Die Bundesregierung

DBHD GDF INSTITUTE PLC

„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

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0,9 Mrd. EUR each

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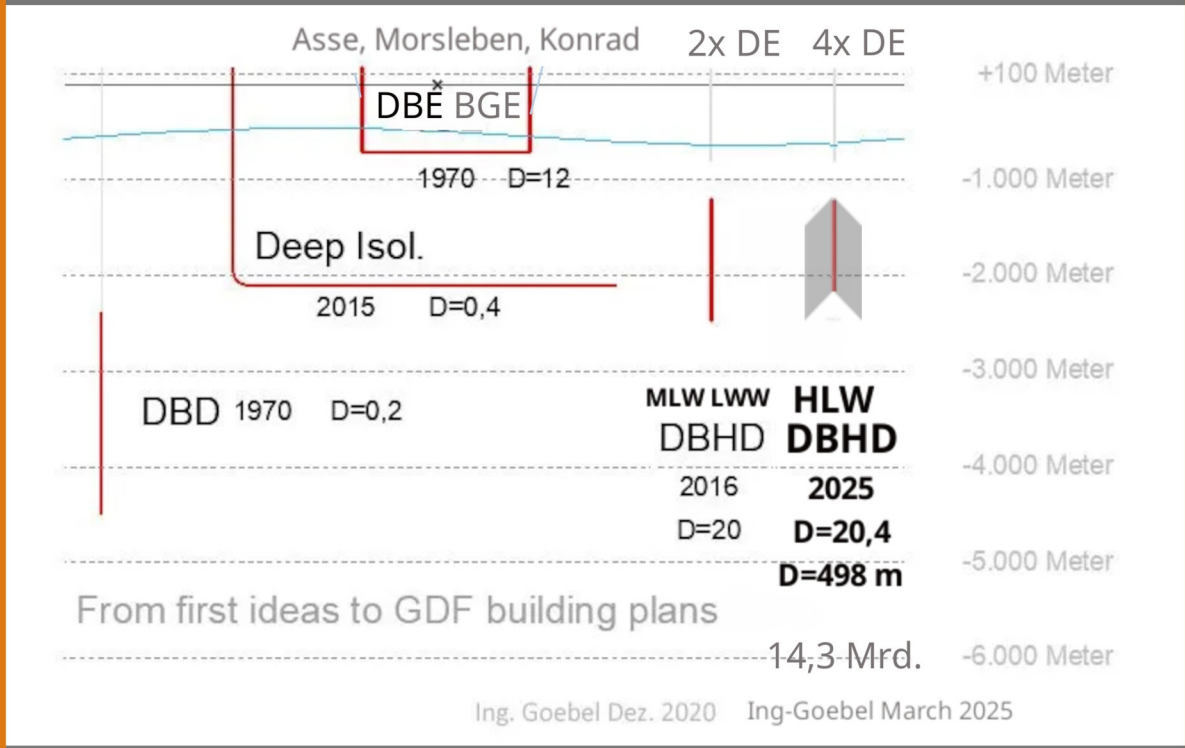

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1 % of Building Invest

Dear EU Commission. July 2025

concerning the German reporting dutys regarding the **EU GDF Law 2011/70/Euratom**

we have to confess the German Geological Disposal Facility Generation 1.0 is as bad as possible.

~~Gorleben HLW Geophysical Problem ! – bad plans ! – Empty – STOPPED !!!!!~~

~~Morsleben MLW LLW is in Water running in – NO CLOSURE possible !!!~~ > 57.000 L/day ?

~~Asse MLW LLW is in Water running in – Re-trieval not started !!!~~ > 13.000 L/day

~~Konrad MLW LLW Water running in – Empty – Stopped 2025 !!!~~ > 85.000 L/day

it was all : un-deep, therefore wet, no gas-tight closure possible and came without

any proof of eternal undercriticalness under GDF conditions : pressure and heat !!!

Our complete Generation 1.0 GDFs failed completely – PLEASE, do NOT copy that !

BUT - some German and worldwide engineers used these 14 years - since 2011

and developed : **DBHD – Deep Big Hole Disposal – SAFE GDF**

planning with SBR - big size drill tech - by Herrenknecht AG

DBHD 2.0.1	for HLW	in deep rocksalt – under 1.100 m Sediment-Overburden
Distribution 5 – 337 m		Many Locations possible : Near Beverstedt and Börger
1,3 Bio. EUR per GDF		Draft-Plans to scale - for all components - are existing,
„Dr. Herres Cylinder“		Thermodynamic 2D and 3D calculations are fully existing
4 GDFs HLW needed		No deep probe drills into deep rocksalt yet undertaken
		GDF Container ELB exists, not yet proven and complete
DBHD 2.0.2	MLW LLW	Same locations – Draft plans 90 % but not fully complete
0,9 BIO EUR	2x needed	No probe drills, but Containers fully existing and packed 1-2

The DBHD GDF plans are so brilliant – that DBHD is likely to become World-Standard.

DBHD GDFs are : deep, dry in rocksalt, come with gastight self closure by mountain-pressure, and prove of eternal undercriticality - because these 1 kg Inventory GDF containers are so small - that no critical mass fits in.

Please see : ing-goebel.com for further information with the original planning data.

We apologise for the fact that our BMUKN offers you a National-Disposal-Program that tells you lies about Konrad, and has put sand in your eyes concerning Stand AG These people are liewyers – they do not have any idea what happens in GDF Sector.

Please give a warning to all other EU countries NOT to make all these German Generation 1.0 mistakes in their countries – causing pollution and costs – we have payed 13 Bio. EUR already to be able to send you this warning. Take it very serious please.

EU should target and negotiate with Kazachstan concering DBHD GDFs in the Pri-Caspian Basin – that is an empty desert with big salt dome geologies under good Sediment Overburden. – Western Technology GDFs meet the required geologies.

It is required that you review EU law 2011/Euratom – taking in account, that Generation 1.0 DID NOT WORK – and – the new drill tech SBR offers GDF a state of technology that is required for SAFE Geological Disposal Facilities.

With best regards from Germany to Brussels and Strasbourg

Volker Goebel - and the Geologists, Physicists, Engineers ww

Dipl. - Ing. Architecture – Master of Metal Industry

GDF Planners ww for 14 years

DBHD GDF
INSTITUTE PLC

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Can Ing Goebel draw up a NaPro BRD that complies with EU law and the location selection law?

List of mandatory content from EU Law 2011/70/Euratom of the Council of 19 July 2011 :

- "Concepts and plans" from Article 12 paragraph (1) d

- "Estimation of costs" from Article 12 paragraph (1) h

- The repository was developed in a "Transparent" manner from Article 12 paragraph (1) j

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0070
but you do not find the exact words there – this is a translation German > English

Regarding (3) **"...a plan for the disposal of radioactive substances must be submitted"** – YES – DBHD repository plan comes from Ing. Goebel architectural and engineering firm - NO _ The supervisory authority BASE, the ministry BMUKN, and the construction company BGE did not develop a plan.

Regarding (11) **"... on public participation in the development of certain environmental plans and programs"** – YES – DBHD was created through public participation – in this case, the professional public – a graduate engineer in architecture submits the DBHD concepts, plans, container, costs and locations.

Re (11) **"...on the assessment of the environmental impacts of certain plans and programs"** Both, the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Water Management (BMUKN) and DBHD submitted this report to the Öko-Institut e.V. for critical evaluation.

Regarding (12) **"...financing, as well as financial security and transparency, so that the funds are used exclusively for their intended purpose."** YES – there is a financial security, the KENFO currently has EUR 20.3 billion in its GDF accounts for nuclear repositories. – and – NO, there is hardly any transparency regarding the annual payouts and use!

Re (14) **"... in the management of spent fuel and radioactive waste through the improvement of domestic measures and international cooperation."**! NO, the domestic measures have only led to a 44% DE BGE site map in 14 years!!! – NO, there are no results from international cooperation from BGE – YES – DBHD has carried out repository planning within 14 years in cooperation with approximately 34 countries – using swarm intelligence and simply writing letters.

Re (16) **"... In 2006, the IAEA updated the structure of the standards..."** NO, the IAEA is hopelessly lagging behind in the development of repository planning!! – They are apparently more interested in nuclear power facilities. **– What the IAEA has published is scandalous and useless.**

Re (19) **"...but radioactive waste is generated in all Member States..."** - YES, that is true, however, some EU states have so little radioactive waste that the construction of a repository would be completely disproportionate. EU law also permits cooperation if a fully functional repository is available in the other Member State.

Re (21) **"...Radioactive waste, including spent fuel, which is considered waste, must be contained and isolated from humans and the living environment for the long term. Its specific properties, namely containing radionuclides, require special precautions to protect human health and the environment from the dangers of ionizing radiation, including disposal in suitable facilities as the final destination ..."** - YES, the DBHD Group has developed a facility for the final destination of spent fuel and vitrified nuclear waste. No, BASE, BfS, BMUKN, and BGE have NOT developed any final destination facilities – but they have developed a 44 % of DE is interesting for GDF Location map ! – Funny isn´t it
The blame for this negative development lies with Peter Hart at the BMUKN.

Regarding (23) **"... the typical disposal concept for low- and intermediate-level radioactive waste is near-surface disposal. At the technical and professional level, it is widely recognized that disposal in deep geological formations currently represents the safest and most ecologically viable option for the disposal of high-level radioactive waste and spent fuel elements, which are considered waste."** – NO, it has been found out by Morsleben, Asse, and Konrad that near-surface disposal is technically impossible, because the surface water penetrating shallow, converted old mines leads to wet NON-RESERVATIONS! – The disposal of low- and intermediate-level radioactive waste must therefore also be achieved in deep geological formations. – YES, DBHD has submitted repository plans for high-level radioactive waste, as well as a DBHD repository plan for low- and intermediate-level radioactive waste.

Re (23) **"...their low-, medium-, or high-level radioactive waste, but they should incorporate the planning and implementation of final disposal options into their national policy ..."** - YES, in 2017, following the Repository Commission in the Bundestag, Germany passed a national "Site Selection Act" that establishes reasonable criteria for final repositories. - However, according to research plans by the DBHD, it now turns out that the Site Selection Act needs to be significantly tightened to focus on the criteria: deep, therefore dry, gas-tight sealable, and with the demonstration of permanently subcritical containers. Furthermore, the 100 °C limit temperature at the outer edge of the container is always WRONG, because three limit temperatures are required for three host rocks. The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUKN) has not corrected the Site Selection Act for eight years!!! A correction of the Site Selection Act can only be made by the Environment Committee and Parliament. The stated depths of 100 m minimum and 300 m layer thickness turned out to be completely misleading – in fact, repositories are possible for humans from approximately 1,100 m to 2,200 m, and even within the detection period of 1 million years, the containers sink to approximately 8,400 m.

Re (23) **"...The activities within the framework of the Implementing Geological Disposal of Radioactive Waste Technology Platform (IGD-TP) could facilitate access to expertise and technology in this field."** – NO, IGD-TP unfortunately remained a paper tiger website that had no influence on the repository development. No one there ever had anything – and those who might have had something didn't want to share it there – including DBHD.

Regarding (23) **"...For this purpose, reversibility and retrievability can be used as guiding criteria for the technical development of a disposal system."** - NO, it has been found that truly retrievable repositories have significant safety deficiencies. DBHD therefore had to abandon GTKW, TTEL, and ART-TEL and plan with DBHD. The idea of retrievability is obvious after the Asse decision – but otherwise remains a textual, feel-good gimmick by Nagra Switzerland – to encourage public acceptance – SAFETY and retrievability are unfortunately completely incompatible

Re (24) **"It should be an ethical duty of every member state to avoid placing unreasonable burdens on future generations..."** - YES, that's why the DBHD repository was researched, planned, and drafted by construction planners who themselves still used electricity from nuclear power. - NO, the government agencies are very happy about the generous salaries and want to provide their children and grandchildren with the "repository ticket" - development of gang crime - the government agencies are only dealing with side issues, and in 14 years of this “fake work”, the building company BGE, has never developed a repository plan. - Only the BGR has made a serious attempt, which, however, if implemented, could lead to the repository disaster of a fourth wet and unusable Generation 0.1 structure !!! We all fear that BGE is coming out soon with - Near Ulm - near Münster - both crumbling clay.

Regarding (24) **"... the Member States shall demonstrate that they have taken appropriate steps to achieve this objective."** – NO, a 44% BGE map that "at its own discretion" imposed a self-imposed 1,500-meter limit is worthless!!! The BGE GmbH has thus violated EU law. – YES, Germany is still a country with architectural planners and engineers – who are treated shamefully, but these people still exist – a classic graduate engineer and industrial master craftsman was actually able to solve humanity's 78-year-old construction puzzle with the help of 14 years of sending everything to everyone until criticism arose. – Two blog websites and LinkedIn were very helpful in this regard. Professional experience and the very basid citizen's income made long-term work performance possible.

Re (25) **"...That the responsibility for the safe management of spent fuel and radioactive waste ultimately lies with the Member States is a fundamental principle reaffirmed in the Joint Convention. This principle of national responsibility..."** - NO, it has proven to be a fatal error of epic proportions that every EU Member State should dispose in its own country!! - Suitable geology is not even present in most EU countries? - Solid rocks like granite were once liquid and contracted upon cooling, leading to very, very many fractures that are easily reopened by blast - AND - Claystone is always thin-layered and crumbly and does not tolerate decay heat well and smears when drilled - All, and there are numerous, repository plans for these two rocks are: shallow, therefore wet, never gas-tight, and even equipped with repository containers by irresponsible and stupid waste disposal companies planned, which can contain 33 times the critical mass. –

The EU law, in its actual implementation, organizes the greatest soil and environmental pollution ever planned by mankind – everything shallow and wet will end up in the oceans in the long term – but before that, try entire regions!!! – NO -

The DBHD deep salt repository has up to six optimal locations in Germany because, due to its geology, Germany has such a large share of the center of the Zechstein Basin. Unfortunately, no neighboring country, except perhaps Denmark and Poland, has such deep salt geology with overburden. – DBHD recommends that the EU Commission negotiate with Kazakhstan about a small area of desert in western Kazakhstan – the necessary geology is there, and Kazakhstan also supplies the world with yellow cake. (Only Australia supplies more...)

The Pri-Caspian Basin is accessible by land and sea, and the population density there is minimal compared to Europe. – DBHD Ing. Goebel has already written to the government and the Ministry of Foreign Affairs of Kazakhstan regarding this matter.

https://www.ing-goebel.de/all-eu-countries-gdf-geology-in-kasachstan/

Re (28) **”Member States should establish national programmes to ensure that political decisions are translated into clear rules on the timely implementation of all steps in the management of spent fuel and radioactive waste, from generation to disposal. Such a national programme should be in the form of a single reference text or a collection of texts.” -** NO – Germany has a Site Selection Act that focuses on criteria and has created a Repository Safety Requirements Ordinance. Both are sensible, but government agencies perceive them as a basis for 100 years of delay, and there is NO sign of timely implementation. However, the art of **managing the NOTHING** has reached unprecedented heights. The first newspapers are reporting "fraud" – the first members of parliament are demanding that all funding be cut from the repository industry. The public is just laughing – to keep from crying.
YES, since the law was passed 14 yeas ago, DBHD has worked on repository planning from a very small team with no idea —what?— to a "fully qualified team of experts and subject-matter expertise," always planning with specific geology locations in mind and providing transparent information. It turned out that thermodynamic calculations and the 1 kg repository container — no critical mass can fit in there!— are the key influencing parameters for repositories for highly radioactive waste. Geophysics, i.e., the load-bearing lid, was also identified as essential for safe repositories for heat-generating waste. Since all the elements for repository design are now available and published, one can already speak of a program. Therefore, the DBHD repository plans should and must become/be the supporting pillars of the Federal Republic of Germany's National Nuclear Waste Management Program.

Regarding (31): **"Transparency is important in the management of spent fuel and radioactive waste. Transparency should be achieved by ensuring, in accordance with national and international obligations, that the public is effectively informed and that all affected stakeholders, including local authorities and the public, are given the opportunity to participate in decision-making processes."** – YES, the Commission on Repositories, which met directly in the German Bundestag for years, was an extreme model of transparency; there were video recordings and even verbatim minutes. The major Repository Conference also demonstrated a commitment to transparency. - After that, everything died down. BASE, BMUKN, BGZ, BGE never again showed "living working papers" – the BGE interim report ended up being an illegal farce, and since then, the public has heard nothing and has been fobbed off with stupid advertising.
YES, for over 14 years, DBHD has always sent out/published scaled sketches and technical drawings, as well as explanatory texts and later extensive calculations, live. We have shown incomplete plans for 13 years that wouldn't have worked. But in March 2025, we were finally ready to have a robust repository plan for the first time. A group of experts led by the rather mediocre graduate architect has actually solved the 78-year-old construction puzzle, contrary to all expectations. – In the draft version, the execution planning is still pending. However, the planning was always very practical, using specific machines, which makes it very likely that a final repository planning draft will be available. This time, too, Germany, the Ruhr region, and Schwanau (Baden-Württemberg) are ahead of the game. What has actually been created is another German export product based on the technical expertise of German mining suppliers.

Regarding (3) **"disposal means the storage of spent fuel or radioactive waste in a facility where retrieval is not intended;"** - YES, DBHD cannot be retrieved using current mining technology. - Therefore, EU final disposal in Kazakhstan is possible.

to (4) **"Facility for final disposal" any facility or installation whose main purpose is the final disposal of radioactive waste; "**- YES, a repository is always a building and therefore falls within the competence of architecture and construction planning – Like all buildings in the world, a repository also has an architecture – At DBHD, a graduate architect is in charge – NO, there's no architect running BGE, and that's why the fundamentals are always WRONG right from the start! The state-run repository industry has hired thousands of disturbing non-construction planners, making it impossible for the very few construction planners (Dipl.-Ing. Arch. Goebel is the only known GDF construction planner) to even be heard. – The state-run participants (thousands) don't even want to think about or plan a repository project because it could jeopardize their status and their constant high salaries. These idiots are looking for a repository site without even having a method for investigating the geology. That's why, even after 14 years, they still don't know what kind of geology they're actually looking for. Pathetic super-idiots who senselessly waste vast amounts of resources on their mindless, unconceptual activities. What a pity.

Regarding (5) **"Permit"** – YES, DBHD is constructing a repository as an industrial development, which will come to the region with extremely high direct, radial, and fair compensation payments over approximately 70 years. – Even a test drilling operation on land that is still owned by someone else requires a local permit. – The above-ground facilities are a completely normal local building application, the underground facilities are governed by mining law (which BASE has usurped), and the nuclear-technical aspects are governed by nuclear and European law. – NO, a big planning approval procedure by state makes any legitimate local participation impossible. – No compensation and no participation in local above-ground matters will lead to fundamental rejection at the site.

Regarding (7) **"radioactive waste": radioactive material in gaseous, liquid, or solid form, ..."** - YES, DBHD does not release any permanently radioactive IOD-129 gas from the repository site and works with a gas-tight 300 m seal in the rock salt. The mountain pressure on the dry salt crush compresses the rock salt again, making it gas-tight. - For claystone or granite, no gas-tight seal has ever been demonstrated, even remotely. BGE's shallow mines suffer greatly from gases from corrosion and will release IOD-129 uncontrolled in the medium and long term.

Re (4) **"Radioactive waste shall be disposed of in the Member State in which it was generated, unless, at the time of shipment, an agreement between the Member State concerned and another Member State or a third country was in force, taking into account the criteria established by the Commission in accordance with Article 16(2) of Directive 2006/117/Euratom, under which a disposal facility in one of those states is used."** – YES, DBHD offers, on the one hand, the disposal of the residues generated in Germany in Germany – AND – DBHD offers the disposal of all residues generated in the other Member States in a third country – e.g., in deep salt beneath a desert in Kazakhstan. – DBHD does NOT offer to dispose of radioactive waste in Germany to ANY other EU country because Germany is timid and densely populated, and a disposal company does not have the legal authority to decide on German national interests. As long as a facility/structure designed by DBHD is used, final disposal can take place anywhere where the geology allows for rock salt with the minimum cover, and the specifications of the DBHD repository planners are met. The natural political and human first approach – everyone must dispose of their waste on their own national territory – is understandable, **but from an engineering perspective, this is simply the crudest and most stupid nonsense, which could lead to planned soil and environmental pollution of unprecedented epic proportions!**

to (4) b) **“The country of destination has programmes for the management and disposal of radioactive waste whose objectives ensure a high level of safety and are equivalent to those of this Directive.”** – YES, DBHD intends to purchase the construction land for the DBHD repository in Kazakhstan for the purpose of final disposal from the government there.

Regarding (1) a) **"a national program for the implementation of spent fuel and radioactive waste management"** - NO, neither the Federal Office for Nuclear Safety (BASE) nor the sole state-appointed building company BGE, have a program. There are only the Stand AG criteria, from Site Selection Act but no concrete disposal program. The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUKN) submits an empty and fabricated National Program for Nuclear Safety (NaPro DE). EMPTY because there is no program, no method, no location – FALSE because the Konrad shaft got 85,000 liters of water running in every day, and the state of Lower Saxony is refusing to grant the enhanced water permit for this very reason. The ESK DE has determined that there is NO repository package in the Federal Republic of Germany that has the material stamp of approval for storage in Konrad. YES, the DBHD has a National Nuclear Waste Disposal Program whose "implementation" is at the stage of a robust, comprehensive draft plan and includes the required "concepts and plans" and "cost estimates," as well as other essential elements such as the three preferred sites (without test drilling yet), the repository container with radiation protection cladding, and the long-pronounced direct, radial compensation payments for the neighboring residents, which, however, still lack a legal basis, which must be incorporated into the Site Selection Act law (Stand AG)

Re (2) **"Member States shall ensure that the national framework is improved, where appropriate, taking into account operational experience, lessons learned from the decision-making process pursuant to Article 4(3)(f), and developments in relevant research and technology."** - NO, - neither BASE nor BGE nor BMUKN (the sole responsible parties) have promoted the DBHD repository planning during the past 14 years. - The responsible parties have always ignored the state of the art in science and technology in favor of their more than 50-year-old horizontal mining idea! - DBHD was even sued and damaged by BASE's predecessor, the BFE. - The corporate communications departments have always dismissed DBHD as an "uncommissioned participant from the business world" and have not publicly discussed the topic of DBHD repository in order not to jeopardize their own sovereignty over the topic. A parallel state society has emerged that exhibits gang-like criminal behavior.

Re (1) **"Member States shall ensure that the national framework is improved, where appropriate, taking into account operational experience, lessons learned from the decision-making process pursuant to Article 4(3)(f), and developments in relevant research and technology."** - NO - In Germany, BASE, the Federal Office for the Safety of Nuclear Waste Management, was established. BASE is so contaminated by the Green Party's dogmatism due to the supply policies of party members that BASE's own scientists have addressed the institution's management in an open letter. - In Germany, however, this is also a former Green Party MP who, as the supreme supervisor of final repositories, has a nursing qualification. YES, DBHD made the decision about 10 years ago to plan with the clearly evolving state of Herrenknecht's vertical big-hole drilling technology. Meanwhile, SBR has successfully drilled large-hole boreholes in Canada, Belarus, and England. The big commission has written down that Deep Borehole Disposal has to be looked on every few years. Despite the clear political mandate to regularly review borehole storage, borehole storage has always been treated as an enemy of BASE, BGE, BGR, GNS, BGZ, and NBG. Something you don't discuss publicly if you want to continue receiving your salary from the state. A Ms. Heinen-Esser, on the Repository Commission, introduced this policy.

Regarding (3) **"As part of the licensing process for a facility or activity, the safety case covers the development and implementation of an activity, the development, operation, and decommissioning of a facility or the closure of a disposal facility, as well as the post-closure phase of a disposal facility. The scope of the safety case must be commensurate with the complexity of the operational activity and the extent of the hazards associated with the radioactive waste and spent fuel, as well as with the facility or activity. The licensing process must contribute to ensuring that the facility or activity is safe under normal operating conditions, during possible operational disruptions, and during design-basis accidents. It must provide the necessary assurance that the facility or activity is safe. Measures must be in place to prevent accidents and mitigate the consequences of accidents, including verification of which physical barriers and administrative protective procedures of the licensee would have to fail before workers or the public would be significantly harmed by ionizing radiation. This concept serves to identify and mitigate uncertainty factors."**
YES, DBHD is working toward these goals every single day – it can even be assumed that BASE BGE, etc., are also not indifferent to these goals. – DBHD has the design planning and parts of the implementation planning to enable BGE to achieve this goal !? However, BGE has so far refused to pay EUR 42 million gross less 19% VAT and income tax + solidarity tax of 47% for the first two required DBHD licenses. Copyright Goebel. The German nuclear waste industry consumes EUR 1.36 billion every year – the evidence of dismantling, the evidence of retrieval, the evidence of new containers, and the evidence of safe final disposal are completely missing. – These are essentially the personnel costs of far too large organizations that **manage their NOTHING. – There is NOTHING** – OK, now there were a few new transport trailers, and an additional wall is said to have been built somewhere at an interim storage facility. – But 99.99% of the costs are simply managing NOTHING.

On Article 8
"Member States shall ensure that the national framework lays down provisions for the training and continuing education that all involved parties must provide to their personnel; the same applies to research and development activities that meet the requirements of national programs for spent fuel or radioactive waste management, in order to acquire, maintain, and develop the necessary knowledge and skills."
NO – the monopolization of research at BASE and BGE has completely killed repository research! and concentrated it on the government's favored sideshows.
YES, DBHD initially paid for the research and development activities with an employee's salary an 60.000 working hours – and a transition took place to accepting previously unpaid long-term scientific and technical services. – The architectural planner had to rely on the public income (social welfare money called Bürgergeld) in order to be able to provide 80 hours of repository planning service work each week.

Article 10 – Transparency
re (2) **"Member States shall ensure that the public is given the necessary opportunity to participate effectively in decision-making related to the management of spent fuel and radioactive waste, in accordance with national law and international obligations."**
YES, DBHD has actively exercised this right of participation, which is very rare in legislation, and has slowly been able to achieve a complete repository planning draft plan program.

Article 11 – National Programs

regarding (1) **"Member States shall ensure that the public is given the necessary opportunity to participate effectively in decision-making related to the management of spent fuel and radioactive waste, in accordance with national law and international obligations."** – YES, DBHD has planned the repositories through to completion. – Including closure, dismantling, and renaturalization. NO, because BASE BGE only has the 44% map behind the standing Castor cask and otherwise no scaled plans for disposal facilities. – 14 years NOTHING

Article 12 – Content of the National Programs

regarding (1) **"The national programs shall set out how Member States intend to implement their national strategies for the responsible and safe management of spent fuel and radioactive waste, in accordance with Article 4, in order to ensure compliance with the objectives of this Directive."** – YES, DBHD has answered the question of "how?" fully and the questions of "implementation?" partially, in writing and in planning drawings. – NO, BASE and BGE, under the leadership of the BMUKN, have not answered the questions of "how?" and "implementation?" in any way. However, BGR – i.e., the geologists – have prepared a somewhat serious repository plan for claystone on behalf of BGE, which would result in a non-repository with the following characteristics: shallow, therefore wet, not sealable in a gas-tight manner, and possibly 33 critical masses per container – at a cost three times that of the DBHD repository. – Keywords: Near Ulm, Near Münster

Regarding (1) b) - **"the relevant intermediate stages and clear timelines for achieving these intermediate stages in light of the overarching objectives of the national programs;"** - YES, DBHD has a construction timeline of approximately 13 years until the end of renaturalization. – NO BGE is babbling about 150 years from now because they have no program or plan and want their children and grandchildren to be well provided for throughout their lives with the repository ticket. - BASE and BMUKN view this critically, but have done nothing to address it so far. BASE and BMUKN also wants to live well on the “Repository Ticket”

Regarding (1) c: **"An inventory of all spent fuel and radioactive waste, as well as estimates of future quantities, including those from decommissioning; the inventory must clearly show the location and quantity of radioactive waste and spent fuel according to an appropriate classification of radioactive waste."** - YES, there is a rough inventory of the residual quantities. Initially, it was 19,000 Mg in 2015 – but in 2024, the Federal Ministry of the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUV) then reported 25,400 Mg of highly radioactive residues. - NO, the BGZ has been refusing to provide thermal data for the Castor containers for years. A list of the measured and calculated thermal data for each individual Castor HLW container is missing. There are Castor containers that have been in interim storage for 40 years. The container inventory information is not accessible to the specialist public.

Regarding (1) d) - **"the concepts or plans and technical solutions for the management of spent fuel and radioactive waste, from generation to final disposal."** - YES, DBHD has developed the concepts and plans for the technical solutions for final disposal within 14 years. However, only Germany has such buried deep salt geologies – which already puts the odds at 25 to 1 – and the other 25 state-run waste management companies will cling to their salaries as long as they can. - Only the of the 25 national waste management companies can resolve this imbalance and pave the way for a technically safe EU repository in Kazakhstan.

Re (1) f) - **"the research, development, and demonstration activities required to implement solutions for the management of spent fuel and radioactive waste;"** - YES, research has been conducted by government agencies through scientific reports on specific issues in Germany – DBHD has already read and evaluated over 1,000 of these. - YES, development work has been carried out over 14 years, but the status is draft plus parts of the implementation planning. - No, demonstration work has not yet been carried out – the ELK-TG repository components test site proposed by DBHD has never been seriously discussed or financed. Nuclear repository is a structure without historical precedent – it's "practice, practice, practice" – you can hardly take anything off the shelf. However, within 14 years, a concrete idea of the technical challenges to be overcome and how has emerged. It's a steel shaft construction, which probably won't suffer from underfunding like so many mineral mining shafts. – NO, BASE and the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUKN) are even preventing the final development of the repository container and the radiation protection shell by issuing instructions to the Radiation Protection Laboratory at KIT Karlsruhe ?

Regarding (1) h) - **"an estimate of the costs of the national programs, as well as the baseline and hypotheses on which this estimate is based, including a presentation of the time profile;"** - YES, DBHD has been tracking the costs for repositories for more than a decade and presented the calculations in versions 30 and 32 – as well as the overall calculation for repositories including transport and compensation payments. - NO, BGE has never been able to present a repository calculation or overall calculation for repositories. They want to work on the over-idealized idea of site selection for another 150 years and be well-provisioned.

Regarding (1) f) - **"a transparency policy or procedure pursuant to Article 10;"** YES, DBHD works LIVE and publicly – with all the consequences that entails. DBHD always shows work in progress and results. NO, BGE has almost nothing, and there's not much to show. However, that could change as soon as the construction company with its geology department purchases the DBHD repository licenses and continues to work with DBHD. Then a transparent process, which draws criticism even during the development phase and allows for learning, is possible again.

Regarding (1) f) - **"where applicable, the agreement(s) concluded with a Member State or a third country on the management of spent fuel and radioactive waste, including the use of facilities for its final disposal."** – YES, the EU Member States are welcome to show their agreements with Kazakhstan, etc., or Germany, or perhaps even Denmark and Poland. The motto at DBHD is: "All waste has to go into salt."

Article 13 – Notification re (2) - **"Within six months of notification, the Commission may request clarifications and/or issue an opinion on whether the content of the national program complies with Article 12."** – YES, DBHD is requesting an opinion from the EU on the Federal Republic of Germany's National Nuclear Waste Management Program. – There are already infringement proceedings against three EU countries that, like Germany !?, have not yet submitted a waste management program. **- DBHD is requesting the EU to review all incoming national programs based on the following criteria:**

Sub-deep? – Therefore wet ! – Not sealable gas-tight !? – and without proof of a subcritical container design ? – ATTENTION – Andra, nagra, Posiva and others also pretend to follow EU 2011/70/Euratom

DBHD VG followed the EU 2011/70/Euratom – just after reading it – the law turned out to be a path to find : Deep, therefore dry, sealable gas-tight and with eternal subcritical GDF container. – Thank you.

The follwing attached DBHD picture-plans annexes only protect Germany from infringement proceedings, the grace period, and the fine if at least two DBHD licenses have been acquired by BGE Peine and the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Nuclear Safety (BMUKN)! – The technical drawings, calculations, and purchase contracts are already annexes to this National Proposal for Germany (NaPro DE), which, due to the circumstances, has already been prepared in cooperation by the BMUKN and DBHD. (Annexes are also available as a high-resolution PDF on website)

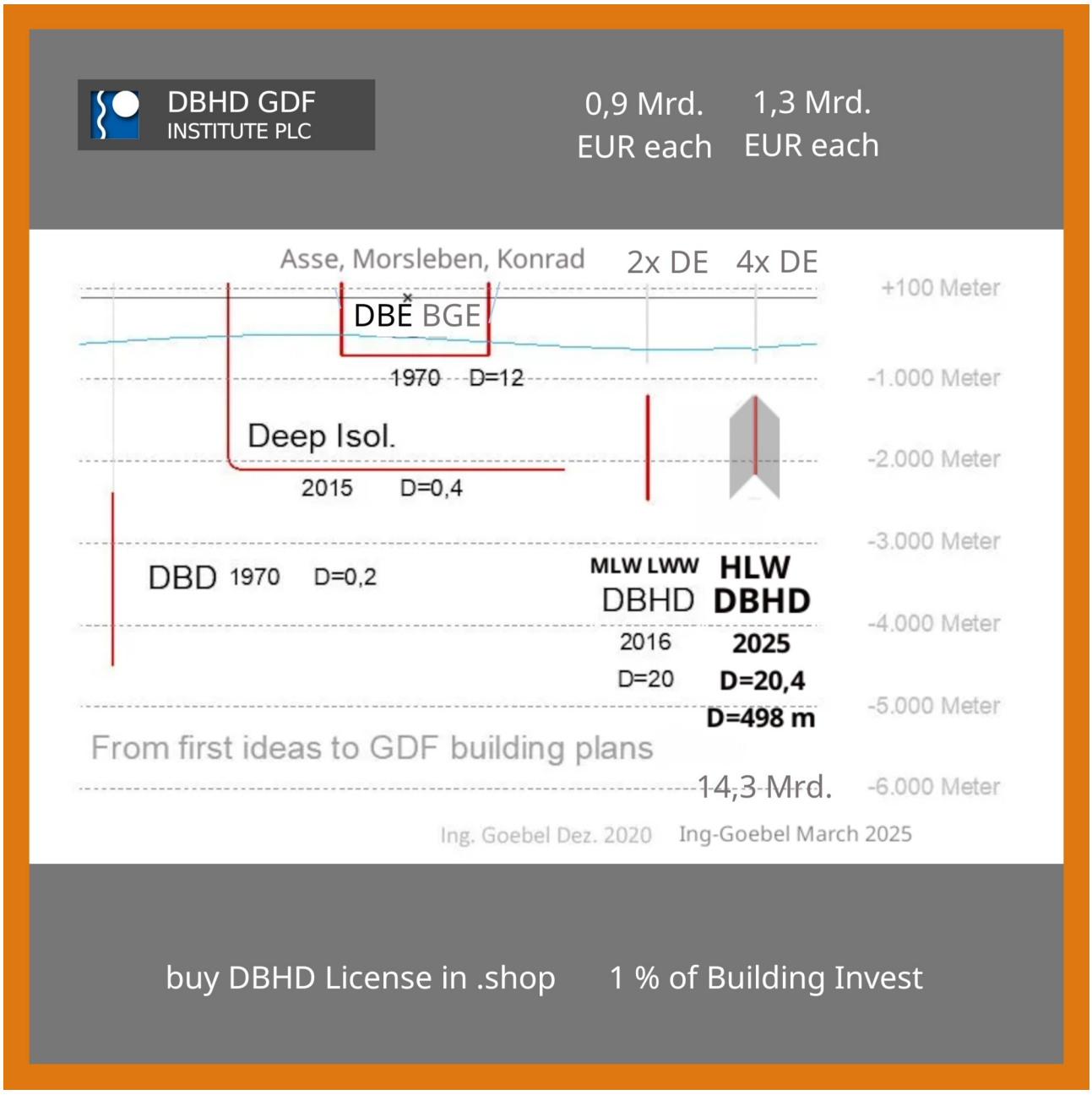


Figure 1 shows DBHD in the context of the overall repository methodology worldwide

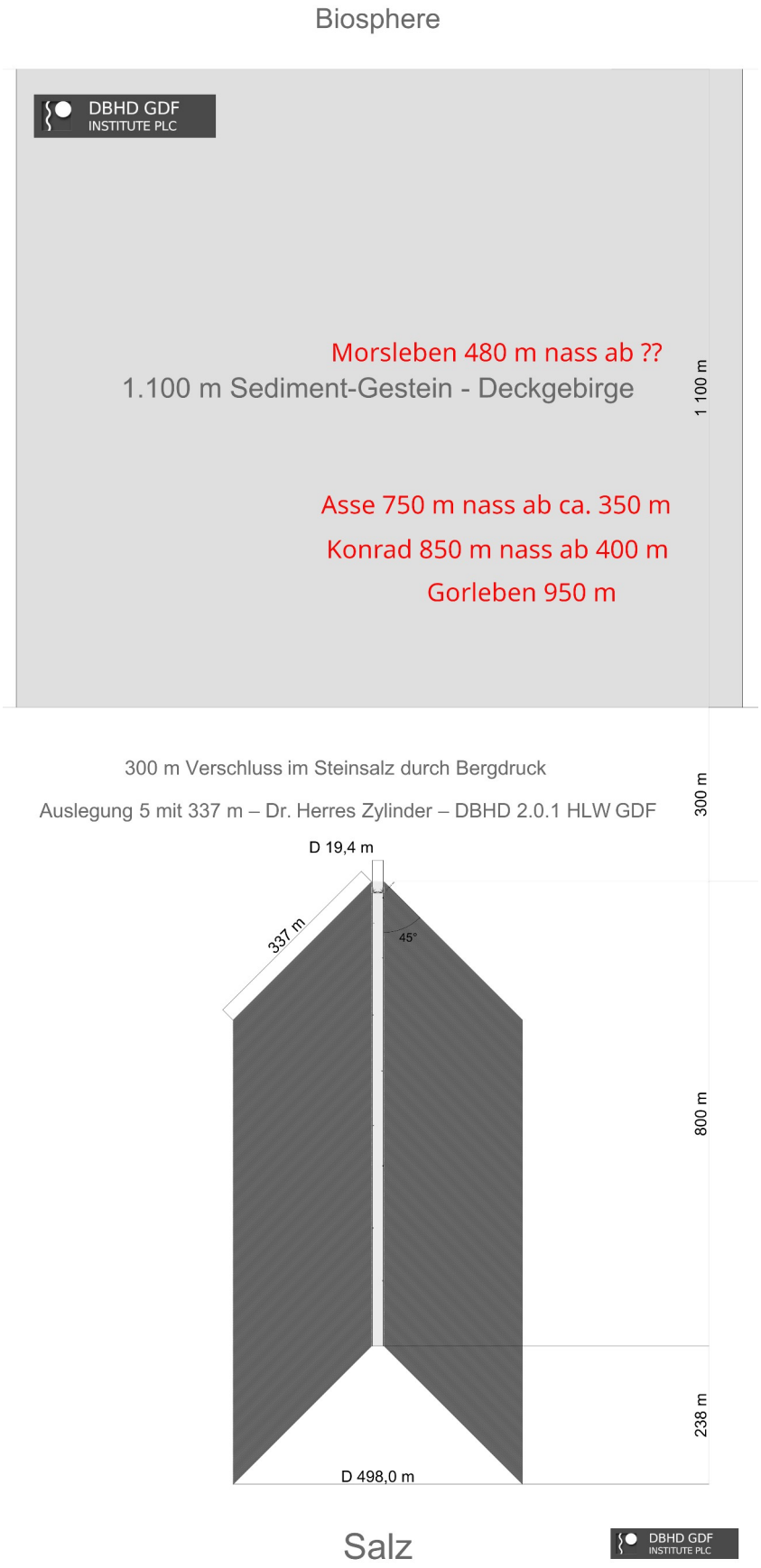


Figure 2 shows DBHD in the context of three wet NON-REPOSITORIES and Gorleben

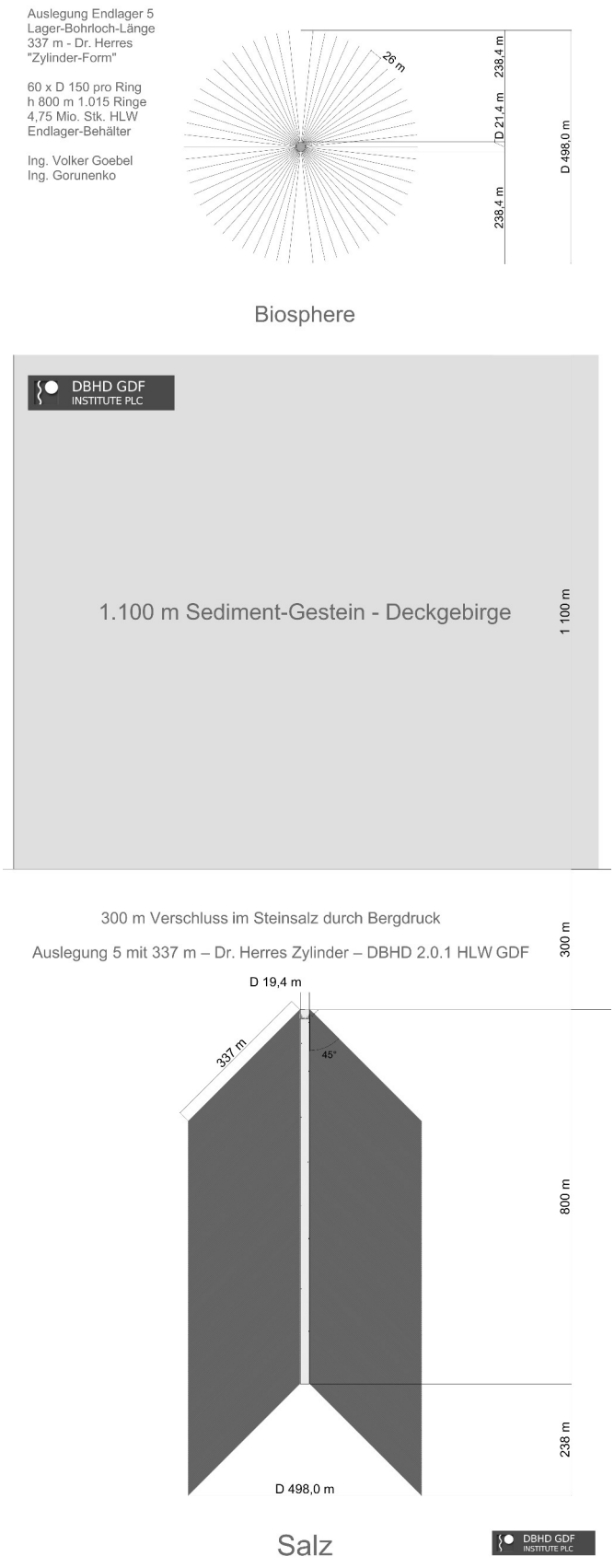


Figure 3 shows the DBHD HLW repository in the version valid in September 2025.

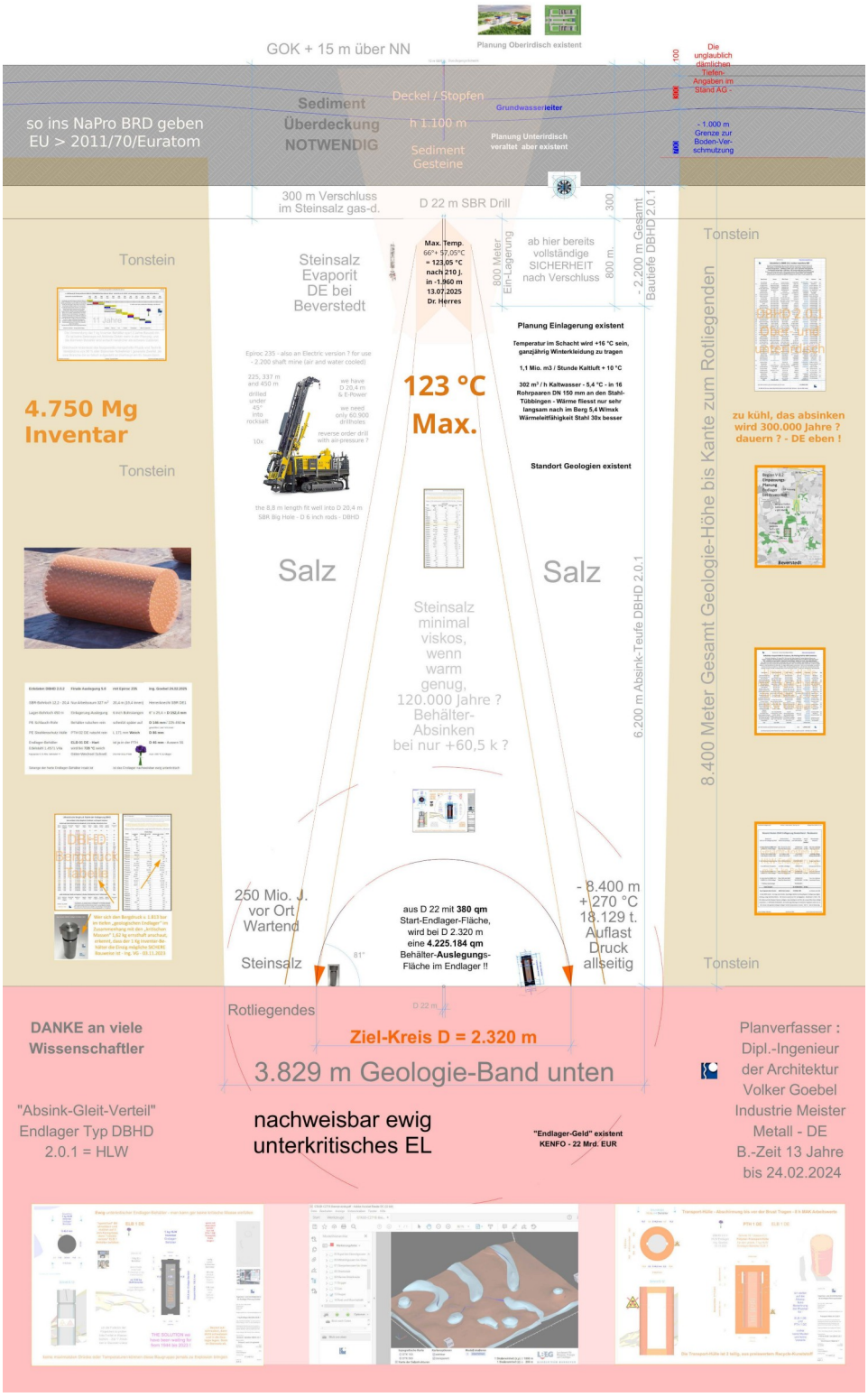


Figure 4 shows the DBHD HLW repository as a whole in an example geology

Numerische quasi-4D-Berechnung des Temperaturverlaufs um bzw. in einem senkrechten DBHD Endlager-Zylinder mit hoch radioaktiven Zerfallsprodukten.

Dr. Gerhard Herres, Physiker, --- 01.07.2025 bis 27.7.2025

Von einer senkrechten 800 m hohen SBR Schachtbohrung mit dem Radius R_i = 9,7 m ausgehend werden unter 45° Neigung nach unten radiale Bohrungen ausgeführt. In diese Bohrungen werden kleine zylindrische Endlager-Behälter-Gebinde von 17,1 cm Länge und 8,6 cm Durchmesser eingeschoben. Damit die Wärmebelastung nicht zu hoch wird, wird nach jedem Behälter das zuvor ausgebohrte Steinsalz wieder eingefüllt, so dass ein passender Abstand zum nächsten Behälter eingehalten wird. Die äußerste Grenze der Bohrungen liegt bei R_b = 248,35 m. Diese mit radioaktivem Müll befüllten Endlagerbehälter liegen zwischen 1400 m und 2200+248,35 m Tiefe. Verfüllung der D 12 m Zugangsbohrung über 300 m mit Verschluss-Salz und 1.100 m mit Gestein.

Die Wärmeentwicklung pro Behälter beträgt zwar nur 4,31 W, aber es werden insgesamt 4,75 Millionen Behälter eingelagert, so dass zu Beginn ein Wärmestrom von $\dot{Q}_0$ = 20,473 MW frei wird.

Bild-Quelle : Kunst-Werk vom Publizist der Thermodynamischen Berechnung - Goebel

Die Zerfallsrate des radioaktiven Materials liegt im Mittel bei b = 4,588*10^{-10} 1/s.
Daraus ergibt sich über eine unendlich lange Zeitspanne eine freigesetzte Wärmemenge von

$$Q_{ges} = \int_0^\infty \dot{Q}_0 \cdot exp(-b \cdot t)dt = 4{,}462 \cdot 10^{16} J = 44{,}62 PJ$$

Wenn das Salz diese Wärme nicht ableiten würde, dann würde die Temperatur in dem mit Bohrungen versehenen Volumen V = H*≠*R_b^2 = 800 m*≠□248,35² m^2 = 155.013.024 m^3 stark ansteigen. Die innere Energie des Salzes würde um ∅U = m*c_p*∅T = Q_{ges} zunehmen.

Daraus folgt eine Temperaturerhöhung von ∅T = Qges/(V*□*c_p) =
4,462*10^{16} J/(155.013.024 m^3*2.200 kg/m^3*1.200 J/(kg*K)) = 109 K.
Die Wärme kann nicht wie bei oberirdischer Lagerung von der Luft abtransportiert werden und muss deshalb durch Wärmeleitung vom umgebenden Salz aufgenommen werden.
Eine analytische Lösung der Wärmeleitungsgleichung ist sehr schwierig und wird deshalb hier durch eine numerische Näherungslösung ersetzt. Eine Berechnung mit Excel (208 MB) befindet sich im Anhang.

Die numerische Lösung der Differentialgleichung folgt der Vorgehensweise im Lehrbuch von Hans-Dieter Baehr und Karl Stephan, Wärme- und Stoffübertragung, Kap. 2.4.4.2. Dazu wird das

Figure 5 shows the first sheet of the latest thermodynamic calculation

den äußeren Ringbereich lässt sich verstärken, wenn der äußere Ring nicht die Kennzahl 10, sondern eine kleinere Kennzahl erhält. Die Behälter liegen dann außen noch enger zusammen und innen weiter auseinander.

Meiner Meinung nach stellt dieses Konzept einer Lagerung der hochradioaktiven Abfälle das bisher beste bekannte Verfahren dar, um die nachfolgenden Generationen und die Umwelt vor den Gefahren des Atommülls zu schützen. Anders als in den in Deutschland bisher genutzten Salz- oder Eisenerzgruben liegt die Einlagerung so tief, dass seit mindestens 250 Millionen Jahren kein Wasser dorthin gelangt ist und selbst die Eiszeiten haben diese Salzlager nicht beeinflusst.

Legende der verwendeten Formelzeichen

a	Temperaturleitfähigkeit = $\lambda/\rho \cdot c_p$	m²/s
ρ	Dichte	kg/m³
c_p	Spezifische Wärmekapazität	J/(kg*K)
λ	Wärmeleitfähigkeit	W/(m*K)
t	Zeit	s
R,r	Radius	m
L	Position im Bohrloch	m
ϑ,T	Temperatur	K
m	Masse	kg
V	Volumen	m³
$\dot{Q}_0$	Wärmestrom zu Beginn	W
Q_{ges}	Gesamte Wärmemenge in Mill. Jahren	J
b	Radioaktive Zerfallsrate	1/s
M	Modul der numerischen Berechnung = $a \cdot \Delta t/\Delta r^2$	-

Dr. Gerhard Herres - Physiker - Schwerpunkt Thermodynamik/Wärmeübertragung

Fazit : Die Berechnung zeigt, dass die maximale Temperatur nach 210 Jahren in der Tiefe 1.960 m mit 123,05 °C erreicht wird. –
Das ist nur 54,25 K höher als vor der Einlagerung der Endlager-Behälter.

Ich habe meine Berechnungs-Expertise eingebracht, weil eine Gruppe von Architektur-Planern, Bau-Ingenieuren und Material-Wissenschaftlern 14 Jahre! gearbeitet hat, um ein sicheres Endlager für hoch radioaktive Reststoffe (spent fuel / vitrified waste) zu entwickeln.

Mir ist zugesichert worden, dass die DBHD Planung folgende Eigenschaften hat:
"Tief, deshalb trocken, Gasdicht verschließbar und mit Nachweis der ewigen Unterkritikalität"

Ich wünsche allen Beteiligten viel Erfolg und gehe davon aus, dass andere Physiker meine Berechnungen mit moderner Multiphysics-Software bestätigen und noch weiter präzisieren werden.

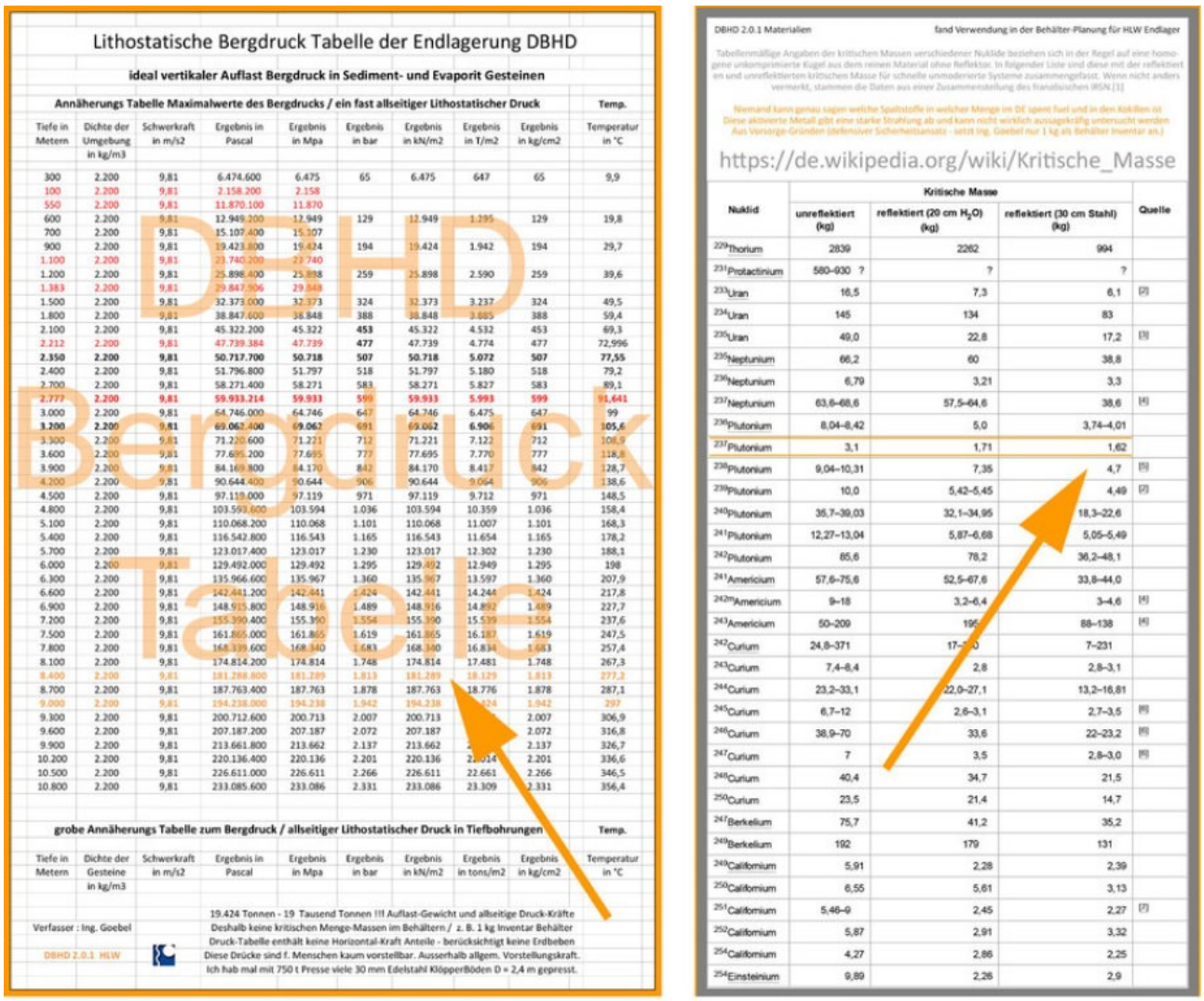
Mit freundlichen Grüßen, Dr. Gerhard Herres – Dipl.-Physiker

Paderborn, Deutschland, EU

05.08.2025

10 – 10

Figure 6 the last sheet of the latest thermodynamic calculation



Lithostatische Bergdruck Tabelle der Endlagerung DBHD

ideal vertikaler Auflast Bergdruck in Sediment- und Evaporit Gesteinen

Annäherungs Tabelle Maximalwerte des Bergdrucks / ein fast allseitiger Lithostatischer Druck

Tiefe in Metern	Dichte der Umgebung in kg/m3	Schwerkraft in m/s2	Ergebnis in Pascal	Ergebnis in Mpa	Ergebnis in bar	Ergebnis in kN/m2	Ergebnis in T/m2	Ergebnis in kg/cm2	Temperatur in °C
300	2.200	9,81	6.474.600	6.475	65	6.475	647	65	9,9
100	2.200	9,81	2.158.200	2.158					
550	2.200	9,81	11.870.100	11.870					
600	2.200	9,81	12.949.200	12.949	129	12.949	1.295	129	19,8
700	2.200	9,81	15.107.400	15.107					
900	2.200	9,81	19.423.800	19.424	194	19.424	1.942	194	29,7
1.100	2.200	9,81	23.740.200	23.740					
1.200	2.200	9,81	25.898.400	25.898	259	25.898	2.590	259	39,6
1.383	2.200	9,81	29.847.906	29.848					
1.500	2.200	9,81	32.373.000	32.373	324	32.373	3.237	324	49,5
1.800	2.200	9,81	38.847.600	38.848	388	38.848	3.885	388	59,4
2.100	2.200	9,81	45.322.200	45.322	**453**	45.322	4.532	453	69,3
2.212	2.200	9,81	47.739.384	47.739	**477**	47.739	4.774	477	72,996
2.350	**2.200**	**9,81**	**50.717.700**	**50.718**	**507**	**50.718**	**5.072**	**507**	**77,55**
2.400	2.200	9,81	51.796.800	51.797	518	51.797	5.180	518	79,2
2.700	2.200	9,81	58.271.400	58.271	583	58.271	5.827	583	89,1
2.777	2.200	9,81	59.933.214	59.933	599	59.933	5.993	599	91,641
3.000	2.200	9,81	64.746.000	64.746	647	64.746	6.475	647	99
3.200	2.200	9,81	69.062.400	69.062	691	69.062	6.906	691	105,6
3.300	2.200	9,81	71.220.600	71.221	712	71.221	7.122	712	108,9
3.600	2.200	9,81	77.695.200	77.695	777	77.695	7.770	777	118,8
3.900	2.200	9,81	84.169.800	84.170	842	84.170	8.417	842	128,7
4.200	2.200	9,81	90.644.400	90.644	906	90.644	9.064	906	138,6
4.500	2.200	9,81	97.119.000	97.119	971	97.119	9.712	971	148,5
4.800	2.200	9,81	103.593.600	103.594	1.036	103.594	10.359	1.036	158,4
5.100	2.200	9,81	110.068.200	110.068	1.101	110.068	11.007	1.101	168,3
5.400	2.200	9,81	116.542.800	116.543	1.165	116.543	11.654	1.165	178,2
5.700	2.200	9,81	123.017.400	123.017	1.230	123.017	12.302	1.230	188,1
6.000	2.200	9,81	129.492.000	129.492	1.295	129.492	12.949	1.295	198
6.300	2.200	9,81	135.966.600	135.967	1.360	135.967	13.597	1.360	207,9
6.600	2.200	9,81	142.441.200	142.441	1.424	142.441	14.244	1.424	217,8
6.900	2.200	9,81	148.915.800	148.916	1.489	148.916	14.892	1.489	227,7
7.200	2.200	9,81	155.390.400	155.390	1.554	155.390	15.539	1.554	237,6
7.500	2.200	9,81	161.865.000	161.865	1.619	161.865	16.187	1.619	247,5
7.800	2.200	9,81	168.339.600	168.340	1.683	168.340	16.834	1.683	257,4
8.100	2.200	9,81	174.814.200	174.814	1.748	174.814	17.481	1.748	267,3
8.400	2.200	9,81	181.288.800	181.289	1.813	181.289	18.129	1.813	277,2
8.700	2.200	9,81	187.763.400	187.763	1.878	187.763	18.776	1.878	287,1
9.000	2.200	9,81	194.238.000	194.238	1.942	194.238	19.424	1.942	297
9.300	2.200	9,81	200.712.600	200.713	2.007	200.713	20.071	2.007	306,9
9.600	2.200	9,81	207.187.200	207.187	2.072	207.187	20.719	2.072	316,8
9.900	2.200	9,81	213.661.800	213.662	2.137	213.662	21.366	2.137	326,7
10.200	2.200	9,81	220.136.400	220.136	2.201	220.136	22.014	2.201	336,6
10.500	2.200	9,81	226.611.000	226.611	2.266	226.611	22.661	2.266	346,5
10.800	2.200	9,81	233.085.600	233.086	2.331	233.086	23.309	2.331	356,4

grobe Annäherungs Tabelle zum Bergdruck / allseitiger Lithostatischer Druck in Tiefbohrungen

Tiefe in Metern	Dichte der Gesteine in kg/m3	Schwerkraft in m/s2	Ergebnis in Pascal	Ergebnis in Mpa	Ergebnis in bar	Ergebnis in kN/m2	Ergebnis in tons/m2	Ergebnis in kg/cm2	Temperatur in °C

19.424 Tonnen - 19 Tausend Tonnen !!! Auflast-Gewicht und allseitige Druck-Kräfte
Deshalb keine kritischen Menge-Massen im Behältern / z. B. 1 kg Inventar Behälter
Druck-Tabelle enthält keine Horizontal-Kraft Anteile - berücksichtigt keine Erdbeben
Diese Drücke sind f. Menschen kaum vorstellbar. Ausserhalb allgem. Vorstellungskraft.
Ich hab mal mit 750 t Presse viele 30 mm Edelstahl KlöpperBöden D = 2,4 m gepresst.

Verfasser : Ing. Goebel
DBHD 2.0.1 HLW

DBHD Bergdruck Tabelle

DBHD 2.0.1 Materialien — fand Verwendung in der Behälter-Planung für HLW Endlager

Tabellenmäßige Angaben der kritischen Massen verschiedener Nuklide beziehen sich in der Regel auf eine homogene unkomprimierte Kugel aus dem reinen Material ohne Reflektor. In folgender Liste sind diese mit der reflektiert en und unreflektierten kritischen Masse für schnelle unmoderierte Systeme zusammengefasst. Wenn nicht anders vermerkt, stammen die Daten aus einer Zusammenstellung des französischen IRSN.[1]

Niemand kann genau sagen welche Spaltstoffe in welcher Menge im DE spent fuel und in den Kokillen ist Diese aktivierte Metall gibt eine starke Strahlung ab und kann nicht wirklich aussagekräftig untersucht werden Aus Vorsorge-Gründen (defensiver Sicherheitsansatz - setzt Ing. Goebel nur 1 kg als Behälter Inventar an.)

https://de.wikipedia.org/wiki/Kritische_Masse

Nuklid	Kritische Masse unreflektiert (kg)	reflektiert (20 cm H_2O) (kg)	reflektiert (30 cm Stahl) (kg)	Quelle
^{229}Thorium	2839	2262	994	
^{231}Protactinium	580–930 ?	?	?	
^{233}Uran	16,5	7,3	6,1	[2]
^{234}Uran	145	134	83	
^{235}Uran	49,0	22,8	17,2	[3]
^{236}Neptunium	66,2	60	38,8	
^{236}Neptunium	6,79	3,21	3,3	
^{237}Neptunium	63,6–68,6	57,5–64,6	38,6	[4]
^{236}Plutonium	8,04–8,42	5,0	3,74–4,01	
^{237}Plutonium	3,1	1,71	1,62	
^{238}Plutonium	9,04–10,31	7,35	4,7	[5]
^{239}Plutonium	10,0	5,42–5,45	4,49	[2]
^{240}Plutonium	35,7–39,03	32,1–34,95	18,3–22,6	
^{241}Plutonium	12,27–13,04	5,87–6,68	5,05–5,49	
^{242}Plutonium	85,6	78,2	36,2–48,1	
^{241}Americium	57,6–75,6	52,5–67,6	33,8–44,0	
^{242m}Americium	9–18	3,2–6,4	3–4,6	[4]
^{243}Americium	50–209	19[illegible]	88–138	[4]
^{242}Curium	24,8–371	17–[illegible]	7–231	
^{243}Curium	7,4–8,4	2,8	2,8–3,1	
^{244}Curium	23,2–33,1	22,0–27,1	13,2–16,81	
^{245}Curium	6,7–12	2,6–3,1	2,7–3,5	[6]
^{246}Curium	38,9–70	33,6	22–23,2	[6]
^{247}Curium	7	3,5	2,8–3,0	[6]
^{248}Curium	40,4	34,7	21,5	
^{250}Curium	23,5	21,4	14,7	
^{247}Berkelium	75,7	41,2	35,2	
^{249}Berkelium	192	179	131	
^{249}Californium	5,91	2,28	2,39	
^{250}Californium	6,55	5,61	3,13	
^{251}Californium	5,46–9	2,45	2,27	[7]
^{252}Californium	5,87	2,91	3,32	
^{254}Californium	4,27	2,86	2,25	
^{254}Einsteinium	9,89	2,26	2,9	

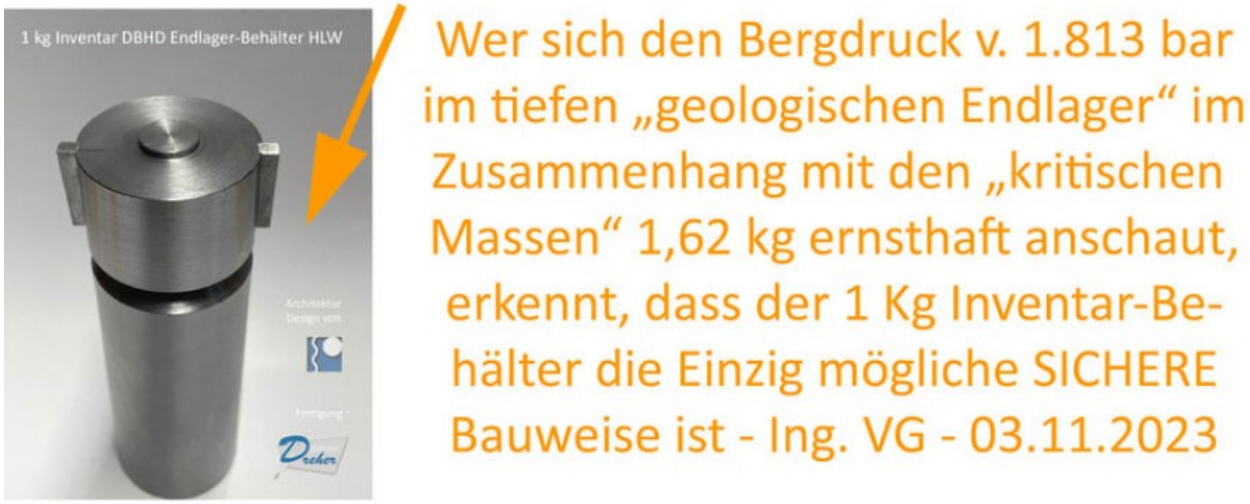


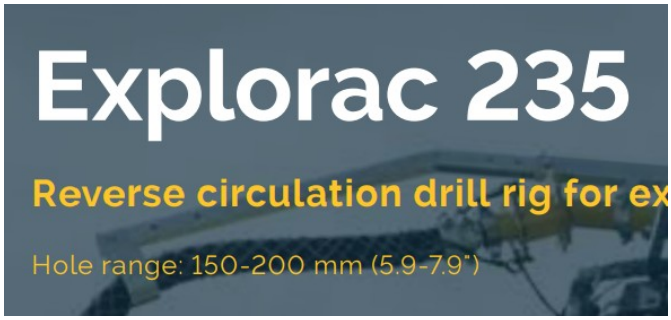
Figure 7 shows that a look at the critical masses and the rock pressure table led to the 1 kg inventory container. – **No critical mass fits in it at all !** – Rock pressure is always all-round.

Figure 8 shows the SBR big-hole drilling technology from Herrenknecht

Figure 9 shows one of 4 drilling rigs for the storage holes drilling

Dear Epiroc Sweden - we got it now - the persons pass underneath - and the drill rod magazine has to be there. DBHD provides electric power for hydraulic drill system and DBHD provides 35 to 45 bar air pressure > Its still 6 inch D 152 mm under 45 ° over 337 m in salt

Figure 10 shows half a drilling device for bearing holes



TECHNISCHE DATEN	
Hauptanwendungsbereich	Surface exploration
Bohrmethode	Down-the-hole (Reversed Circulation)
Gestängelänge	6 m
Bohrtiefenkapazität (siehe Hinweis)	0 m - 450 m

The Explorac 235 drilling rig can drill up to D 200 mm and to a depth of 450 m.

DBHD repository drills 152 mm (6 inches) in diameter to a depth of 337 meters.

Final Drill diameter depends on the final diameter of the radiation shielding hull.

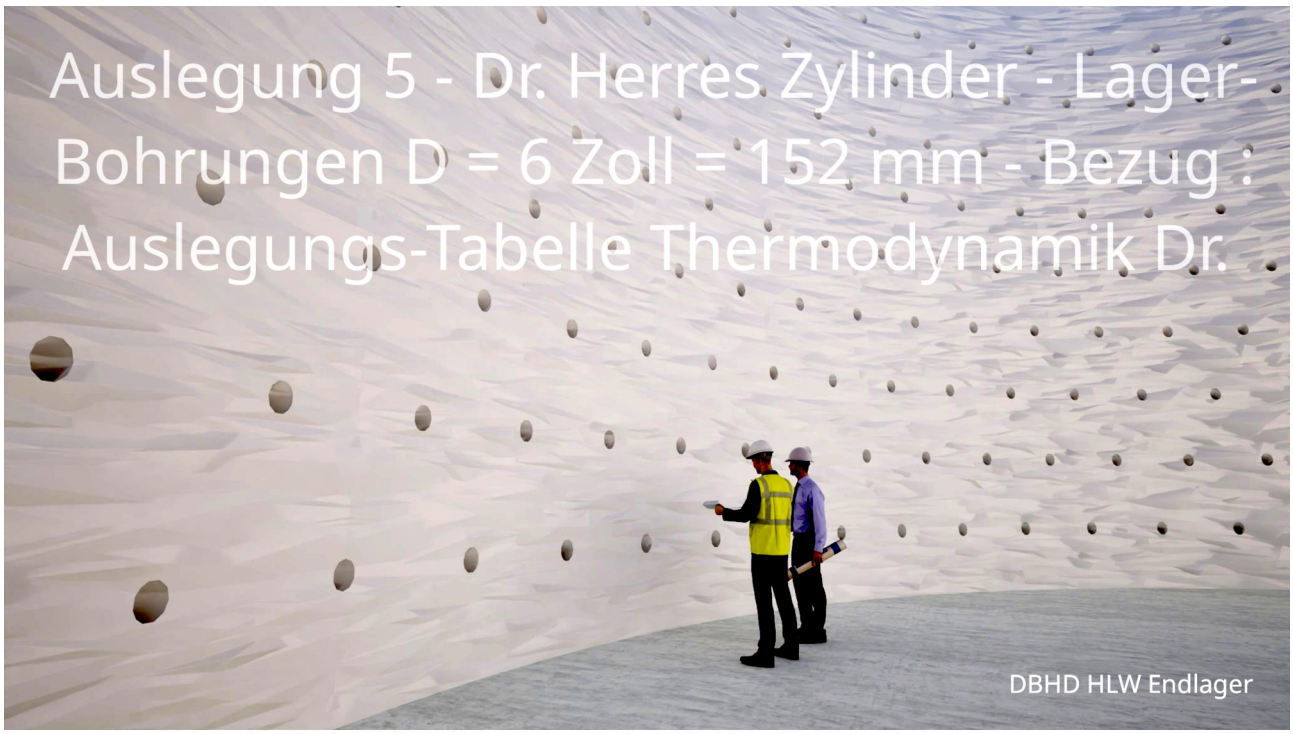
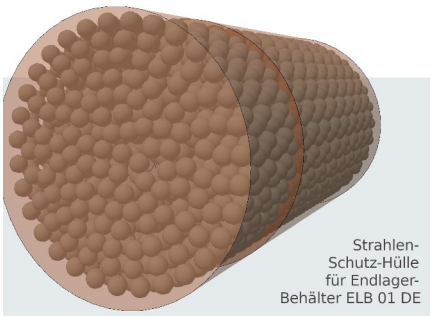


Figure 11 shows "only" the real size „drilling image“ within the DBHD HLW GDF repository.



RICHTLINIE 2011/70/EURATOM DES RATES

vom 19. Juli 2011

über einen Gemeinschaftsrahmen für die verantwortungsvolle und sichere Entsorgung abgebrannter Brennelemente und radioaktiver Abfälle

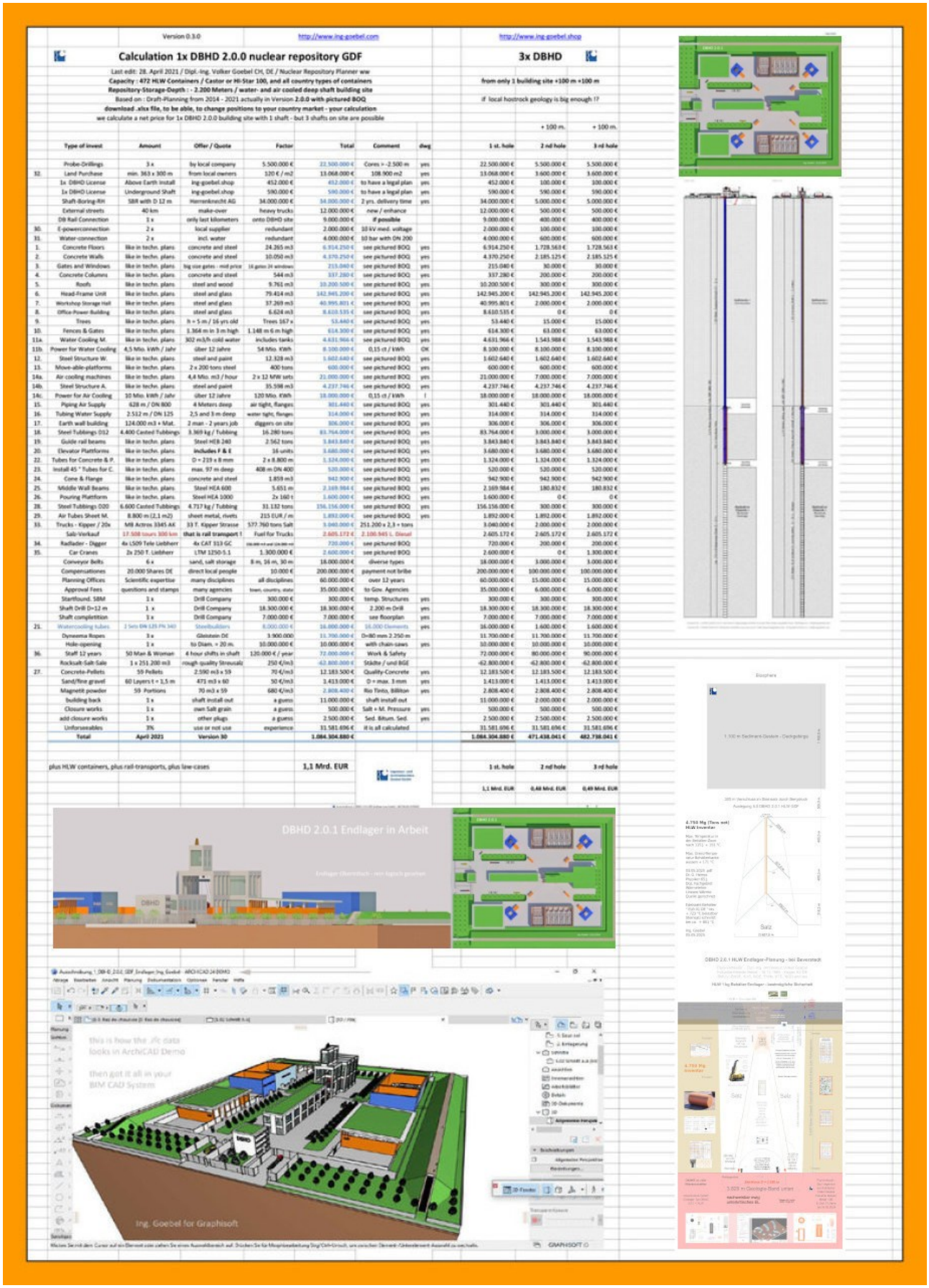


Figure 12 shows the 3 times Calculation for HLW Repository - Version 30 - Nov. 2021

Version 0.3.1 http://www.ing-goebel.com

Calculation 1x DBHD 2.0.1 nuclear repository GDF

Last edit: 04. November2023 / Dipl.-Ing. Volker Goebel CH, DE / Nuclear Repository Planner ww
GDF-Capacity : 6.333.333 Mini HLW Container with only 1 kg inventory - always undercritical
Repository-Storage-Depth : - 2.200 Meters START / water- and air cooled deep shaft building site
Final-Repositiy-Storage-Depth : -8.000 Meter - GDF Containers glide down over 30.000 yrs
Based on : Draft-Planning from 2014 - 2023 actually in Version **2.0.1 - all plans have to be overworked**
download .xlsx file, to be able, to change positions to your country market - your calculation
we here calculate a net price for 1x DBHD 2.0.1 building site with 1 shaft - 3 shafts needed for DE

	Type of invest	Amount	Offer / Quote	Factor	Total	Comment	dwg
	Probe-Drillings	3 x	by local company	23.000.000 €	69.000.000 €	Cores > -8.500 m	yes
32.	Land Purchase	min. 363 x 300 m	from local owners	120 € / m2	13.068.000 €	108.900 m2	yes
	1x DBHD License	Above Earth Install	ing-goebel.shop	5.997.120 €	5.997.120 €	to have a legal plan	yes
	1x DBHD License	Underground Shaft	ing-goebel.shop	18.630.000 €	18.630.000 €	to have a legal plan	yes
	Shaft-Boring-RH	SBR with D 12 m	Herrenknecht AG	34.000.000 €	34.000.000 €	2 yrs. delivery time	yes
	External streets	40 km	make-over	heavy trucks	12.000.000 €	new / enhance	
	DB Rail Connection	1 x	only last kilometers	onto DBHD site	9.000.000 €	**if possible**	
30.	E-powerconnection	2 x	local supplier	redundant	2.000.000 €	10 kV med. voltage	
31.	Water-connection	2 x	incl. water	redundant	4.000.000 €	10 bar with DN 200	
1.	Concrete Floors	like in techn. plans	concrete,steel, styro.	24.265 m3	6.914.250 €	see pictured BOQ	yes
2.	Concrete Walls	like in techn. plans	concrete and steel	10.050 m3	4.370.250 €	see pictured BOQ	yes
3.	Gates and Windows	like in techn. plans	big size gates - mid price	16 gates 24 windows	215.040 €	see pictured BOQ	yes
4.	Concrete Columns	like in techn. plans	concrete and steel	544 m3	337.280 €	see pictured BOQ	yes
5.	Roofs	like in techn. plans	steel and wood	9.761 m3	10.200.500 €	see pictured BOQ	yes
6.	Head-Frame Unit	like in techn. plans	steel and glass	79.414 m3	142.945.200 €	see pictured BOQ	yes
7.	Workshop Storage Hall	like in techn. plans	steel and glass	37.269 m3	40.995.801 €	see pictured BOQ	yes
8.	Office-Power-Building	like in techn. plans	steel and glass	6.624 m3	8.610.535 €	see pictured BOQ	yes
9.	Trees	like in techn. plans	h = 5 m / 16 yrs old	Trees 167 x	53.440 €	see pictured BOQ	yes
10.	Fences & Gates	like in techn. plans	1.364 m in 3 m high	1.148 m 6 m high	614.300 €	see pictured BOQ	yes
11a.	Water Cooling M.	like in techn. plans	302 m3/h cold water	includes tanks	4.631.966 €	see pictured BOQ	yes
11b.	Power for Water Cooling	4,5 Mio. kWh / Jahr	über 12 Jahre	54 Mio. KWh	8.100.000 €	0,15 ct / kWh	OK
12.	Steel Structure W.	like in techn. plans	steel and paint	12.328 m3	1.602.640 €	see pictured BOQ	yes
13.	Move-able-platforms	like in techn. plans	2 x 200 tons steel	400 tons	600.000 €	see pictured BOQ	yes
14a.	Air cooling machines	like in techn. plans	4,4 Mio. m3 / hour	2 x 12 MW sets	21.000.000 €	see pictured BOQ	yes
14b.	Steel Structure A.	like in techn. plans	steel and paint	35.598 m3	4.237.746 €	see pictured BOQ	yes
14c.	Power for Air Cooling	10 Mio. kWh / Jahr	über 12 Jahre	120 Mio. KWh	18.000.000 €	0,15 ct / kWh	!
15.	Piping Air Supply	628 m / DN 800	4 Meters deep	air tight, flanges	301.440 €	see pictured BOQ	yes
16.	Tubing Water Supply	2.512 m / DN 125	2,5 and 3 m deep	water tight, flanges	314.000 €	see pictured BOQ	yes
17.	Earth wall building	124.000 m3 + Mat.	2 man - 2 years job	diggers on site	306.000 €	see pictured BOQ	yes
18.	Steel Tubbings D 12	4.400 Casted Tubbings	3.369 kg / Tubbing	16.280 tons	83.764.000 €	see pictured BOQ	yes
19.	Guide rail beams	like in techn. plans	Steel HEB 240	2.562 tons	3.843.840 €	see pictured BOQ	yes
20.	Elevator Plattforms	like in techn. plans	**includes F & E**	16 units	3.680.000 €	see pictured BOQ	yes
22.	Tubes for Concrete & P.	like in techn. plans	D = 219 x 8 mm	2 x 8.800 m	0 €	see pictured BOQ	yes
23.	Install 45 ° Tubes for C.	like in techn. plans	max. 97 m deep	408 m DN 400	0 €	see pictured BOQ	yes
24.	Cone & Flange	like in techn. plans	concrete and steel	1.859 m3	942.900 €	see pictured BOQ	yes
25.	Middle Wall Beams	like in techn. plans	Steel HEA 600	5.651 m	2.169.984 €	see pictured BOQ	yes
26.	Throwing Plattform	like in techn. plans	Steel HEA 1000	2x 160 t	1.600.000 €	see pictured BOQ	yes
28.	Steel Tubbings D 20	6.600 Casted Tubbings	4.717 kg / Tubbing	31.132 tons	156.156.000 €	see pictured BOQ	yes
29.	Air Tubes Sheet M.	8.800 m (2,1 m2)	sheet metal, rivets	215 EUR / m	1.892.000 €	see pictured BOQ	yes
33.	Trucks - Kipper / 20x	MB Actros 3345 AK	33 T. Kipper Strasse	577.760 tons Salt	3.040.000 €	251.200 x 2,3 = tons	
	Salz-Verkauf	17.508 tours 300 km	**that is rail transport !**	Fuel for Trucks	0 €	2.100.945 L. Diesel	
34.	Radlader - Digger	4x L509 Tele Liebherr	4x CAT 313 GC	156.000 m3 and 124.000 m3	720.000 €	see pictured BOQ	
35.	Car Cranes	2x 250 T. Liebherr	LTM 1250-5.1	1.300.000 €	2.600.000 €	see pictured BOQ	
	Conveyor Belts	6 x	salt storage	8 m, 16 m, 30 m	18.000.000 €	diverse types	
	Compensationes	20.000 Shares DE	direct local people	10.000 €	200.000.000 €	payment not bribe	
	Planning Offices	Scientific expertise	many disciplines	all disciplines	60.000.000 €	over 12 years	
	Approval Fees	questions and stamps	many agencies	town, country, state	35.000.000 €	to Gov. Agencies	
	Startfound. SBM	1 x	Drill Company	300.000 €	300.000 €	temp. Structures	yes
	Shaft Drill D=12 m	1 x	Drill Company	18.300.000 €	18.300.000 €	2.200 m Drill	yes
	Shaft completition	1 x	Drill Company	7.000.000 €	7.000.000 €	see floorplan	yes
21.	Watercooling tubes	2 Sets DN 125 PN 340	Steelbuilders	8.000.000 €	16.000.000 €	16.000 Elements	yes
	Dyneema Ropes	3 x	Gleistein DE	2.100.000 €	6.300.000 €	D=60 mm 2.250 m	
	Hole-opening	1 x	to Diam. = 20 m.	10.000.000 €	10.000.000 €	now poss. With SBR	yes
36.	Staff 12 years	50 Man & Woman	4 hour shifts in shaft	120.000 € / year	72.000.000 €	Work & Safety	
	Rocksalt-Salt-Sale	1 x 251.200 m3	rough quality Streusalz	250 €/m3	-62.800.000 €	Städte / und BGE	
27.	Concrete-Pellets	59 Pellets	2.590 m3 x 59	70 €/m3	0 €	Quality-Concrete	yes
	Sand/fine gravel	60 Layers t = 1,5 m	471 m3 x 60	50 €/m3	0 €	D = max. 3 mm	yes
	Magnetit powder	59 Portions	70 m3 x 59	680 €/m3	0 €	Rio Tinto, Billiton	yes
	building back	1 x	shaft install out	a guess	11.000.000 €	shaft install out	
	Closure works	1 x	own Salt grain	a guess	500.000 €	Salt + M. Pressure	yes
	add closure works	1 x	other plugs	a guess	2.500.000 €	Sed. Bitum. Sed.	yes
	Unforseeables	3%	use or not use	experience	32.896.627 €	it is all calculated	
	Total	**November 2023**	**Version 31**		**1.129.450.859 €**		

plus HLW containers, plus rail-transports, plus law-cases **1,13 Mrd. EUR**

the GDF with the ever undercritical HLW Containers cost only 29 Mio. EUR more - very very little change

Figure 13 shows the Calculation for HLW Repository - Version 31 - Nov. 2023

Gesamtpreis Endlagerung DE | Verfasser : Volker Goebel / Dipl.-Ing. Arch | Endlager-Planer DBHD 2.0.1 etc.

Final-Abgabestand - Original - 2024

Gesamt-Kosten HLW Endlagerung Deutschland - 4 Neubauten

Kosten-Art alles nur für Endlagerung HLW	Ort der Kosten Mittel-Verwendung	Preis laut Shop und Kalkulationen	Anzahl HLW Behälter	Bemerkungen Hinweise
1. Lizenz-Kauf von DBHD 2.0.1	Ober- & Unterird., Beh.	30.960.453 €	START	**Ents.-Vors.-Nachweis**
1. DBHD 2.0.1 HLW Endlager	Bauort bei Beverstedt	1.329.343.957 €	*6.3 Mio*	Planung erneuert VG
2. Lizenz-Kauf Umpack-Halle	nur Umpack-Halle	20.110.000 €		**schwierige Planung**
2. Bau-Beginn Umpack-Halle	nahe EL-Beverstedt	1.942.971.220 €		**Achtung Version 003 !**
3. Start Zahlung Kompensationen	10 km Umkreis Beverst.	8.000.000.000 €		Einziger mögl. Weg !!!
Gesamt-Menge HLW/MLW/LLW				Redlich sein / bleiben
4. nur DB Castor Transporte	von ZWL zu Endlager	48.828.537 €		Achtung netto DB Preis
5. Lizenz-Kauf von DBHD 2.0.1	Ober- & Unterird., Beh	30.960.453 €		Ents.-Vors.-Nachweis
5. DBHD 2.0.1 HLW Endlager	Bauort Nähe Beverstedt	700.000.000 €	*6,3 Mio.*	bestehende Planung
6. Lizenz-Kauf von DBHD 2.0.1	Shop / BGE oder BASE	30.960.453 €		Ents.-Vors.-Nachweis
6. DBHD 2.0.1 HLW Endlager	Bauort Nähe Beverstedt	700.000.000 €	6,3 Mio.	bestehende Planung
7. Rückbau Zwischenlager		700.000.000 €		
Total / Gesamt		**13.534.135.073 €**	**19 Mio.**	
Bau-Programm über 30 Jahre	**KENFO GELD sichern**	**13,5 Mrd. EUR**		zu Preisen von 2024

3 Stück DBHD Säulen - der ewig unterkritische 1 kg Endlager-Behälter macht geologische Endlagerung möglich.

Achtung, zuzügl. Gerichtsverfahren - Die Castoren werden den EVU zurückgegeben - Handelswert 1,3 Mio. / Stk.

Wir sollten auch die Schweizer Castoren endlagern, deren Geologie ist ein Witz, der unseren Rhein dann schädigt

Es bestehen z. Z. ENTWURFS-PLANUNGEN - die Ausführungs-Planungen mit Zulieferer Angeboten stehen nun an.

Wir müssen mal irgendwo anfangen Endlager-Technik-Komponenten zu testen - ELK-TG - üben ist Notwendig

Die Bezahlung des Endlager Planers steht an.

Gesamt-Endlager-Kalkulation | Stand Februar 2024 | nach 13 Jahren eine Version 0.0.4

Figure 14 shows Total Calculation for HLW Repositories DE - Version 4 - Nov. 2024

Figure 15 shows construction schedule for 1x HLW repository - Version 4 – Nov.2022

Calculations and schedules are available – This is sufficient to fulfill Article 12 Paragraph (1) h **"Cost Estimation" and "Presentation of the Time Profile."**

Continuation of the calculations and construction schedules will be provided after the payment of the 2 DBHD licenses – Money Use : Execution Planning.

The DBHD team and the work areas have already reached a volume that can only be completed fully through division of labor and with personnel support to the architectural planner! - Ing. Goebel would like to be able to outsource these hours and hours of routine works to talented assistants or co-workers.

The following 10 pages are not sent to EU

GDF Locations are not asked in EU law 2011/70/Euratom

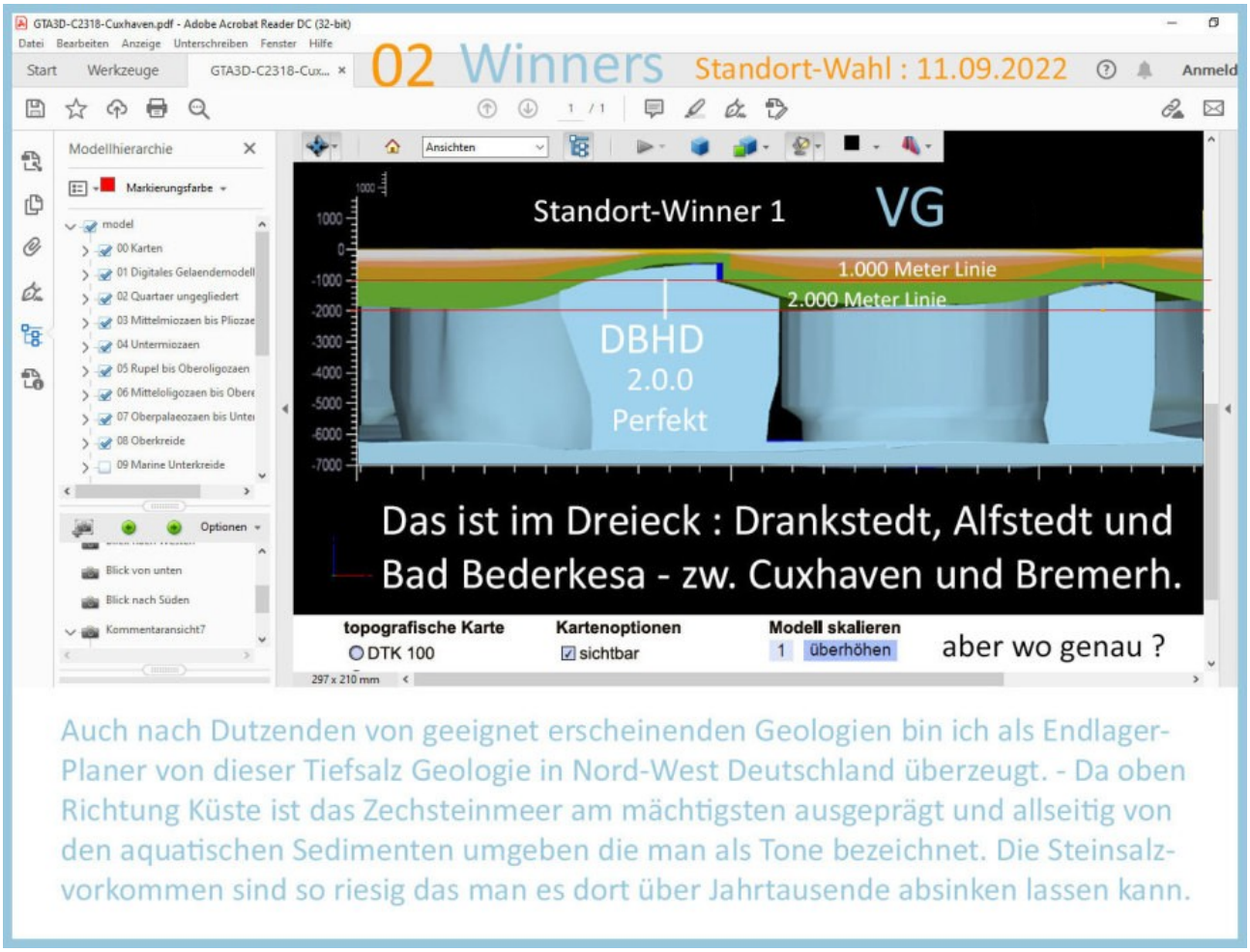


Figure 16 shows the rock salt formation for the HLW repository, which Engineer Goebel named Winner – The geological information from the LBEG Lower Saxony, and the first serious attempt to map the DBHD HLW repository. – The height of the salt ridge varies locally. – Numerous sections at 500 m intervals were necessary…

Because there were so many well-covered repository options for DBHD in 3D that we named it "Winner" too early – Today we call the rock salt area "near Bad Bederkesa," and have found even better rock salt to the southwest!

Therefore, there are only 4 pictures for Winner, but a total of 9 pictures for "near Beverstedt" and "near Basdahl." (And there are also "near Börger" and in Schleswig-Holstein). A precise selection is possible.

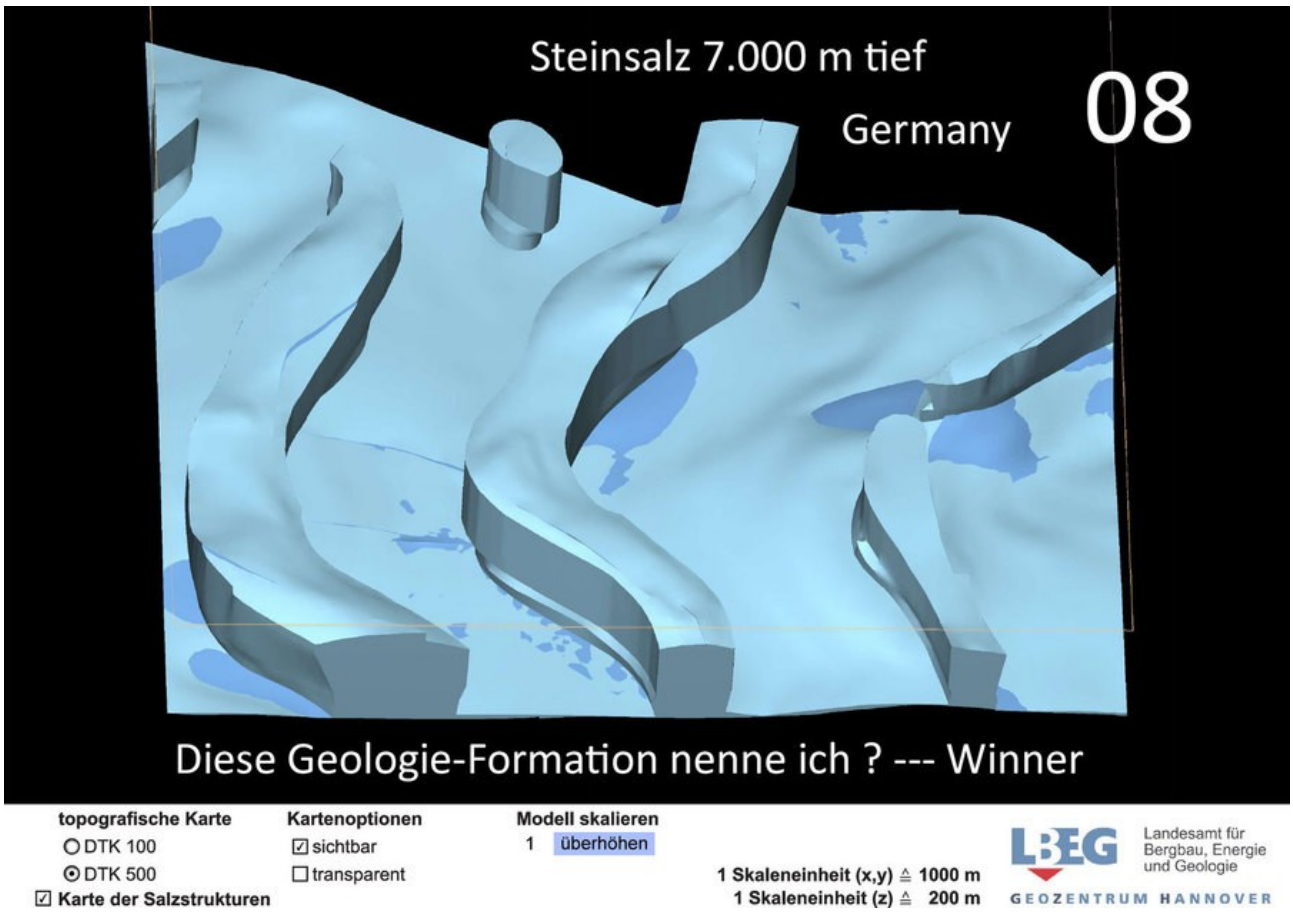


Figure 17 shows the rock salt formation for the HLW repository, which Engineer Goebel named Winner. - Rock salt, approximately 250 million years old – the genesis of the forms is complete and 1,100 meters of sedimentary rock cover ! – Nothing's moving there anymore... No water flows there either – suberosion fantasies of the GRS – Society for Reactor Safety – But it's certainly not all pure Staßfurt rock salt, as the BGR tells us. There's thin layers of compressed ash or airborne sand in there. It was all flat once, so it was compressed and folded.

But it's also been lying under 1,100 meters of sedimentary rock for millions of years. DBHD has a ballasted cover – What am I saying? In this picture, you only see the salt...

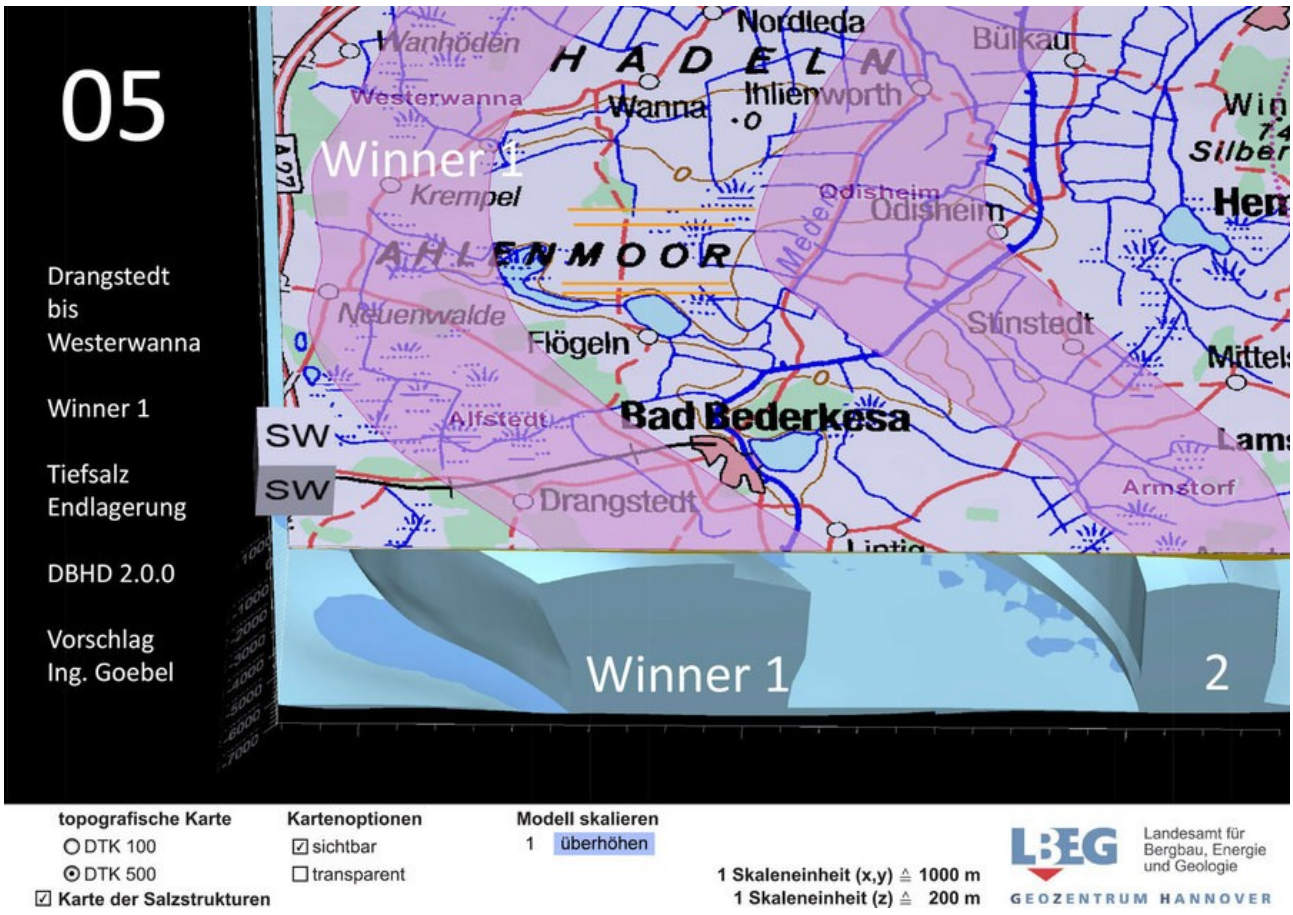


Figure 18 shows the rock salt formation for the HLW repository, which Engineer Goebel named Winner. - From now on, above-ground factors come into play – better under a field than in the middle of a city or under a road and railway line – and you have to drill into the diapir properly – where the dimensions from the drawing are achieved – and where there is still enough space for a 300 x 360 m DBHD settlement.

Sounds so simple – but it isn't – Germany isn't a deserted desert like Kazakhstan – if you want to run large-scale cooling technology day and night here in Germany, your neighbor is right there! – In the picture above

DBHD already envisions up to six sites for DBHD repositories and still wants to start the first test drilling "near Beverstedt" and "near Basdahl."

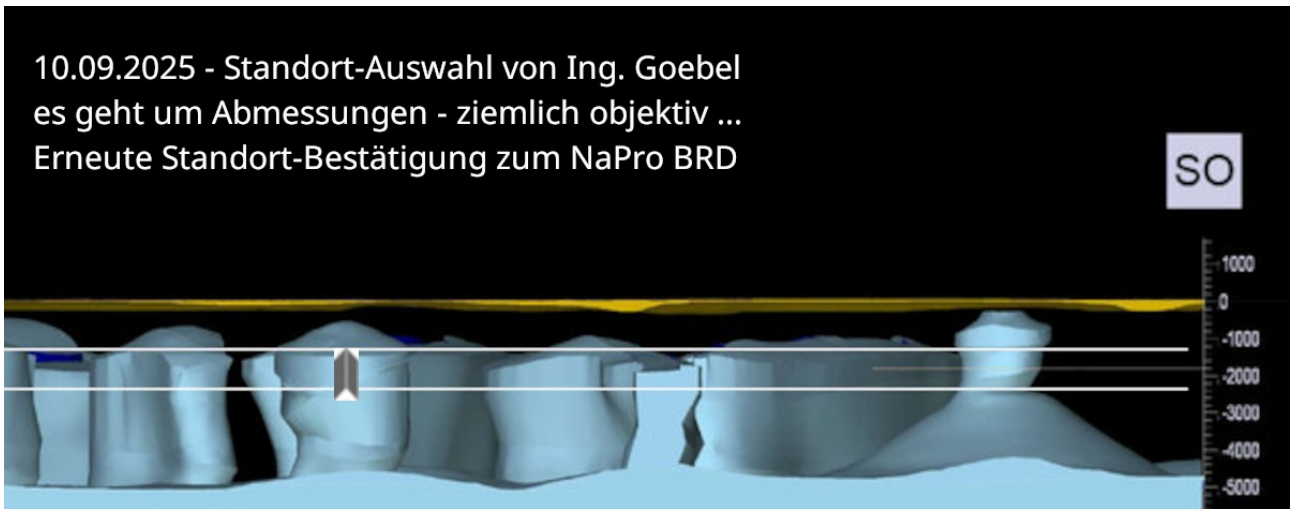


Figure 19 shows the rock salt formation for the HLW repository near Beverstedt

or near Basdahl – the DBHD fits in there as planned! The latest status is good.
The task was to find the best possible location – no less required by the Stand AG
to comply with EU Directive 2011/70/Euratom, a deep geological repository must be
demonstrated. This has now been done.

Figure 20 shows the rock salt formation for HLW repository near Beverstedt

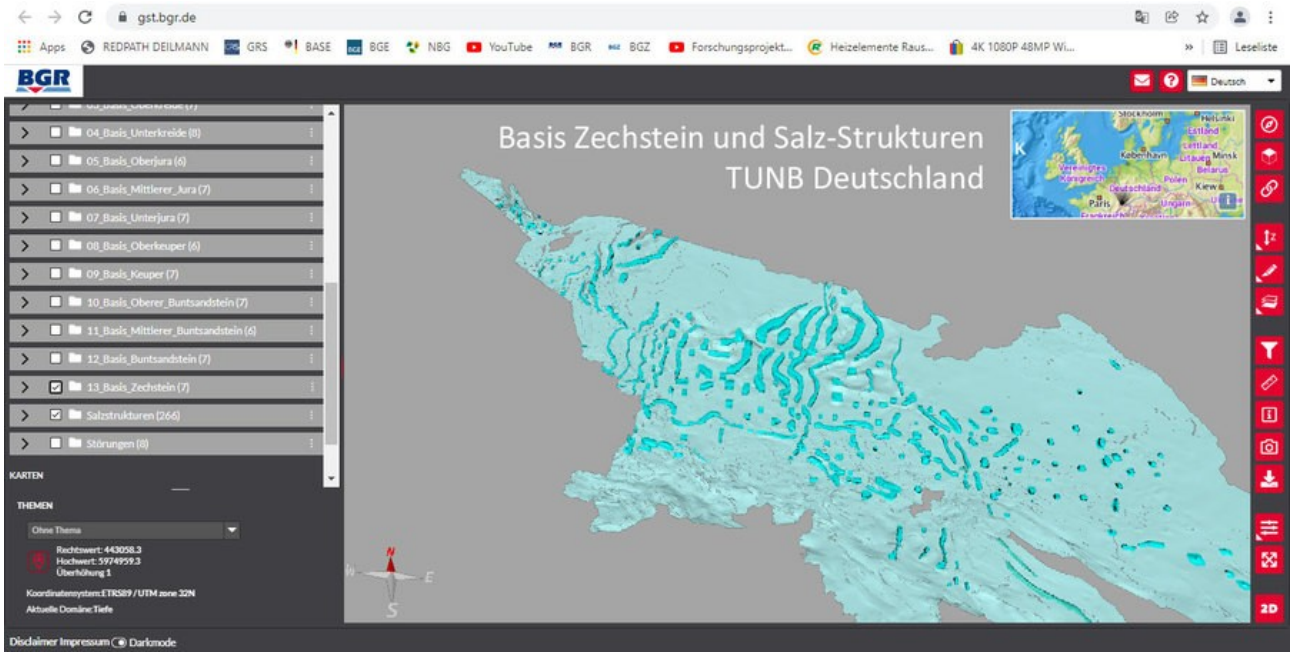


Figure 21 shows the German part of the Zechstein Ur-Basin - Source BGR

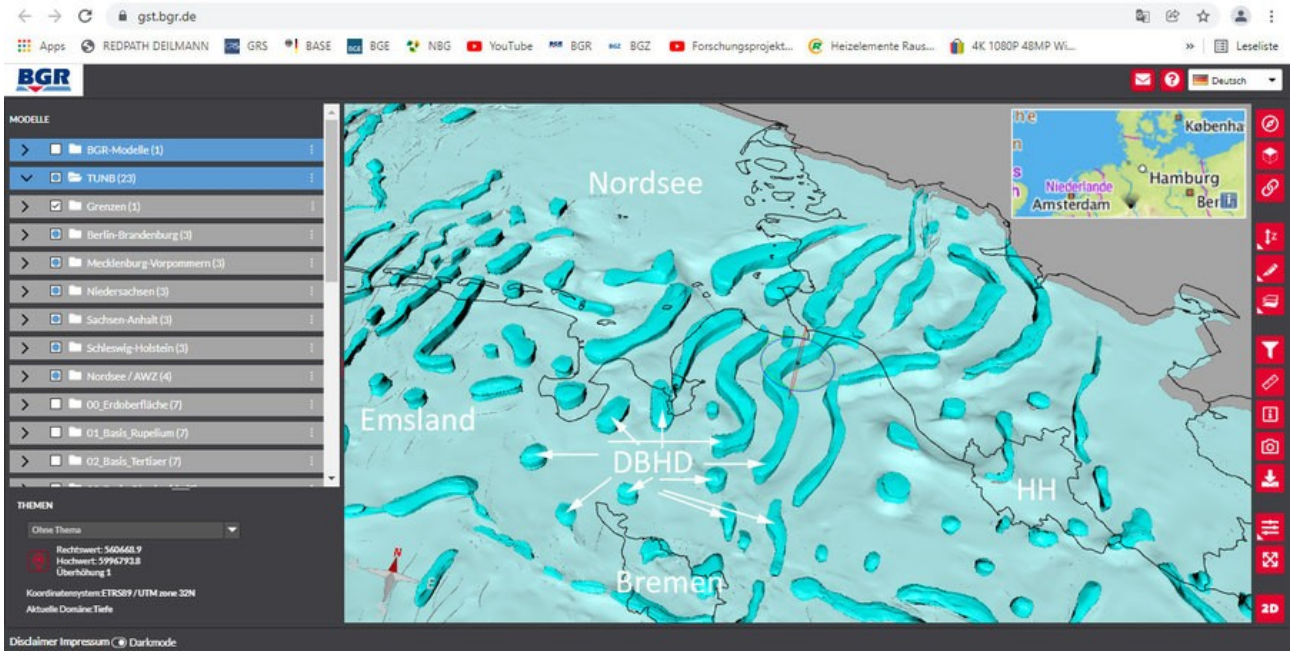


Figure 22 shows the most prolific German portion of the Zechstein Basin.

You can see for yourself where the diapirs are thick enough – on average, you can then see whether the 1,100 meters of sedimentary cover – the "surcharge cap" – is present there and how thick the salt layer is underneath.

Note the coastline (black in the image): The diapirs exist under land and water.

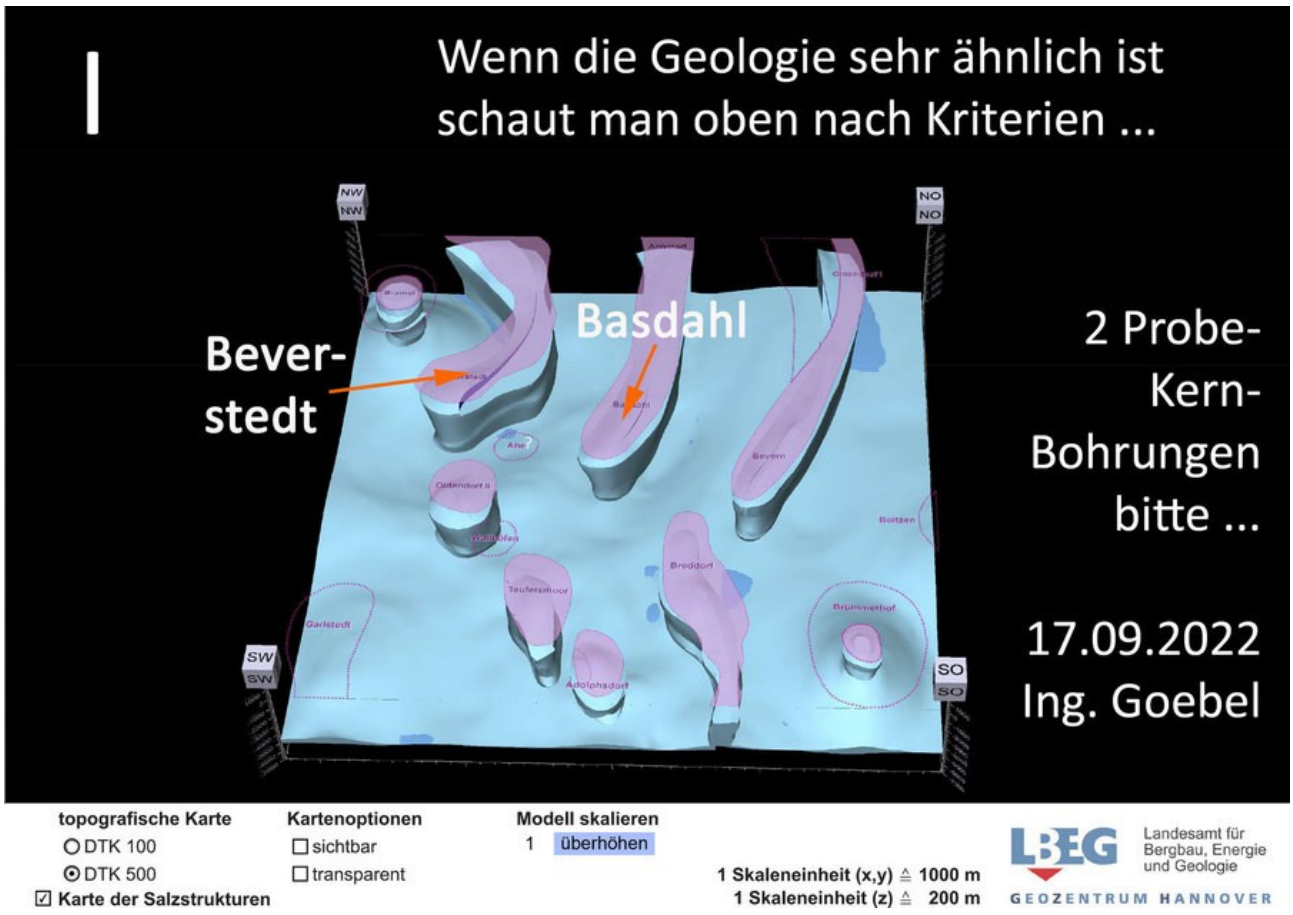


Figure 23 also shows "near Beverstedt" and "near Basdahl," where DBHD wants to conduct test drilling – each of which we know will cost €23 million.

This is precisely where DBHD, Engineer-Architect Goebel, considers the two best possible sites for DBHD repositories after considering all criteria. They are small, and we need four for HLW (high level waste spent fuel and vitrified waste Mg) and two for MLW/LLW (mid and low level nuclear waste m3) for the German waste amount.

There is a lot of promising geology available. – In the upcoming 500 m sections, the locations will be able to be determined even more precisely by comparing them with the terrain surface. This is the work of an architectural planner – not a geologist...

https://www.arch-goebel.ch/bei-beverstedt/ - - - - https://www.ing-goebel.de/bei-winner/

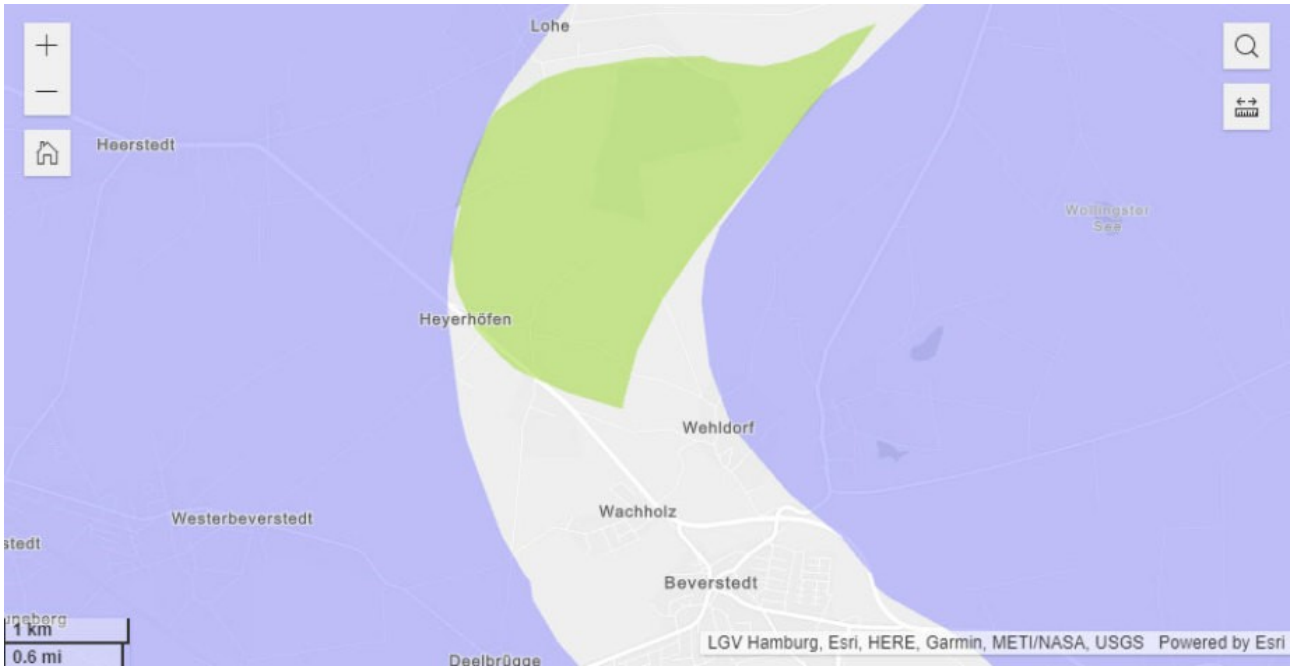


Figure 24 shows "near Beverstedt" on the BGE interim report map.

In green, BGE has also described the site as "fair" – they cut higher than DBHD, however – which is why the starting site, DBHD, is further south.

But we need a total of six small repository columns, and one (the second) will probably be located in the area marked in green by BGE.

It speaks in favor of "near Beverstedt" that both DBHD and BGE show this location. Near Beverstedt, the distance between the drilling site and the settlement is good – large enough. Geology is vast – but if you consider the structure of roads, rivers, and forests, the site selection in Germany quickly becomes very limited and challenging.

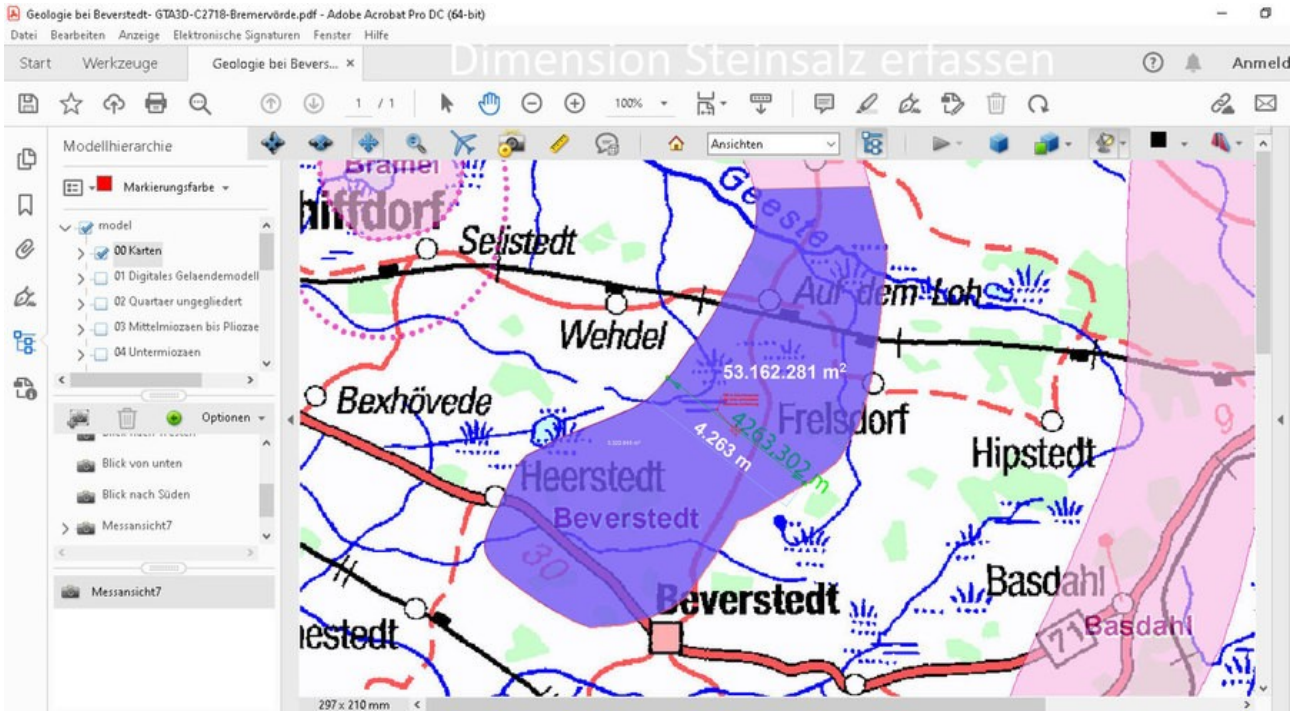


Figure 25 shows "near Beverstedt" – Source: LBEG 3D Geology Database

The width of the salt diapir is not too generous at 4,263 m.

We're looking at approximately 50 million square meters (3 columns).

There's no drilling point marked on this map –

Just plot the drilling points – it costs €23 million for

the test drilling and €1.3 billion for the GDF structure.

Do you see how densely populated even the area on the

North Sea coast in Lower Saxony is? – You have to plan

and connect a 300 x 360 m above ground GDF structure.

People will be working there every day...

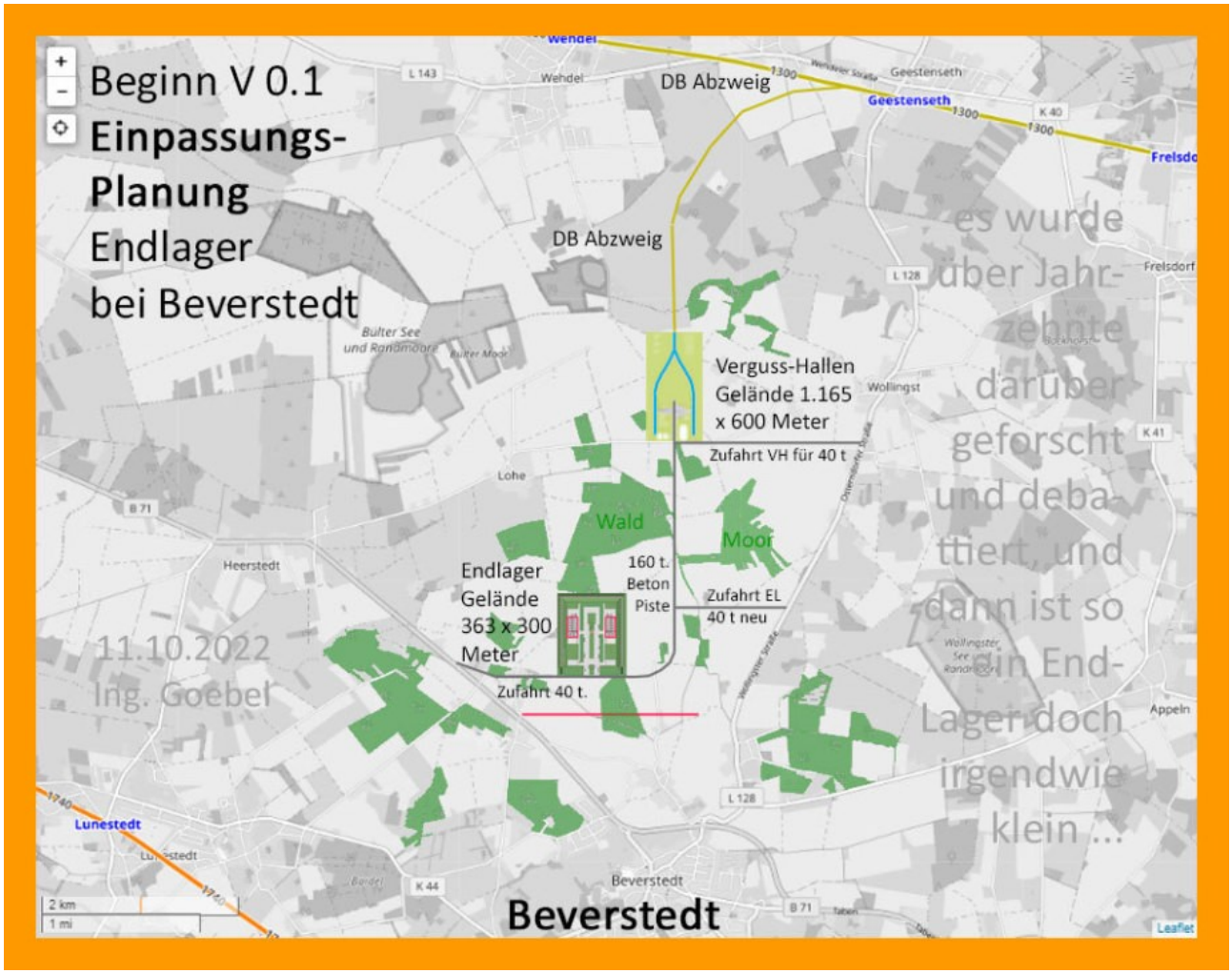


Figure 26 shows the "adaptation plan" for "near Beverstedt."

There will only be the DBHD repository there. The fact that the repository site also has

the grouting hall—a dirty contianer filling hall by now—would be unreasonable.

The filling of the 1 kg inventory repository containers will probably take place in Sellafield or La Hague. Things are very quiet in the GDF Location area—they are waiting for their direct, radial, and honest neighbors' compensation payments totaling € 8 billion over 70 years.

For years, information has been provided at the same time as BASE and BGE at Beverstedt.

Figure 27 shows the DBHD repository sites DE 1 to 6 on a map showing the salt geology, but also the surface structure use.

DBHD will be in the region for approximately 70 years. Deep holes with a diameter of 12.4 m will be drilled. – The above-ground facilities are as large as a large schoolyard. – Numerous transports are also involved !

The direct, radial, honest compensation payments of 8 billion EUR to the neighboring households must be fairly distributed by you. We are building the safe repositories. - Get used to it – get rich with it, and then you will have educational opportunities and well-paid jobs.