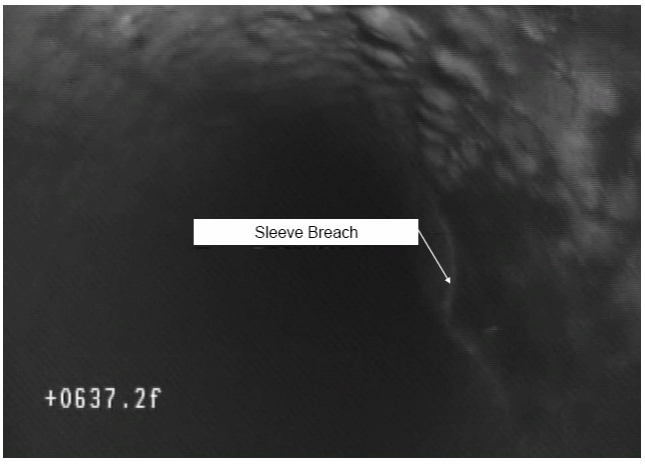
Besst Inc. Video Survey Overview

Video Capabilities: Monitoring and Water Supply Wells

- Monitoring or water supply wells from with boreholes from 1.5”-25” can be surveyed with the small ¾” X 10” camera
- Camera can be lowered through an access tube as small as 2” or straight into a borehole through an access port. Larger cameras cannot gain access without the costly procedure of removing the pump column. Note that in order to gain initial access, pump must be shut off while camera goes past bowls and suction zone.
- Can be used to find sand producing zones, blocked or damaged screen intervals, and damaged well casing which affect production capabilities
- Viewing the inside of the well under pumping conditions, can be used to determine not only where a damaged section of casing or screen is, but how it acts at different pumping rates.

Besst Dynamic Video Survey used to pinpoint sand production:

1. Video camera was inserted into the well between the pump column and the borehole while the pump was off.
2. The camera was slowly lowered from ground surface to the bottom and the entire borehole was inspected for damage while pump was off.
3. Once the entire borehole was surveyed in static environment and the camera was at the bottom of the well the pump was turned on to 1300 gpm.
4. The initial pulse of water when the pump started dislodged some buildup on the sides of the well casing and visibility was very low. After a couple of minutes of pumping at 1300 gpm the flow was reduced to 760 gpm and the visibility increased greatly. The borehole was surveyed for damage and sand production while the pump ran.
5. At 638 feet BGS there was a damaged sleeve over a screen that allowed sediment to enter into borehole. (see image 1)



6. After the initial diagnosis of the damaged patch the zone at 638 feet BGS it was surveyed going up and down at varying pumping rates (760, 1000, 1300 gpm) At different flow rates the amount of turbulence the camera experienced and the amount of sand the zone produced fluctuated drastically.
7. After the damaged area was surveyed closely the video survey continued to the bottom of the pump column. The pump was turned off as the camera ascended through the zone containing the suction tube, strainer, and pump bowls at 350’ BGS.
8. Once the camera was above the pump bowls , the pump was turned back on to survey the upper screened portion of the well, and no significant damage was found.