Expectations When Place A Screen Downhole

Basic Thoughts

- Common Sense -

- Practical Examples From Surface -

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Exceptional resistance to wear:

The higher the hardness, the lower the erosion

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Presentation Outline

- **Simple Basics about a Screen**
- Example – The “Love-parade”- Effect
- Example – The River I
- Example – The River II
- Other solutions on the market
- Conclusion

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Simple Basics about a Screen - Introduction

The idea of this presentation was initiated to show how my thoughts are driving me to invent new things by keeping it simple and efficient, but highly productive with a great longevity.

It is helping me for a while to use Common Sense and being open minded.

Since I've started working in this business in 90s, I always heard ' Listen to the well, it's communicating to you and will tell you what it want and need'. It took me a while to understand it.

Over the years I have developed this further by using practical examples from surface for understanding what is going on downhole.

Since 2012 I identified a potential design issue in the world of Downhole Screens.
In the following slides you will find everything what was driving me in terms of a smarter Screen solution and how it can be done.

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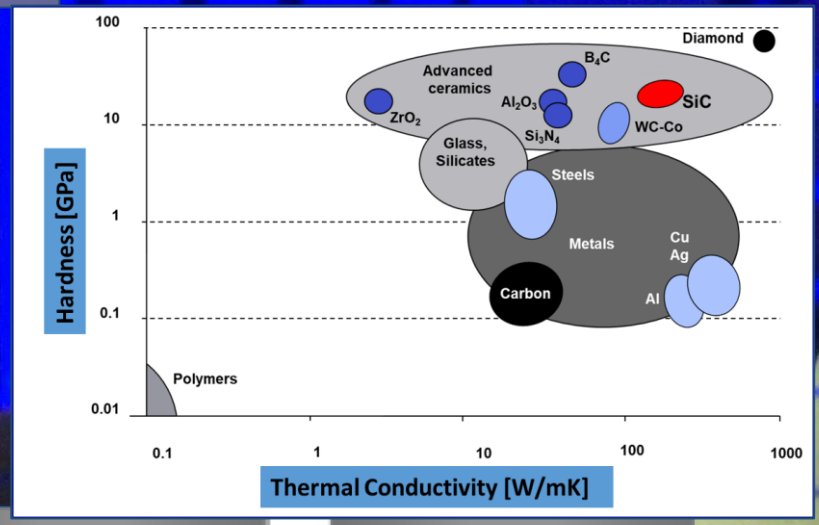
Simple Basics about a Screen

What is important

Screen need to be fit-for-purpose
- Filtering media out of the reservoir
- Longevity – by Design and Material

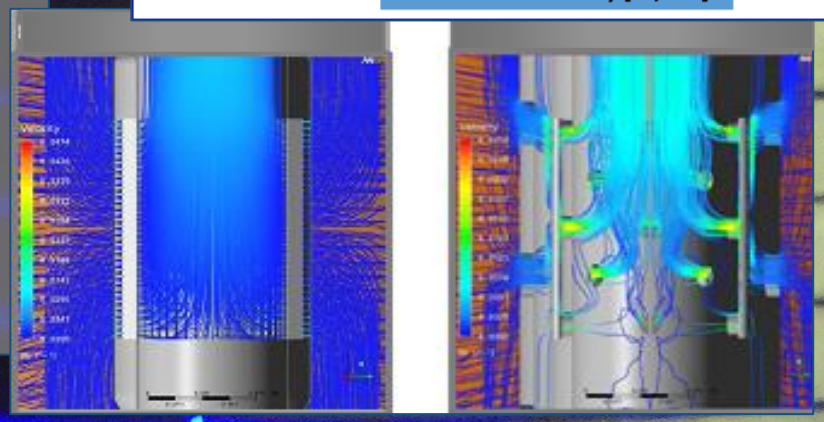
1. Basic fact for Longevity - Hardness

The higher the hardness, the lower the erosion results in an exceptional resistance to wear



2. Basic fact for Flow Environment – Law of Hydraulics

The flow of fluids always follows the directest path and has no tendency to go around corners or change direction on its own.
Preventing Turbulent Flow
Improves flow capacity and Pressure drop



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- **Example – The “Love-Parade”- Effect**

Sources: www.the-berliner.com/

- **Berlin 2000 - a great example of how the flow is nice and eazi without any stress (laminar flow) even in both ways. And with lots of fun and happiness.**

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- **Example – The “Love-Parade”- Effect**

Sources: www.alamy.de/

Then a tragic decision was made to move the Love-Parade to another location. Only one entrance and exit… Nobody thought about the flow environment…use your common sense. ALWAYS.

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- Example – The River I

The river Ammer in my village Oberammergau. You can see rows of stones on both sides and how the flow is changing between laminar and turbulent flow, when some restriction is in the way. Common Sense.
A video could be distributed, if wanted.

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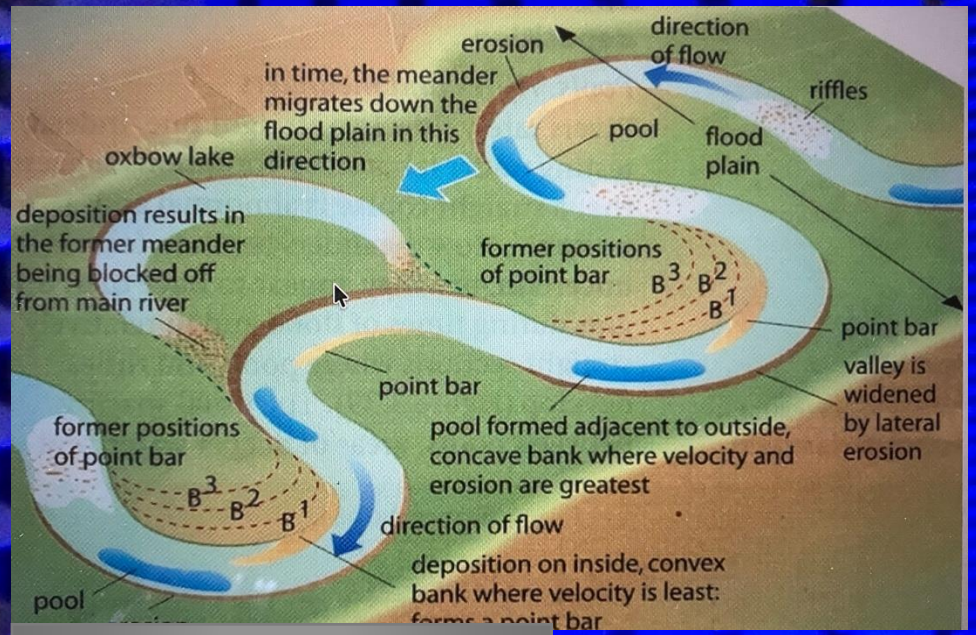
• Example – The River II



Source: www.ausableriver.org

Source: www.dreamstime.com/

Meandering rivers. On the inside Erosion; on the outside Deposit. Common Sense
I had to take from the internet.
Lost my images from Gabun in 2009…

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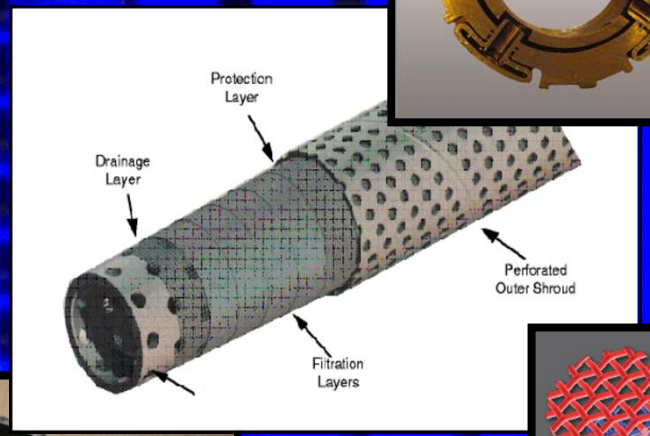
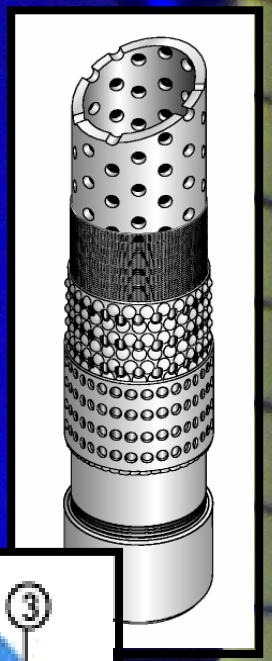
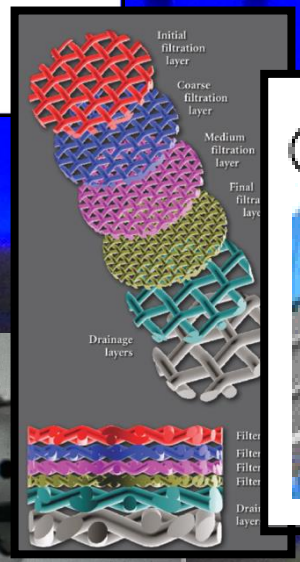
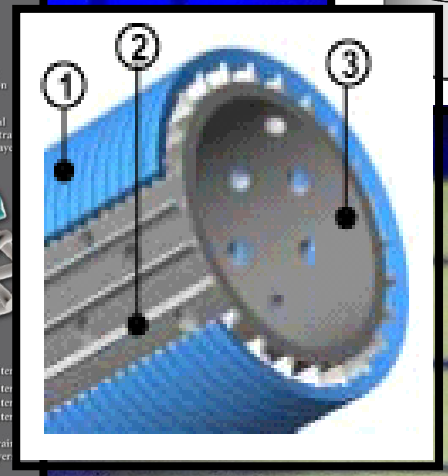
- **Other solutions on the market**









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- Conclusion

Your opinion would be greatly received

Feel free to share

For the sake of tremendous and long productions

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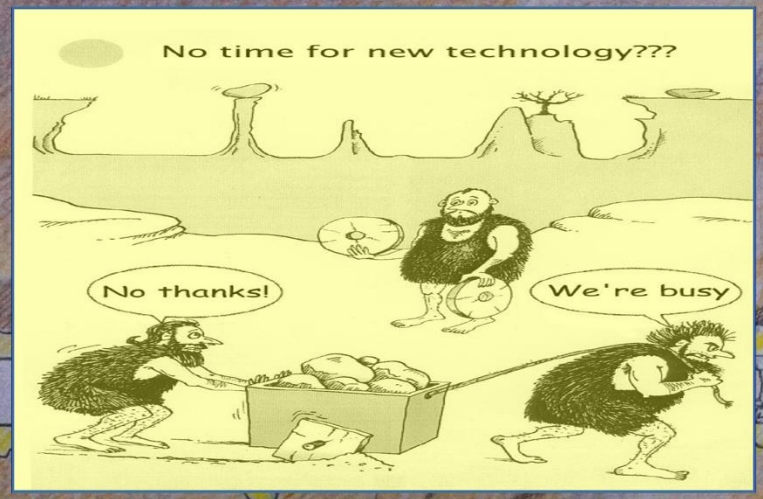

Vielen Dank für ihre Aufmerksamkeit

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