

Changes *in the Water Well Industry*

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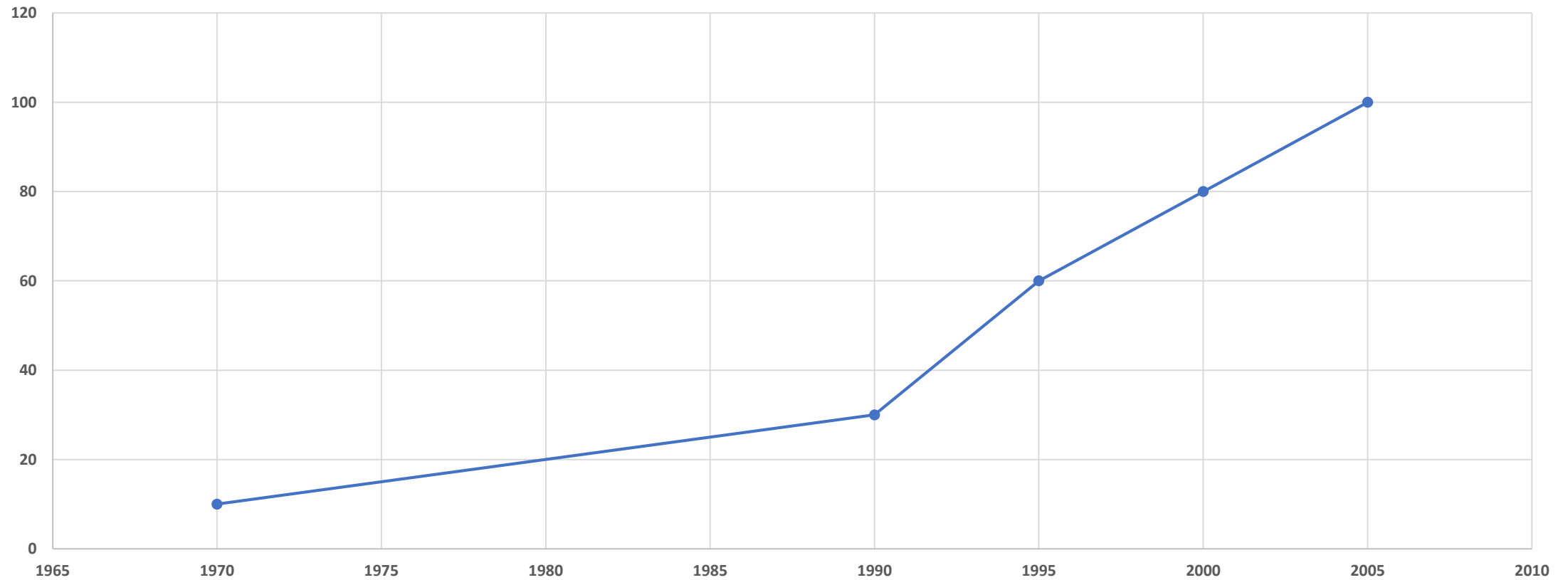
Pitless Adaptor

Historically, the Pitless Adaptor breaks into the local Drilling Industry between 1970 - 1975

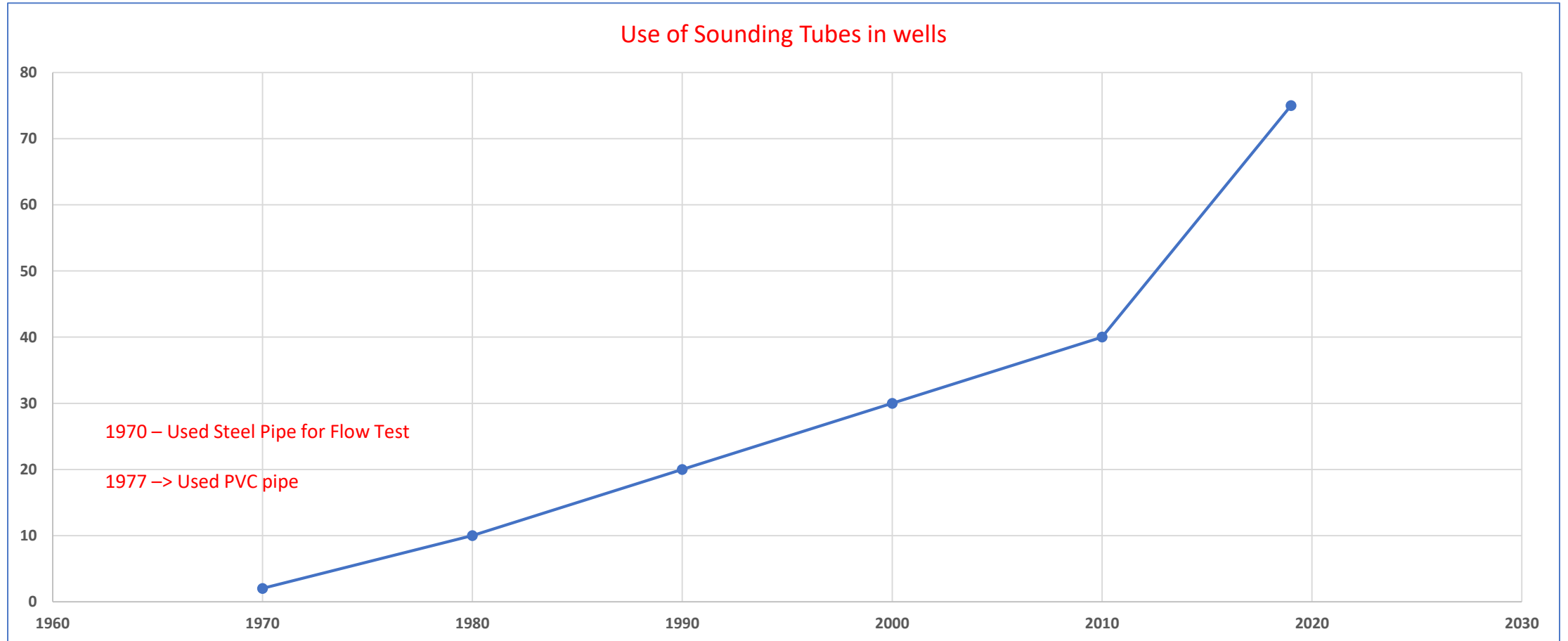


Demand for Water Quality Testing

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Well Sounding Tube



Well Sounding Tube Uses

Initially:

- Measure Water Levels during a Flow (Pump) Test
- Monitor the Pumping level when well is operating
- Monitor the Static Level when well is at rest

Added uses:

- House a permanent water level transducer or other sensing equipment
- Track water drawdown interference from neighboring pumping well activities
- Inject Chlorine to the bottom of the well during well disinfection
- And so on....





Well Sounding Tube – application perspective

- The time it took for the Sounding Tube knowledge to move from Abbotsford to Chilliwack in the west side of the Fraser Valley, or 15 miles (24 km) => **30 years.**
- The time it took for the knowledge to smelt Iron, from the eastern side of the Eurasian continent to the west (about 5,000 miles) => **600 years.**
- This tracks to about 8.3 miles per year for knowledge about Iron to cross the continent, while the knowledge of well sounding tube tracked out to be about 2 miles per year!!!

Base Marks (information)

– Reporting Needs for customer

1. Static Water Level
2. Pumping water level
3. Initial (original) Water Quality (chemical and microbiological) values
4. Specific Capacity of well after X-hours of pumping
5. Initial pumping rate through the distribution system
6. Original Pump data: Volts; Amps; Operating pressure; etc.

Flush Faced vs Clear Way Pitless Adaptor

Pros and Cons – Bolt-On and Weld-On models

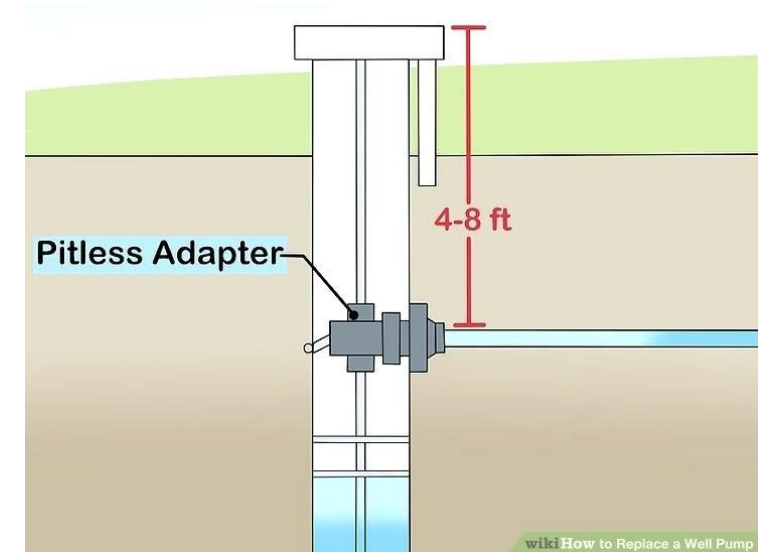


Flush Faced vs Clear Way Pitless Adaptor

- Little is known about the Bolt-On model
- Bolt-On models – only available in 1-inch and 1 ¼ - inch sizes
- 2,000 lbs and 4,000 lbs rated models
- Bolt-On units not stocked by local Pump suppliers at this time – takes 2 weeks to order them in.

- The Weld-On units take a skilled Welder to install
- Weld-On units have a higher load rating; more readily available.
- Installers are not wanting to stock them.
- Additional upfront cost of Flush Face easily offsets the well's first rehab

Pitless Adaptor Installation



What's Driving the Need for clear passage into the Well-Head?

- When changing out a domestic Pump in a fairly standard 20-year cycle, we are seeing some major messes from Biofouling in the wells.
- This mess should be cleaned out of the well with each pump change-out to increase longevity of the well.
- Good access is needed to keep costs down.



That's All Folks !!!