Agisoft PhotoScan

Processing Report, Baile na Cille, Pabbay

24 December 2020

Survey Data

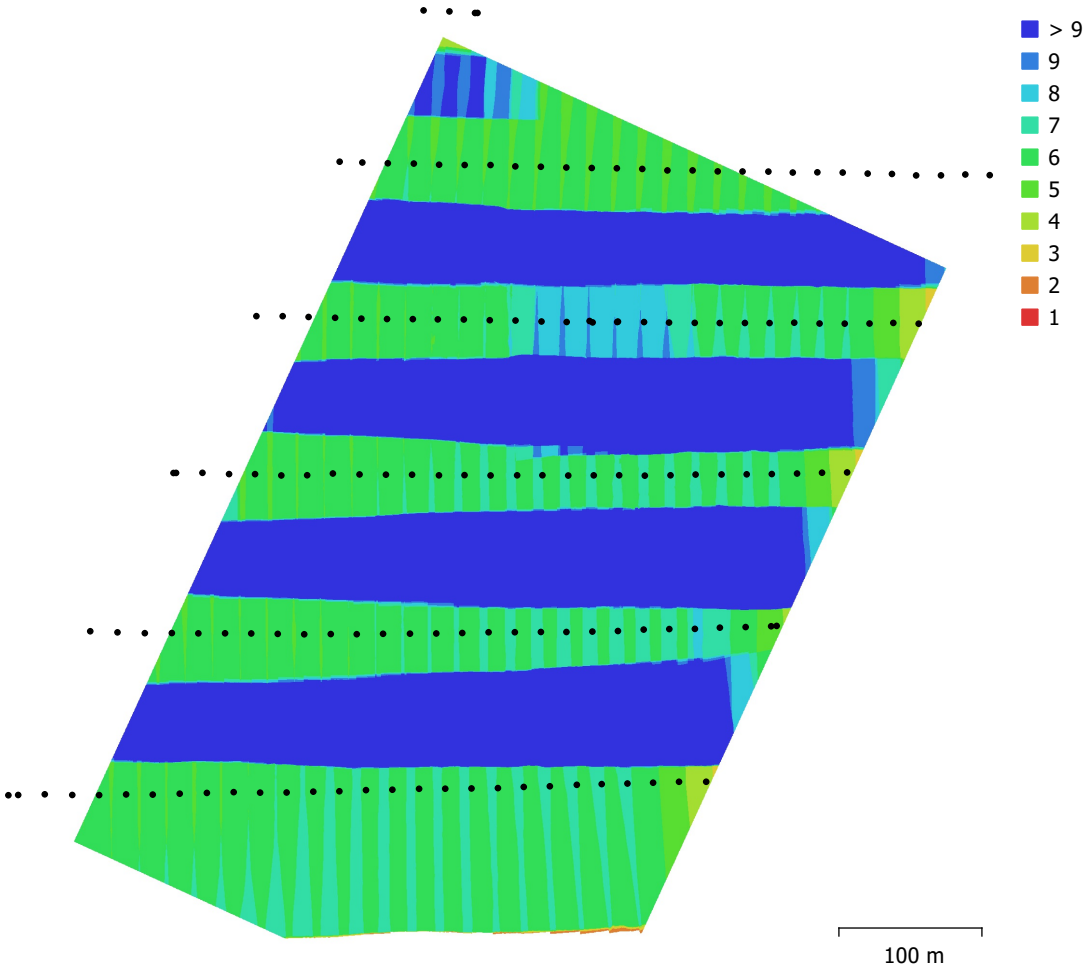

Fig. 1. Camera locations and image overlap.

Number of images:	144	Camera stations:	144
Flying altitude:	123 m	Tie points:	127,730
Ground resolution:	2.84 cm/pix	Projections:	568,726
Coverage area:	0.227 km²	Reprojection error:	0.531 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
FC6540 (16mm)	6016 x 4008	16 mm	3.99 x 3.99 µm	No

Table 1. Cameras.

Camera Calibration

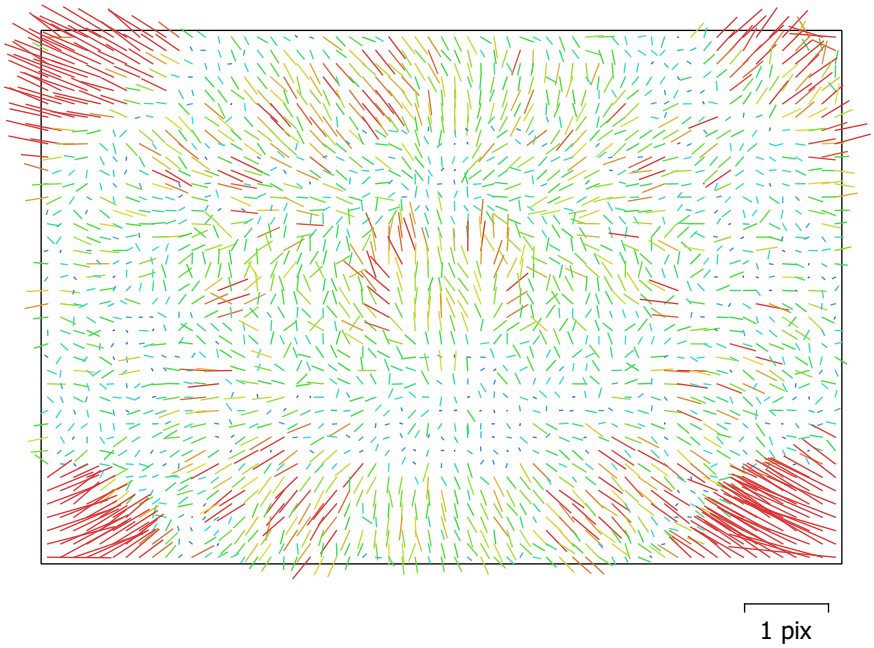

Fig. 2. Image residuals for FC6540 (16mm).

FC6540 (16mm)

144 images

Type	Resolution	Focal Length	Pixel Size
Frame	**6016 x 4008**	**16 mm**	**3.99 x 3.99 µm**

	Value	Error	B1	B2	K1	K2	K3	K4	P1	P2
F	**4009.85**									
B1	**1.80459**	0.16	1.00	-0.12	-0.22	-0.02	0.04	-0.05	0.21	-0.42
B2	**15.3151**	0.15		1.00	0.07	0.01	-0.02	0.03	0.23	0.37
K1	**-0.000769584**	7.5e-05			1.00	-0.67	0.63	-0.59	-0.06	0.40
K2	**-0.0598916**	0.00024				1.00	-0.98	0.95	0.02	0.02
K3	**0.103823**	0.00045					1.00	-0.99	-0.02	-0.04
K4	**-0.0616348**	0.00029						1.00	0.03	0.06
P1	**0.00240847**	2.7e-05							1.00	0.04
P2	**0.00590249**	3.7e-05								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Locations

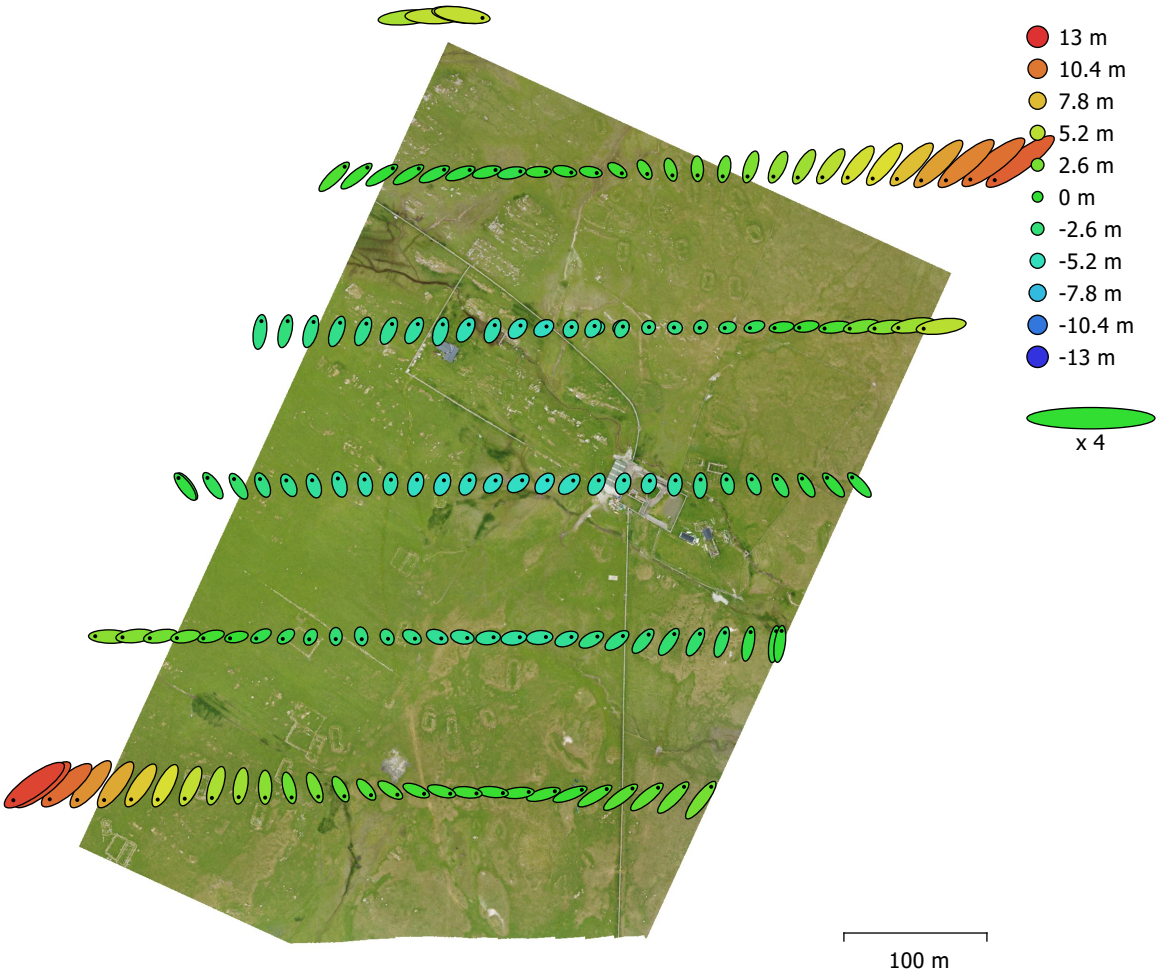

Fig. 3. Camera locations and error estimates.
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
Estimated camera locations are marked with a black dot.

X error (m)	Y error (m)	Z error (m)	XY error (m)	Total error (m)
3.02677	2.59268	4.18106	3.98539	5.7762

Table 3. Average camera location error.
X - Longitude, Y - Latitude, Z - Altitude.

Digital Elevation Model

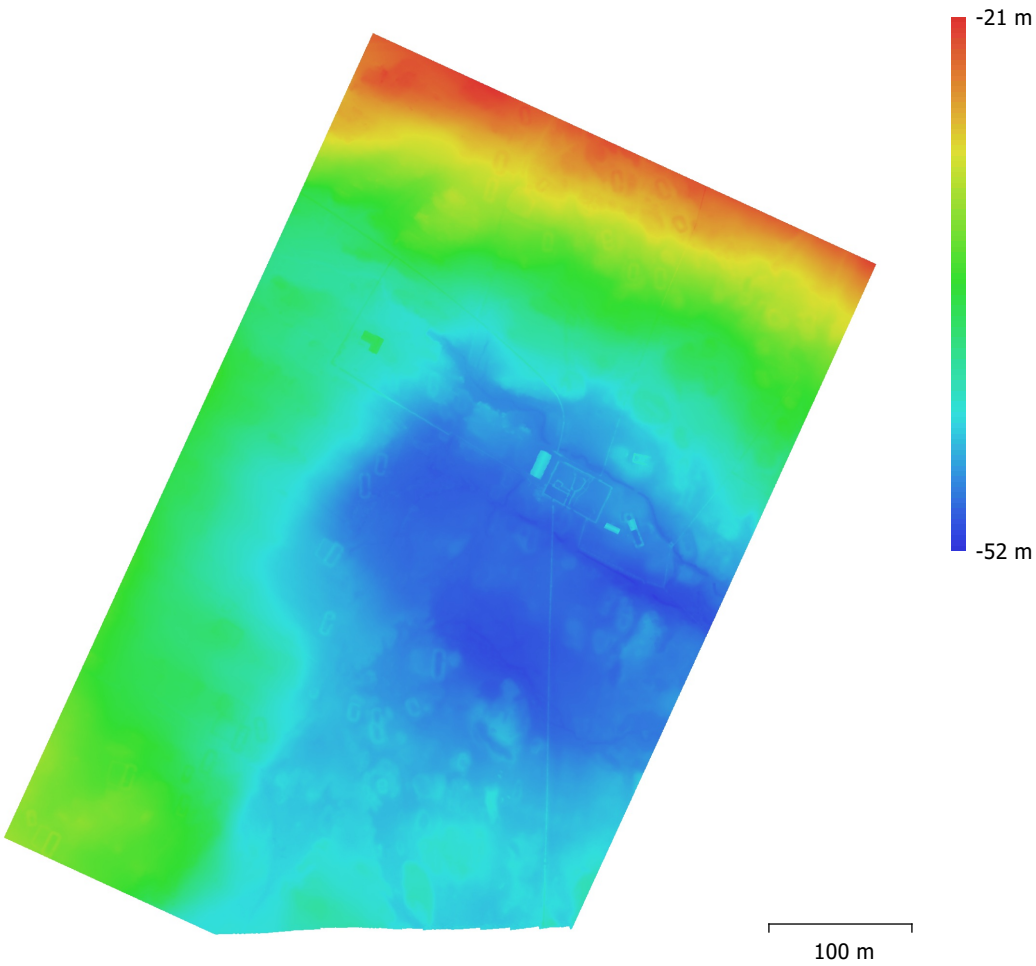

Fig. 4. Reconstructed digital elevation model.

Resolution:	11.3 cm/pix
Point density:	77.7 points/m²

Processing Parameters

General	
Cameras	144
Aligned cameras	144
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll
Point Cloud	
Points	127,730 of 135,008
RMS reprojection error	0.181171 (0.531089 pix)
Max reprojection error	0.545261 (8.58966 pix)
Mean key point size	2.96475 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	4.58277
Alignment parameters	
Accuracy	High
Generic preselection	Yes
Reference preselection	Yes
Key point limit	40,000
Tie point limit	4,000
Adaptive camera model fitting	Yes
Matching time	1 minutes 52 seconds
Alignment time	1 minutes 24 seconds
Depth Maps	
Count	134
Depth maps generation parameters	
Quality	Medium
Filtering mode	Aggressive
Processing time	5 minutes 14 seconds
Dense Point Cloud	
Points	17,900,721
Point colors	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Aggressive
Processing time	5 minutes 14 seconds
Dense cloud generation parameters	
Processing time	2 minutes 23 seconds
Software version	1.6.3.10732
Model	
Faces	3,580,136
Vertices	1,792,894
Vertex colors	3 bands, uint8
Depth maps generation parameters	
Quality	Medium
Filtering mode	Aggressive
Processing time	5 minutes 14 seconds
Reconstruction parameters	
Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled

Strict volumetric masks	No
Processing time	15 minutes 40 seconds
Software version	1.6.3.10732
DEM	
Size	5,643 x 6,429
Coordinate system	OSGB 1936 / British National Grid (EPSG::27700)
Reconstruction parameters	
Source data	Dense cloud
Interpolation	Enabled
Processing time	27 seconds
Software version	1.6.3.10732
Orthomosaic	
Size	12,787 x 12,709
Coordinate system	OSGB 1936 / British National Grid (EPSG::27700)
Colors	3 bands, uint8
Reconstruction parameters	
Blending mode	Mosaic
Surface	DEM
Enable hole filling	Yes
Processing time	1 minutes 30 seconds
Software version	1.6.3.10732
System	
Software name	Agisoft Metashape Professional
Software version	1.6.3 build 10732
OS	Windows 64 bit
RAM	190.63 GB
CPU	Intel(R) Xeon(R) Silver 4116 CPU @ 2.10GHz
GPU(s)	Quadro P4000