

Check list of necessary preliminary examinations  
for a well rehabilitation (Houben & Treskatis 2003)

INSPECTION	METHOD
1. Determination of the current specific yield	Step-discharge pumping test
2. Review of well yield development since last rehabilitation	Monitoring and pumping test data
3. Evaluation of general state of construction	Camera inspection
4. Geochemical composition of incrustations	Mineralogical incrustation analysis
5. Inspection of the actual-theoretical conditions by comparison with a professional geological section and the technical construction drawing: - Position of the screen pipes - Diameter of well casing - Type of filter pack	Camera inspection or borehole geophysical investigation
6. The tightness of annular seals of deep wells with a confined aquifer covered with an aquitard has to be proven. In case the annular seals are missing, they have to be installed subsequently by means of a suitable reconstruction technique	Borehole geophysical investigation
7. The pipe collars must be proven tight. A subsequent sealing, such as insertion of sleeve tubes or an internal pipe sleeve may help out	Borehole geophysical investigation
8. Proof of proper annular filling in the screen range (no bridging allowed; when bridges sag, they are likely to induce a high buckling pressure on the well tubing) through appropriate measurements and subsequent annular filling by refill, grouting, compaction or other measures when indicated.	Borehole geophysical investigation
9. Creation of a flow profile and determination of permeability in the screen range	Flowmeter / packer flowmeter
10. When working with aged steel wells the tubing wall thickness is to be measured in order to determine the grade of corrosion and to identify leakages (preventive measure to avoid damages during rehabilitation and later operation)	Borehole geophysical investigation
11. The physical condition of the gravel pack (compaction, clogging and fine grain content) should be determined at low yield and / or uneven inflow using appropriate measurements.	Borehole geophysical investigation
12. Decision whether to rehabilitate the well on the basis of the chronological development of the specific yield and the geophysical survey.	Economic appraisal and comparison of measures and alternatives (rehabilitation, reconstruction, new well construction)