



### **Innovation and Creative Thinking Satisfies a Critical Inspection Task**

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Above ground bulk storage tanks are a common sight in the Oil & Gas, Petro/Chemical and Water industries across Australia. They play a vital role in the handling, storage and distribution of bulk product, some of which can be extremely hazardous. It is not uncommon for these tanks to operate for long periods of time without an internal inspection to determine the structural integrity, and to ensure safe continued use. This is mainly due to the problems of emptying and cleaning these tanks, storage of the product during an inspection and disposal of the waste, without impacting on the environment. On most sites there is rarely a “spare” tank, so when a bulk storage tank is taken out of service for statutory inspection, it is important that the down time is kept to a minimum and that the inspection carried out is to the highest standard, especially as the tank may not be available for another inspection for a very long time, sometimes more than ten years. In addition, there are significant hazards associated with internal inspections, so it is important that these inspections are reliable, precise and carried out in a safe and cost effective manner.

In most cases the inspection consists of a thorough internal visual inspection of the tank and targeted Non Destructive Tests (NDT). The inspection must typically cover the tank “walls”, roof structures, as well as any internal supporting columns within the tank. As tanks can sometimes be many meters in height, access is often quite difficult and hazardous with significant risk to the inspector.

A common method of access is to erect large amounts of scaffolding inside the tank, which can be time consuming and extremely costly and often keeps the tank out of service for long periods of time. Other methods of access include mobile “pencil” scaffolds and cherry pickers that can be placed inside the tank. Both these access methods have significant safety risks.

ALS inspection engineers have developed a simple, safe and cost effective way to inspect tanks. ALS uses a telescopic pole to gain access that eliminates the need for the inspector to leave the ground.

The telescopic pole is taken into the tank through a standard access manway and can be easily and efficiently erected by no more than two people. The pole has a high resolution camera attached to the top of the pole as well as a high power light source. The camera is manipulated from the ground and can be steered to focus on any part of the tank required. Images are viewed on a laptop computer and photographs are taken as required and stored for inclusion in the inspection report. The telescopic pole is moved around the tank to

ensure full coverage of the internal structure. When fully extended the telescopic pole reaches approximately 30 meters in height.



Figure 1: : Telescopic pole in lowered position

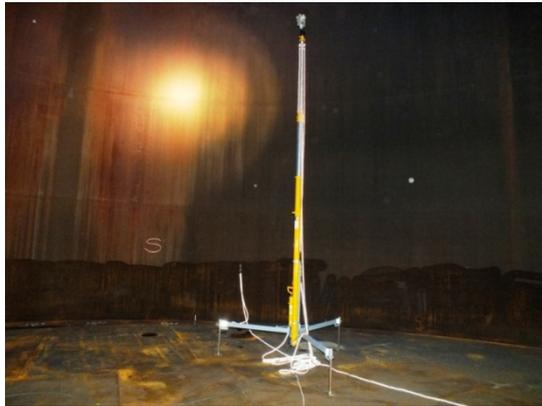


Figure 2: Telescopic pole partially extended



Figure 3: Telescopic pole fully extended, to the top of the tank roof



Figure 4: Image of roof structure, showing mild corrosion



Figure 5: Image of side wall showing mild corrosion

Guide ropes are used to attach the pole to the tank wall or floor using magnets. This ensures that the camera at the top of the pole remains still so that clear, accurate images of the structural condition can be recorded.

Contact ALS Asset Care for reliable, safe and cost effective tank inspection.

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