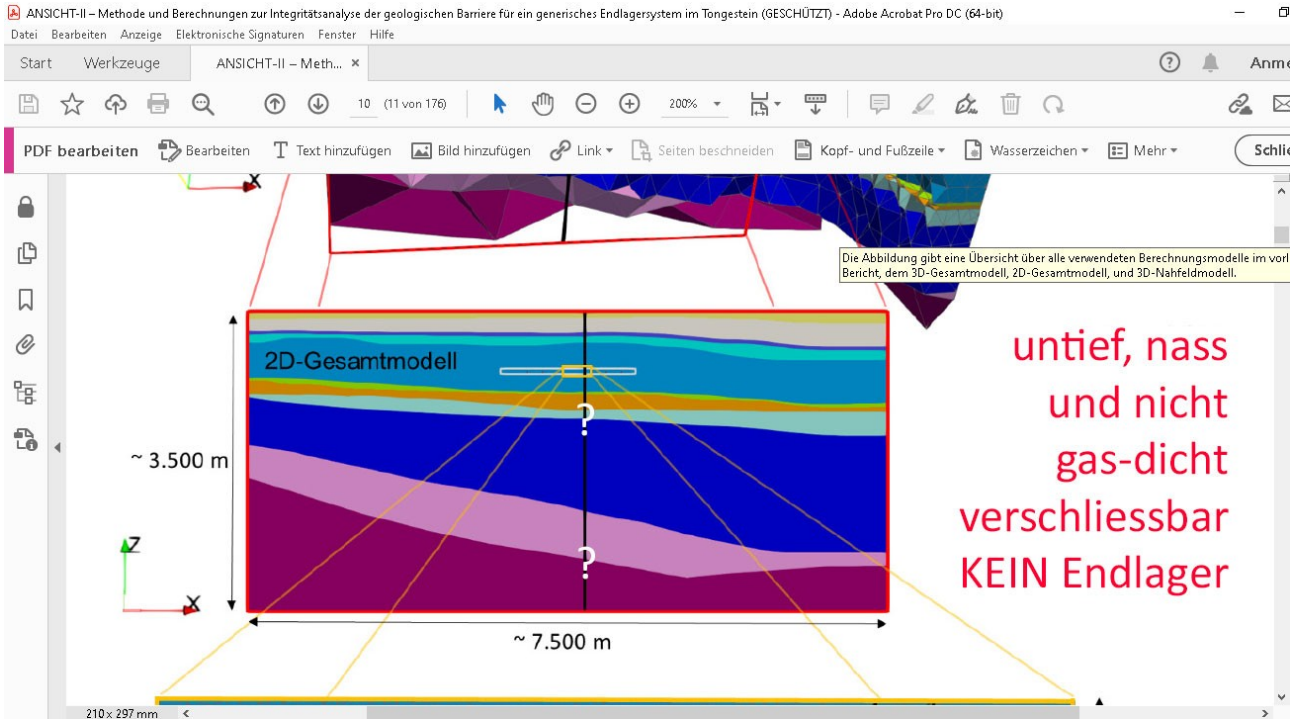
Abbildung 57: Beispielhafte Visualisierung der Endlagerauslegung im Teilgebiet 001_00TG_032_01IG_T_f_jmOPT (Opalinuston) in Nahaufnahme

Extract from the BGR non-repository in claystone study – here concrete tunnel plan in 3DExcerpt from the BGR non-repository in claystone study – here concrete tunnel plan in 3D

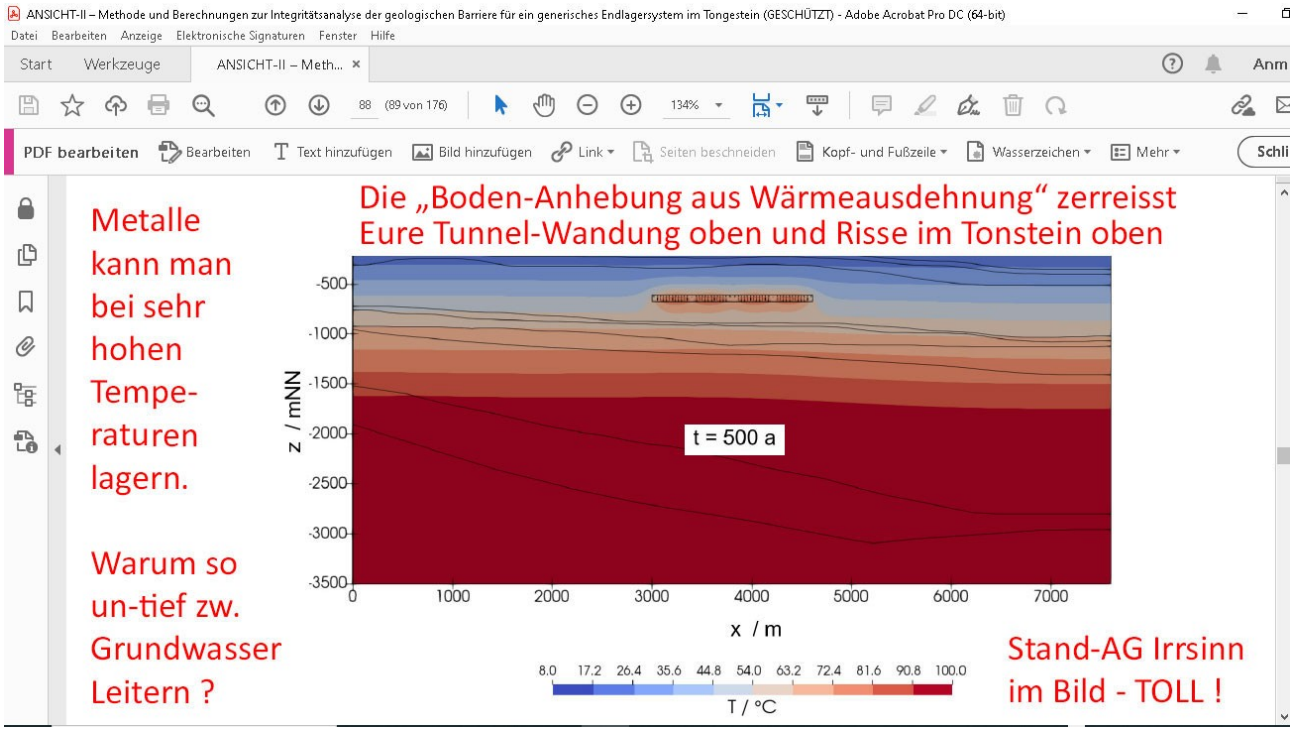
Interestingly, even directly related to the „sub-area 001 of DBE BGE GmbH“

The depth specified in the BGR study is 500 meters – so UNDER-DEEP – which is why it's so wet there like in: Morsleben, Asse, and Konrad – a lot of reclaimed space, so plenty of opportunities to cross groundwater aquifers, but also access for surface water through cracked, dried-out clay layers – and – not gas-tight sealable! – corrosion causes gas pressure, which opens the pathways from bottom to top, and then the water flows in from top to bottom and – and use of oversized containers containing multiple critical masses

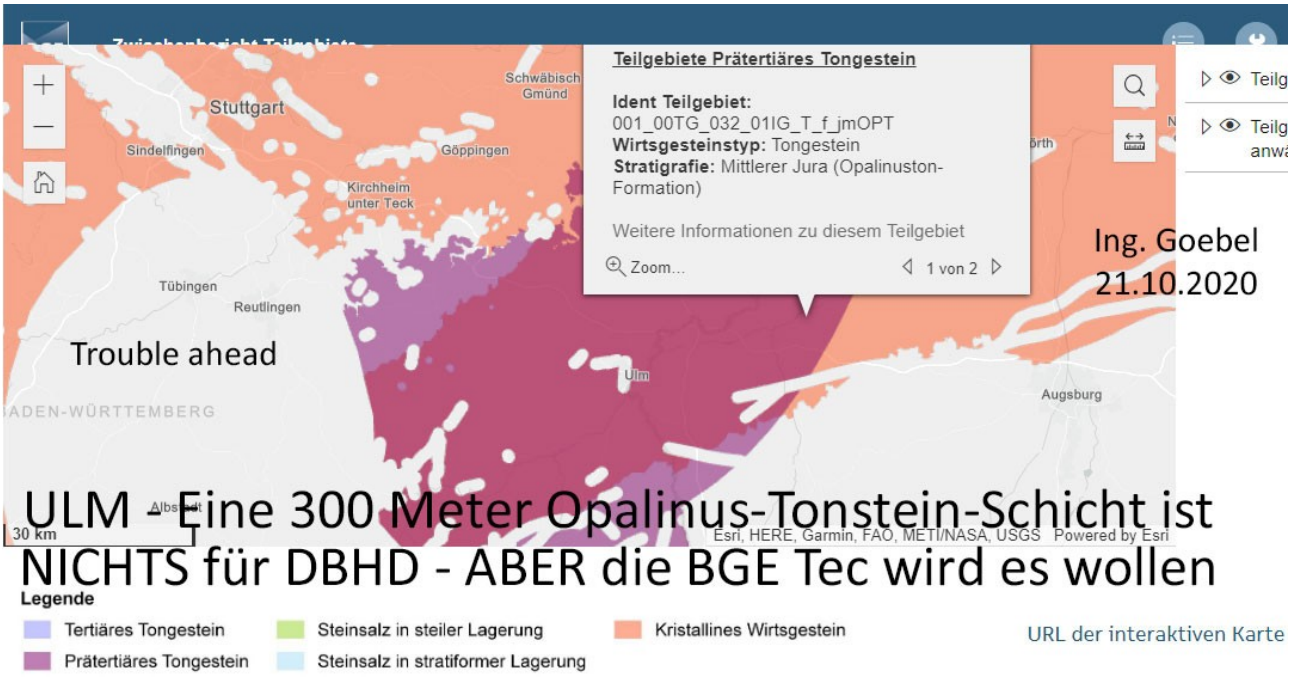
– a release of 25,400 tons of highly radioactive and toxic substances.



Depth of approximately 500 meters? According to the BGR non-repository study for DBE BGE mbH, horizontal structures are much more difficult to "ventilate" than, for example, deep vertical shaft mines.



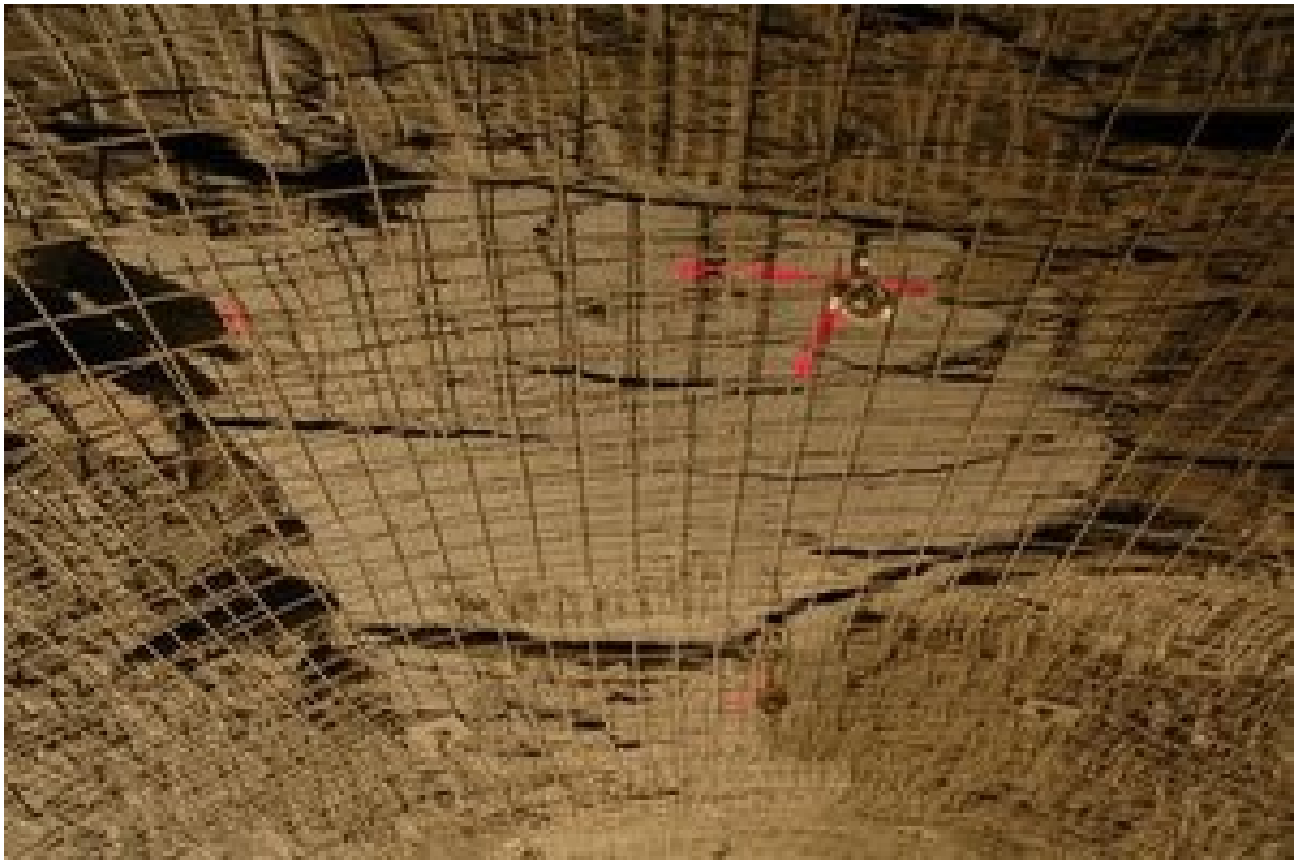
The design temperature is therefore approximately 90 to 100°C – however, the claystone cannot tolerate any increase in temperature. The limiting temperature in claystone is always the natural temperature of the mountain.



ULM - Eine 300 Meter Opalinus-Tonstein-Schicht ist NICHTS für DBHD - ABER die BGE Tec wird es wollen

As you can see, Engineer Goebel already smelled a rat in 2020! – when the interim report from DBD BGE mbH was released. – Engineer Goebel had previously worked for seven years in Switzerland, where the claystone drama began much earlier, and was accordingly sensitized. Engineer was expelled from Switzerland for his criticism of Switzerland's final storage plans.

Back then in 2020, there was still information – today, the nagra website is just “a complete joke.”

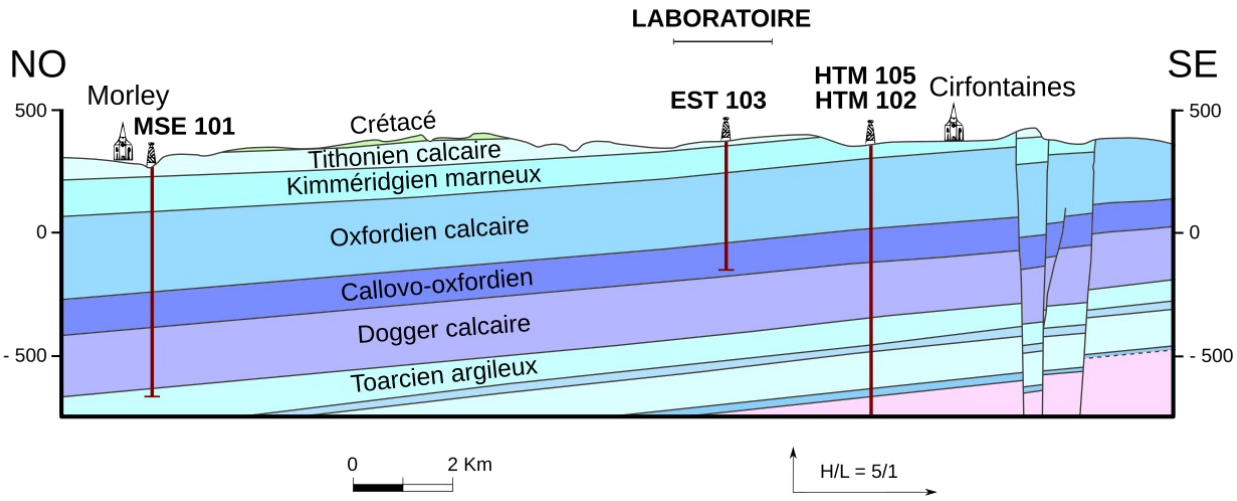


Nagra's „Swiss instantaneous water heater“ – a particularly shameful piece of stupidity. The sole idea behind it: all the water flows into the Rhine on the north side of the mountain. That convinced the Swiss polulation ! – **Nagra's criminal quality** – from 5430 Wettingen.

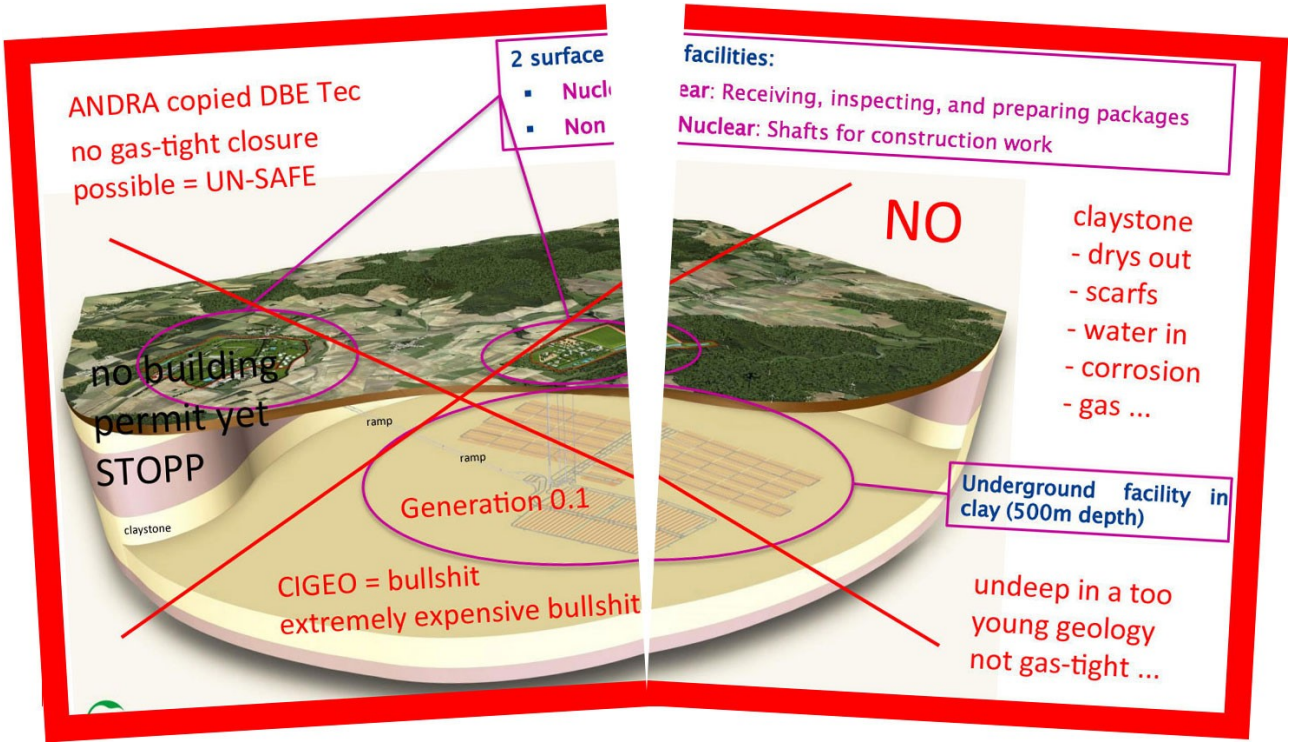
Nothing protects Switzerland's territory as well as "that all the water flows into the Rhine. " This landlocked country doesn't seem to care that all its garbage will end up in the oceans in the long run. Engineer Goebel visited the Rhine Valley at its final location near Zurich. The Rhine Valley is approximately 450 meters deep there.

The French Cigeo Sinkhole:

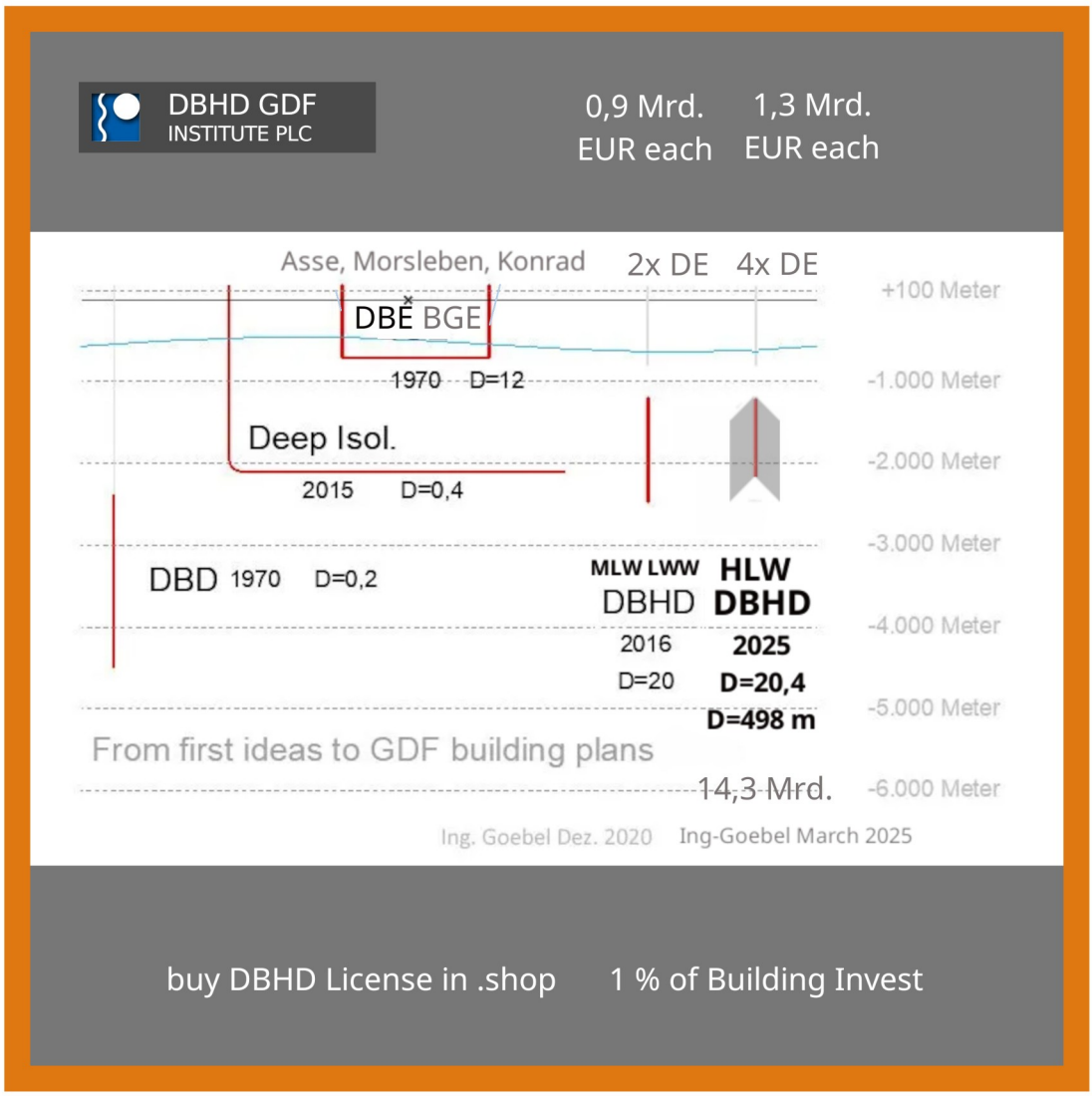
The French only have something similar to mudstone – a kind of "pressed sedimentary mud." It's a bold statement to call Callovo-Oxfordian mudstone, because it only contains 21 - 25% clay.



Location and depth of the Cigeo disaster – EST 103 – The thing will be wet pretty soon, and they will be pumping – to keep their wages – but the truth will come out there too ... Aquifers also exist below 800 meters – the latest case was at Woodsmith Mine in UK.



„National Nuclear Waste Management Programme" of the Federal Republic of Germany - for responsible and safe DBHD disposal of spent fuel and radioactive waste - in cooperation with the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Nuclear Safety (BMUKN) - NaPro DE - September 2025



Only repositories in deep salt formations, under massive overburden, make sense for GDF.

But such geologies are rare ? Germany, Denmark, Poland, Kazakhstan, Texas and Louisiana.