

# Oceaneering Surveyor Conducts High-Accuracy Dimensional Control Survey

**Highly-efficient solution delivers quick turnaround for client**

## Project Overview

A client in Angola had an immediate need for a dimensional control (dimcon) survey on two permanent guide base (PGB) structures located in a fabrication yard and awaiting installation. While the requirement for the survey was pressing, the activity needed to be completed safely, accurately, and efficiently.

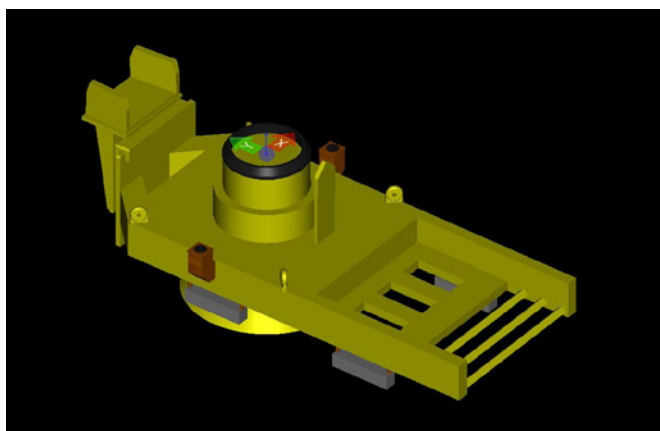
Conventional yard surveys typically entail mobilizing two surveyors and a full suite of equipment. Our client, however, required an almost-immediate survey and an alternative approach that would not compromise accuracy. The schedule was exceptionally tight as the PGBs were to be installed by a rig. Any delay to the readiness of the PGBs would have had a significant impact on the rig schedule, which in turn would have had a negative impact on any future metrology operations, subsea installations, and, ultimately, first oil.



## The Oceaneering Solution

Oceaneering developed a solution that met the client's challenging requirements. Our method relied on a single surveyor and a digital, hand-held camera that could be used to complete the dimcon survey. Not only did this expedite operations, but it limited the headcount, effectively reducing cost, risk exposure, and the overall carbon footprint associated with the activity. Our project management team generated detailed project procedures and plans that enabled swift, accurate delivery.

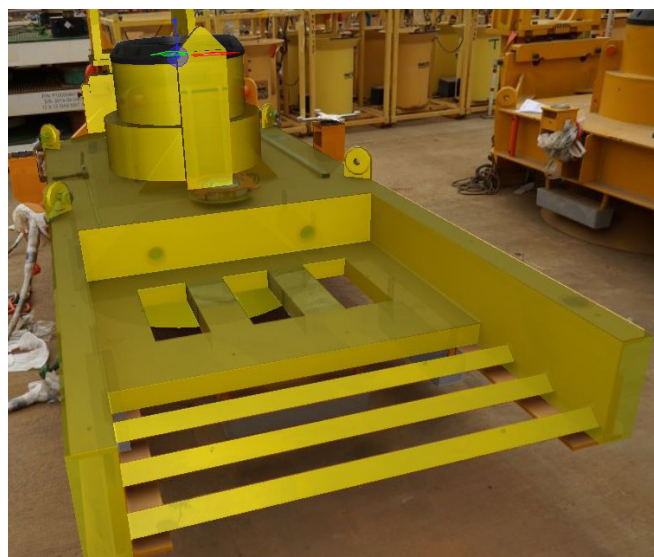
Oceaneering used state-of-the-art photogrammetric survey methods, and, with the support of one of our technology partners, calibrated a scale bar that enabled the completion of the surveys on each PGB. Each PGB survey lasted less than an hour.



## Execution Plan

Project planning started in early July 2019 and the photogrammetric survey was conducted in the afternoon of 15th July. The data was transferred to our technology partner for processing the following day. A scale bar, non-coded targets, camera, and a client-supplied metrology cross-tool were all employed to ensure successful completion of the survey. The scale bar was calibrated to ensure accuracy of at least 0.1mm.

The full-video surveys of each PGB were processed and the data underwent a complete quality control review. The video files were subsequently sent for processing and final reporting. A final report, designed to meet the client's requirements, was generated and supplied to the client immediately.



## Results

In only a few hours, two permanent guide bases were surveyed to a very high accuracy (0.1mm at 2-sigma) with more localized areas even more accurately defined (0.01mm at 2-sigma). A safe and efficient survey was executed in hours rather than the one to two days traditionally required.

The high accuracy of the data generated by the survey should enable the client to plan the fabrication of other structures, including well jumpers, accordingly.

As more and more clients look for ways to reduce costs associated with operations, our ability to reduce headcount and risk associated with these types of surveys provides a significant advantage without compromising quality or safety.