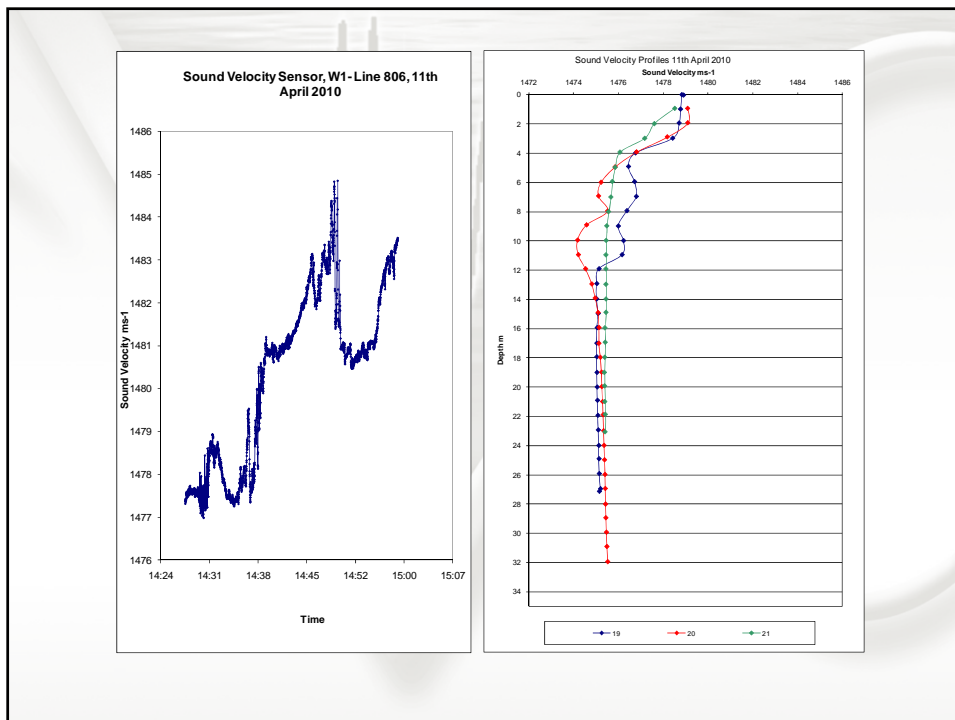
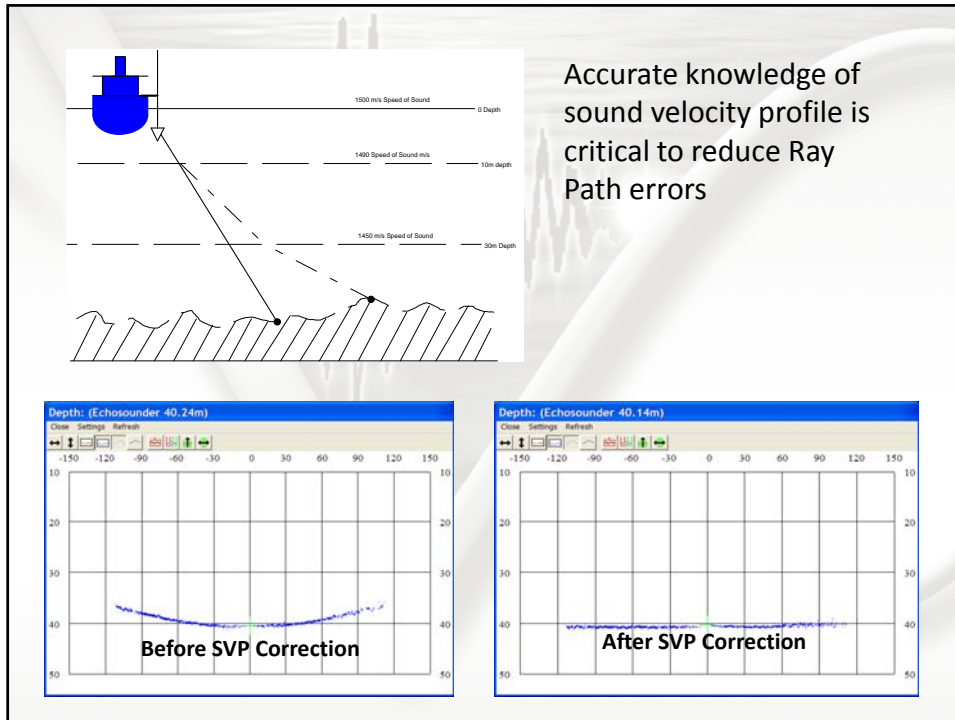


Accurate knowledge of sound velocity at the transducer face is critical to reduce Beam Forming errors

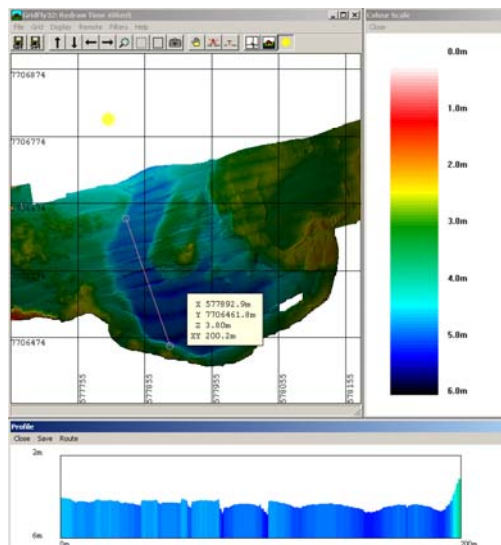




What it looks like when it all goes wrong!

The magic question:
How many SVP's should you take?

The magic answer:
You can never take too many!!



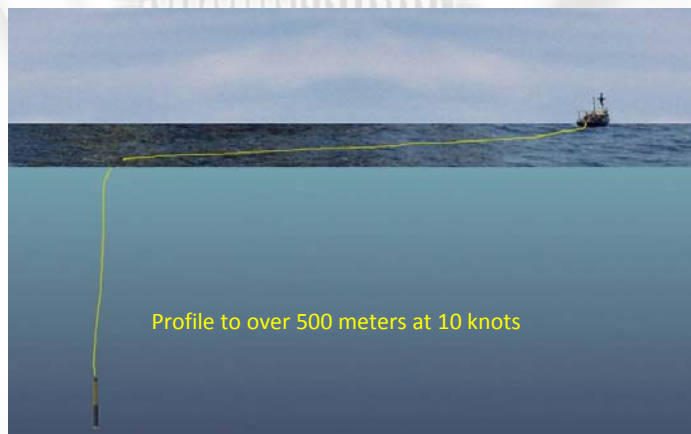


UnderwaySV Profiling – WHY?

1. Maximize SVP data at low cost
 - Reduce ray path errors
 - Better account for temporal & spatial changes
2. Optimize survey time



Underway SV Principle

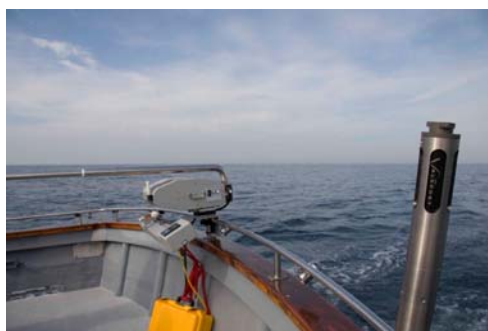




UnderwaySV Components

Shallow or Deep Configurations

- Winch with rewiner and davit
- RapidSV probe
- Power supply
- Laptop, PDA

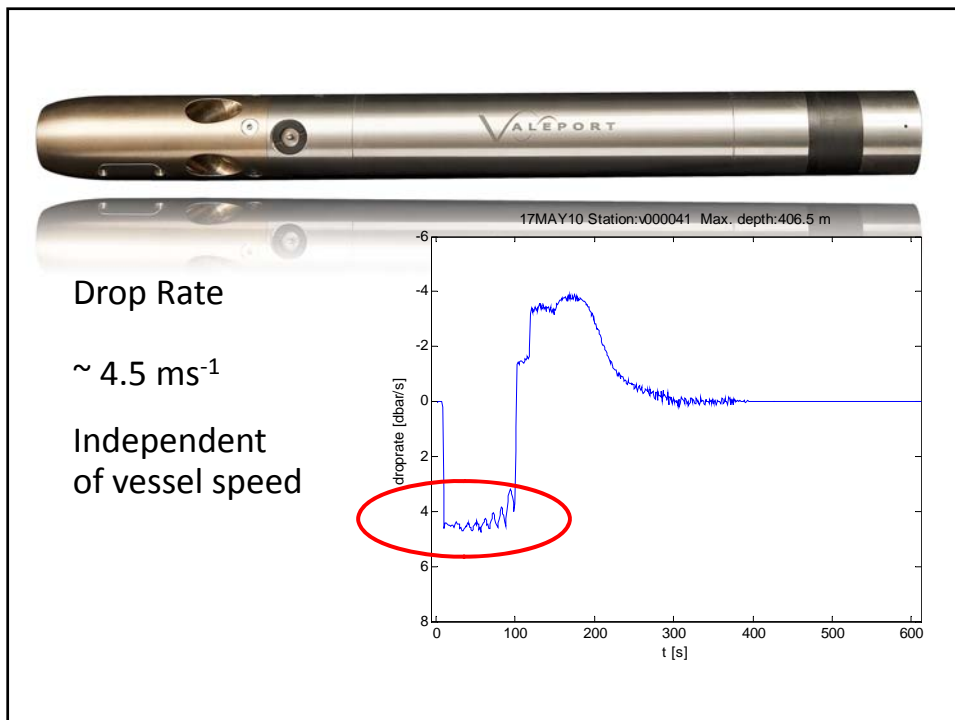
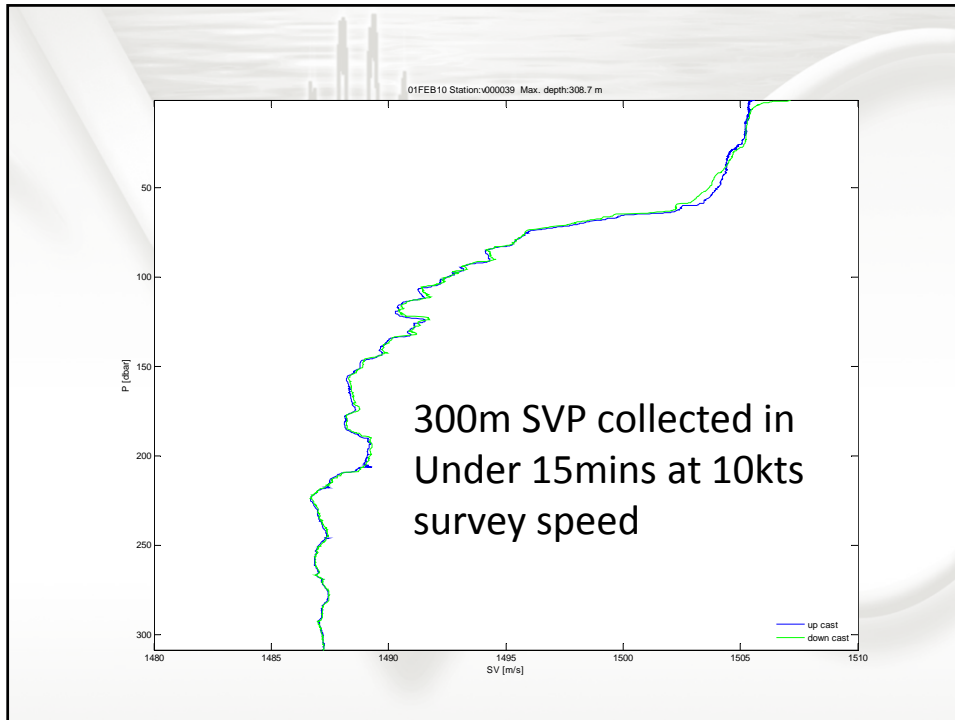


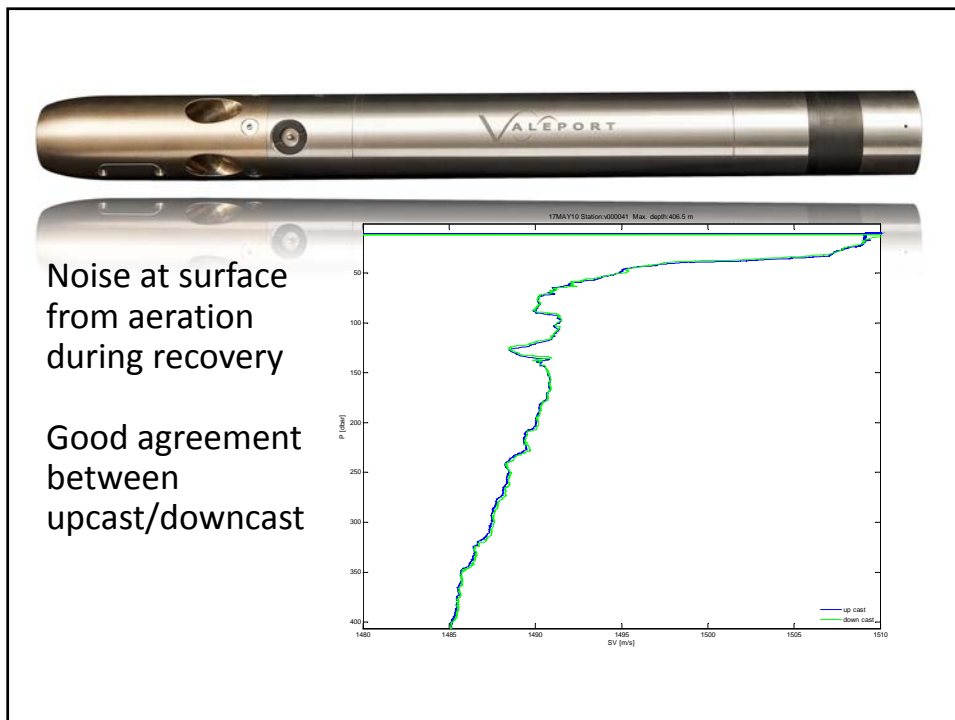
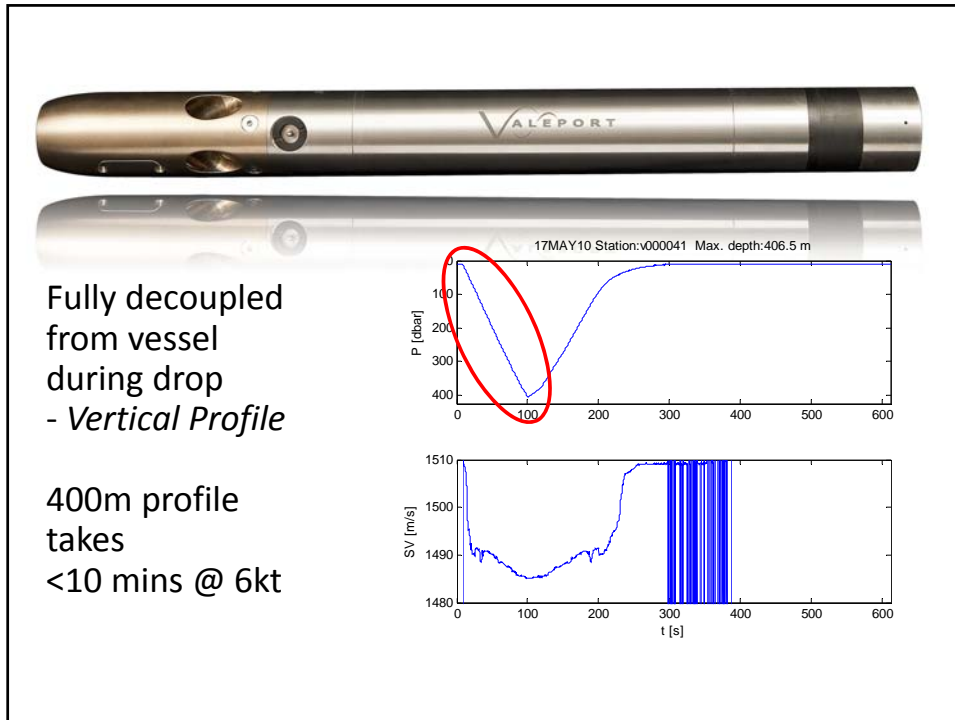
Feb 2010 Trials - mk I
Proof of Concept
Drop rates
Bluetooth Operation
Sensor Response



- Mk2 prototype
- Reduced diameter (50 vs 62mm) = Reduced drag
- Lighter = easier to handle
- No Connector – Bluetooth comms only
- Single C-Cell battery - >50 hours operation
- Revised SV sensor design
- 32 Hz sampling (15cm resolution @ 5ms⁻¹ drop rate)

Feb 2010 Trials
Video of UnderwaySV
Profiling







- MK III prototype
- Modified SV inlet design – faster response
- Improved Bluetooth range - 25-30m
- Faster drop rates (~40%)
- Final Sea Trials – 11/12th November, Oceanside, CA



- Continuous underway profiling
- High quality data
- Cost-effective
- Easy to use
- Portable
- Direct depth measurement
- Deep and shallow water profiles
- Environmentally-friendly



Any Questions?

