



DIGITAL DATA DOCUMENTATION

WIMMERA CMA

YARRIAMBIACK CREEK & NORTH EAST FLAT PLAINS - 1M CONTOURS

VOLUME 1189502NOM

Summary

Project

Airborne Laser Scanning (ALS) was flown over the Wimmera CMA region between January 5th and January 31st 2005.

Data

This volume contains 1m interval cartographic contours in 461 tiles over most of the Yarriambiack Creek and North East Flat Plains region (parts of Yarriambiack, Buloke and Northern Grampians Shires), but excluding tiles over Warracknabeal that are yet to be processed.

Contours have been generated from smoothed and thinned ALS ground strikes.

- 1m contour files are supplied in ESRI shapefile format.
- 1m contour tile layout is supplied in DXF format



This data is GDA-compliant

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1. PROJECT REPORT

Acquisition: Airborne Laser Scanning (ALS) data was acquired from a fixed wing aircraft between January 5th – January 31st 2005.

Ground Support: GPS base station data was acquired without incident. The ground check points acquired allowed an assessment of the accuracy of the ALS data.

Data Processing: Reduction of the ALS data proceeded without any significant problems. Laser strikes were classified into ground and non-ground points using a single algorithm across the project area. Manual checking and editing of the data classification further improved the quality of the terrain model.

Further Processing: The cartographic contours represented in this volume have been generated from thinned and smoothed ALS ground strikes.

The cartographic contours are designated “CARTOGRAPHIC CONTOURS WITHOUT BREAKLINES”. They are compiled from a rigorous smoothing and thinning of points followed by triangulation. Areas such as river-banks may not have continuous contours as vegetation canopies can prevent sufficient laser ground strikes being achieved to produce continuous contours. Contours are generated at 1m intervals.

Data Presentation: The data provided on this volume has been supplied in accordance with a specification agreed with the primary client. Subsequent users experiencing difficulties in handling the data should please contact AAMHatch to arrange a more appropriate data presentation.

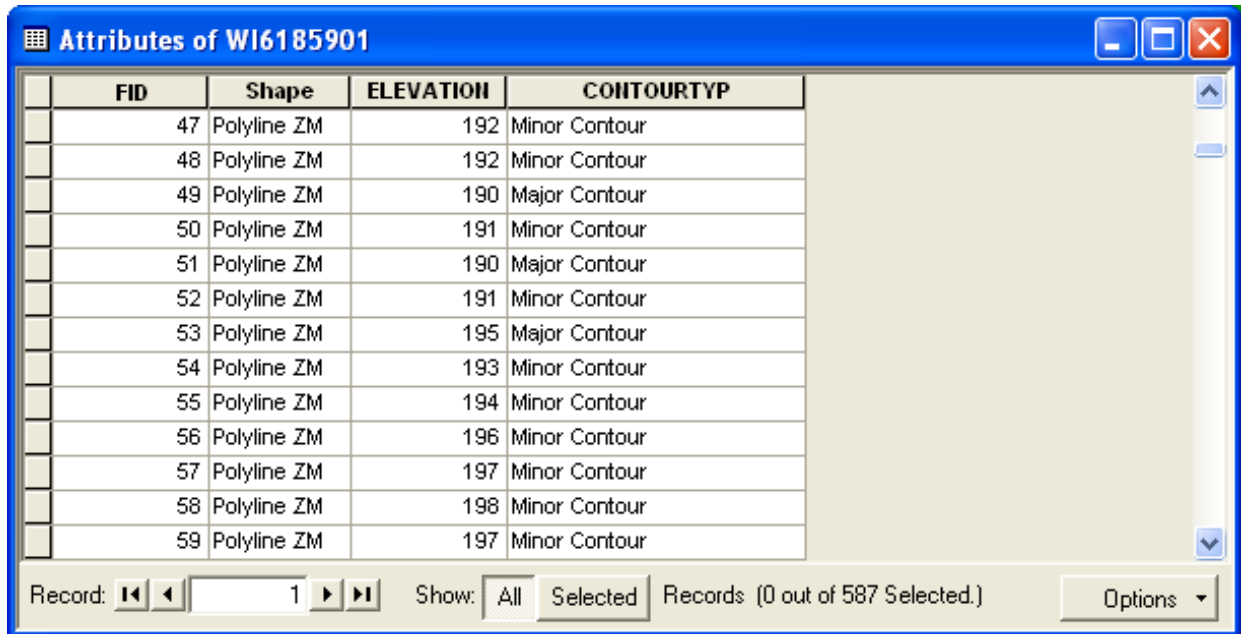
Further Issues: Laser strike penetration through to the ground is reduced in areas of thick vegetation.

LEGEND**Layername**

MINOR CONTOUR
MAJOR CONTOUR

Description

1m contour interval
5m contour interval

SAMPLE LISTING (ESRI FORMAT)


FID	Shape	ELEVATION	CONTOURTYP
47	Polyline ZM	192	Minor Contour
48	Polyline ZM	192	Minor Contour
49	Polyline ZM	190	Major Contour
50	Polyline ZM	191	Minor Contour
51	Polyline ZM	190	Major Contour
52	Polyline ZM	191	Minor Contour
53	Polyline ZM	195	Major Contour
54	Polyline ZM	193	Minor Contour
55	Polyline ZM	194	Minor Contour
56	Polyline ZM	196	Minor Contour
57	Polyline ZM	197	Minor Contour
58	Polyline ZM	198	Minor Contour
59	Polyline ZM	197	Minor Contour

Record: 1 Show: All Selected Records (0 out of 587 Selected.) Options

3. METADATA

DATA CHARACTERISTICS

Characteristic	Description
Format	ESRI Point Shapefile & DXF
Captured terrain model	2.2m average point separation
Data smoothing	Cartographic dataset smoothed to 0.4m tolerances
Data thinning	Cartographic dataset thinned to 0.3m tolerances
Contours	1m interval generated from thinned and smoothed ALS ground strikes
Laser return	Last pulse
Laser footprint size	0.6m

REFERENCE SYSTEMS

	Horizontal	Vertical
Datum	GDA94	AHD
Projection	MGA Zone 54	N/A
Geoid Model	N/A	Ausgeoid98
Reference Points	GW01 664 022.012 E 5 884 903.992 N	GW01 260.592 RL
	WA01 624 088.246 E 5 988 292.940 N	WA01 118.763 RL
	JE01 589 893.491 E 6 001 142.074 N	JE01 81.001 RL
	GPSnet Horsham 604 915.999 E 5 935 320.595 N	GPSnet Horsham 137.82 RL



This data is GDA-compliant

SOURCE DATA

	Source	Description	Ref No	Date
Laser scanning	AAMHatch	25,000 Hz	2200810	05-31.01.2005
GPS base data	AAMHatch / Geomatix	Static GPS	2200810	05-31.01.2005
Base Stn coords	AAMHatch / Geomatix	Static GPS	2200810	31.01.2005
Test points	AAMHatch / Geomatix	GPS	2200810	25.02.2005

EXPECTED ACCURACY

Project specifications and technical processes were designed to achieve accuracies as follows:

	Measured Point	Derived Point	Basis of Estimation
Vertical data		0.5m	Deductive estimate / Project design
Horizontal data	< 1.5m		System specifications ($1/2000$ flying height)
Test points		0.22m	Comparison with 574 test points

NOTES ON EXPECTED ACCURACY:

- Values shown represent standard error (68% confidence level or 1 sigma), in metres.
- “Derived points” are those interpolated from a terrain model.
- “Measured points” are those observed directly.
- Accuracy estimates for terrain modeling refer to the terrain definition on clear ground. Ground definition in vegetated terrain may contain localised areas with systematic errors or outliers which fall outside this accuracy estimate.
- Laser strikes have been classified into “ground” and “non-ground”, based upon algorithms tailored for major terrain/vegetation combinations existing in the project area. The definition of the ground may be less accurate in isolated pockets of dissimilar terrain/vegetation combinations.

LIMITATIONS OF DATA

- The definition of the ground under trees may be less accurate.
- Laser strike penetration through to the ground is reduced in areas of thick vegetation.

DATA VALIDATION

- Ground data in this volume has been compared to 574 test points obtained by field survey and assumed to be error-free. The test points were distributed in three groups across the mapping area and located on clear ground. Comparison of the test points with elevations interpolated from measured data resulted in: Standard Error (RMS): 0.22m
- Data classification has been manually checked and edited against the project orthophoto imagery.

USE OF DATA

- Intended use : Accurate terrain definition for natural resource management

4. CONDITIONS OF SUPPLY

The data in this volume has been commissioned by **WIMMERA CMA**.

The data in this volume is provided by AAMHatch Pty Limited (AAMHatch) to **WIMMERA CMA** under the client's Terms of Engagement, which require **WIMMERA CMA** to assume beneficial ownership, subject to the following conditions:

1. This file (Readme_1189502NOM.PDF) is always stored with the unaltered data contained in this volume.
2. The data is not altered in any way without the approval of AAMHatch. The data may be copied from this file to another.
3. The data is not used for purposes beyond that explicitly agreed in the description of the Services provided by AAMHatch.

Any breach of these conditions will result in the immediate termination of the license issued by AAMHatch, and **WIMMERA CMA** will indemnify AAMHatch from all resulting liabilities.

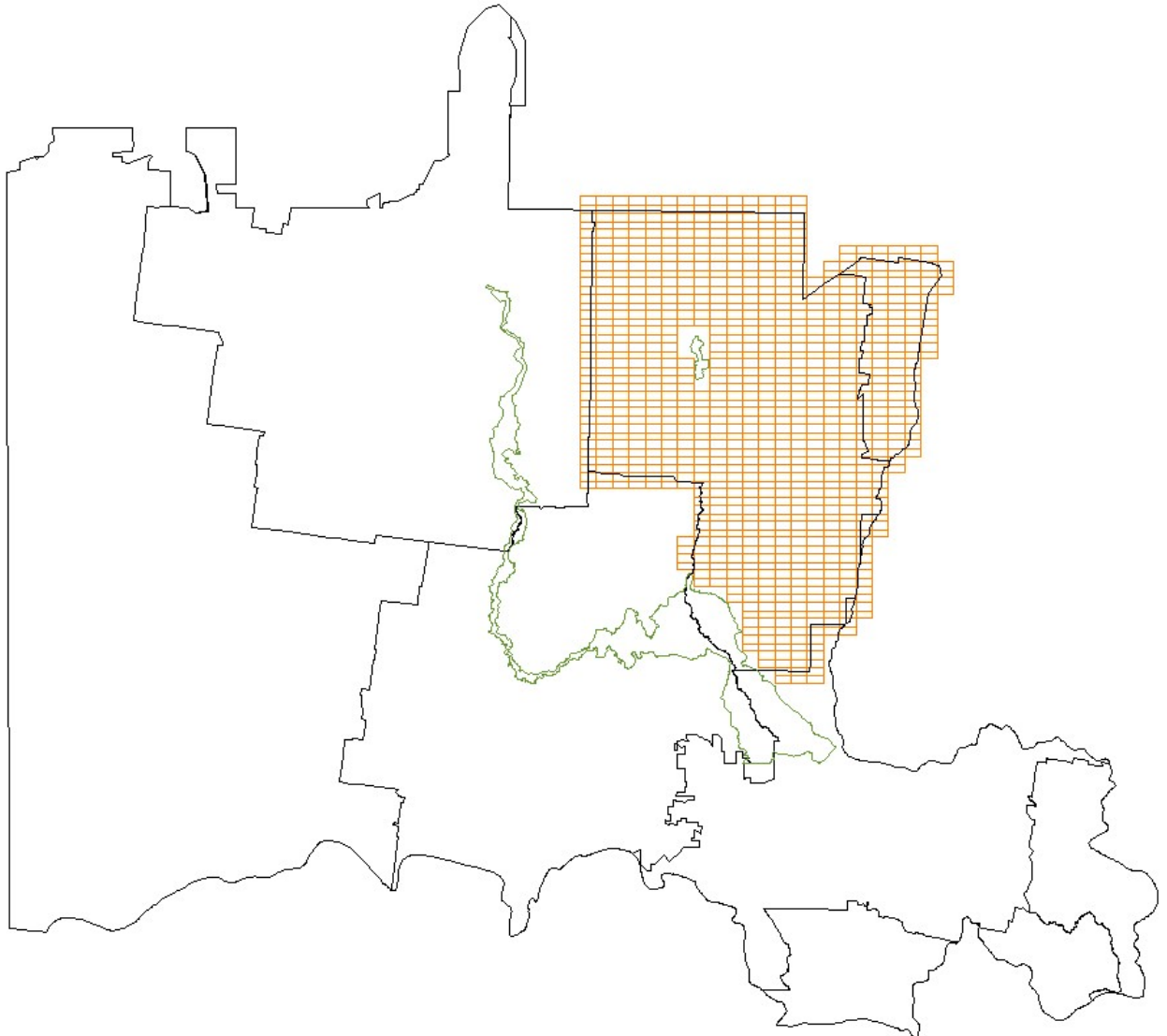
Any problems associated with the information in the data files contained in this volume should be reported to:

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5. VALIDATION PLOTS

(i) Tiles supplied in this Volume



(ii) Screen grab of typical 1m cartographic contours (steep terrain)



(ii) Screen grab of typical 1m cartographic contours (flat terrain)

