

the role of aerial monitor and on-site inspector. Such a helicopter, if an anomaly were detected from the air, could conceivably land to permit inspectors to investigate further and document what is found. A helicopter could be used to hover over an inspection site, watching the perimeter to ensure that materials are not removed without the knowledge of on-site inspectors on the ground.

Sensors

Photographic systems

The photographic camera is the optimal sensor if imagery with maximum spatial detail is required. Suitable civilian camera systems are readily available which could be used to obtain aerial photographs for BTWC-related missions. Cameras which might be used range in sophistication from hand-held 35-mm cameras to aerial survey cameras for precision mapping.

Hand-held 35-mm cameras are inexpensive and convenient to use, but the small film format does not make it an ideal camera system. A larger-format camera (as seen in Figure 5) will provide professional hand-held aerial oblique photographs with maximum photographic detail. Figure 6 shows a typical low oblique photograph taken using a handheld Agiflite camera. Note the marginal data recorded at the time of exposure including the date, time, latitude, longitude and aircraft heading. Hand-held oblique photography might be taken as evidence, for example, that trucks left through a back gate of a facility at a particular time, or to document the appearance of an inspection site for reports.

If site maps must be prepared, vertical photographs will be more suitable than oblique photography. A survey camera, such as the Wild AVIOPHOT™ RC-20 (as shown in Figure 7), can provide distortion-free photographs in a 9 x 9 inch (229 x 229 mm) format for photogrammetric measurements and high quality map production.