

If you can't solve the problem, change the problem

or

how I beat Elon Musk at his game





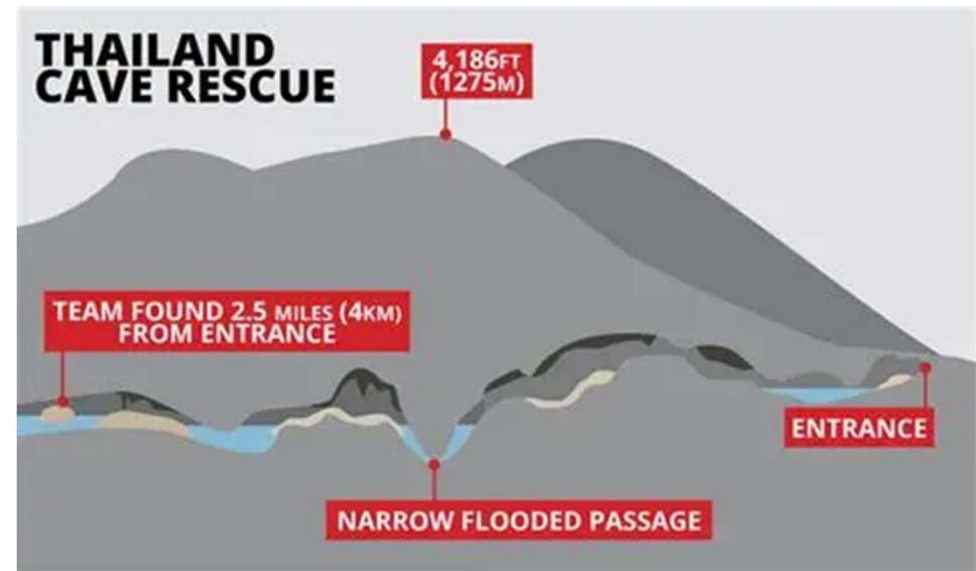
Remember the 12 boys from a Thai football team who were trapped in a cave which became flooded during rains at the beginning of the rainy season 2018? The rainy season was just starting so they could not get out for 4 months unless rescued

Rescue divers found the boys, but to get them out was a real problem.

Drilling from the top would take much too long

Pumping the passage dry was not possible because of the sheer quantity of water

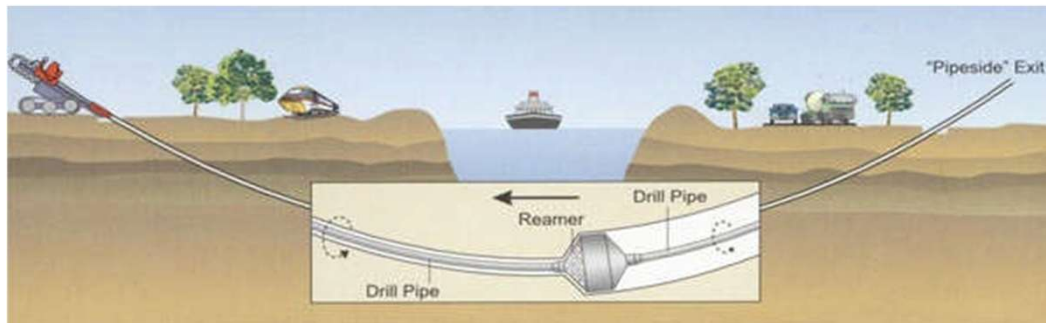
There was strong concern about drowning, air quality and food supply



I followed the news when I lived in my little hut in the forest. That time I was a Buddhist monk in a Thai monastery. I had plenty of time as a monk, so I tried to think up a solution to rescue the boys.

Nowhere in the news there was mention of using HDD (Horizontal Directional Drilling) while it seemed a 500 meter long drill from the foot of the mountain could be possible.

But the time required to widen the diameter sufficiently to get the boys through was as long as the rainy season would take, so that was too long. The boys would be perished due to drowning and bad air long before.



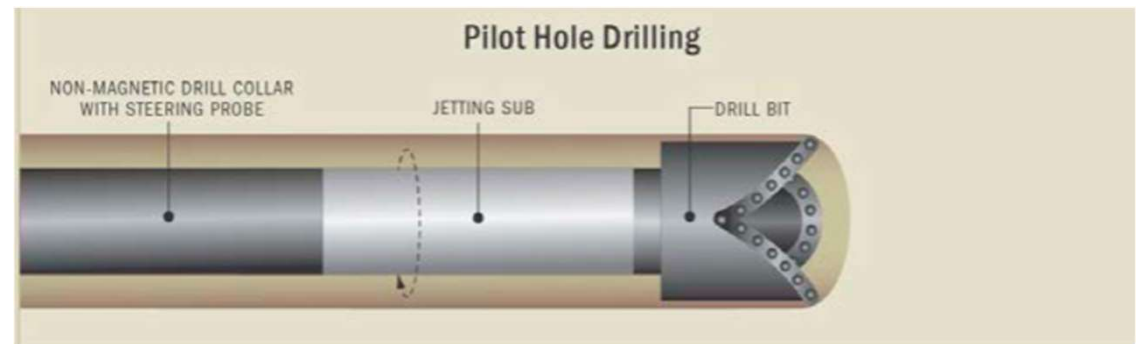
Typical HDD operation using pilot drill and reamer to widen the hole



So HDD would not rescue the boys

But I realized it could keep the boys alive for 4 months:

- Drill a 6" pilot hole in 3 weeks time
- Use it to drain the water
- Use it for air supply
- Use it to supply food and other stuff
- Use it as communication



I mailed HDD Thailand and got in contact with their Operation Manager. He pointed out some major challenges.

The main ones were

- 1) unknown soil conditions. There could be caves or fissures.
- 2) the drilling had to go up into the mountain which had it's own technical difficulties
- 3) When the drill bit would enter the cave there was a risk of large chunks of rock breaking of hurting the kids we wanted to save

But after a few mails up and down he thought it was worth a try. He flew back to Thailand and had an engineer draw a plan. He called the Thai Client the HDD drill rig was promised to. This Client kindly gave permission to use the rig for this purpose. Then he flew with drawings under his arm to the project team in charge of trying to rescue the 12 kids and explained the plan. Conclusion: HDD Thailand was asked to be on standby and to start operations if the rescue operation actually happening that very moment was not successful.

That day they tried to get the 12 boys out with the rescue divers. The boys were drugged unconscious and then transported through the cave system. A dangerous operation and not certain it would be successful.

But they managed! All kids came out alive.

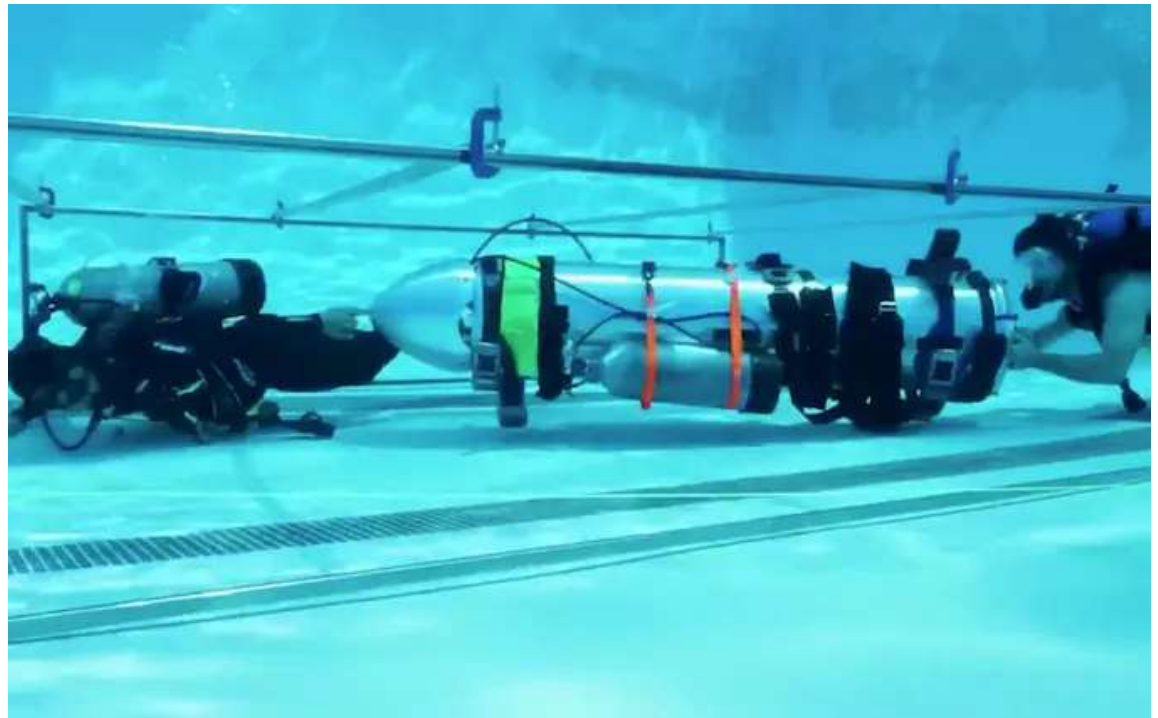
There is even made a movie about this.



What is the connection with Elon Musk you are probably wondering?

Elon came with the idea of making a mini submarine in which the boys could be placed and transported out of the cave system. There was some disagreement about the feasibility of this method and at the end this solution was not chosen.

The disagreement became rather nasty actually, but you can read about this and all aspects of this rescue operation on [Tham Luang cave rescue - Wikipedia](https://en.wikipedia.org/wiki/Tham_Luang_cave_rescue)



My conclusion: the HDD solution was chosen above the mini submarine, so ... 😊😊😊

I have thought what lessons I can learn from this. There are a few

1. Just simple sustained thinking can make you find original solutions
2. Rephrasing the problem can result in different solutions. In this case changing the problem from “the boys need to be rescued” to “the boys have to be kept alive till they can be rescued”
3. You can make a difference in this world, but you have to take initiative
4. Team up with a smaller company. Larger entities are not decisive enough. I have experienced this a few times when suggesting solutions for large problems to large companies. Just no reply...

Anyway, it also gives you a nice story to tell