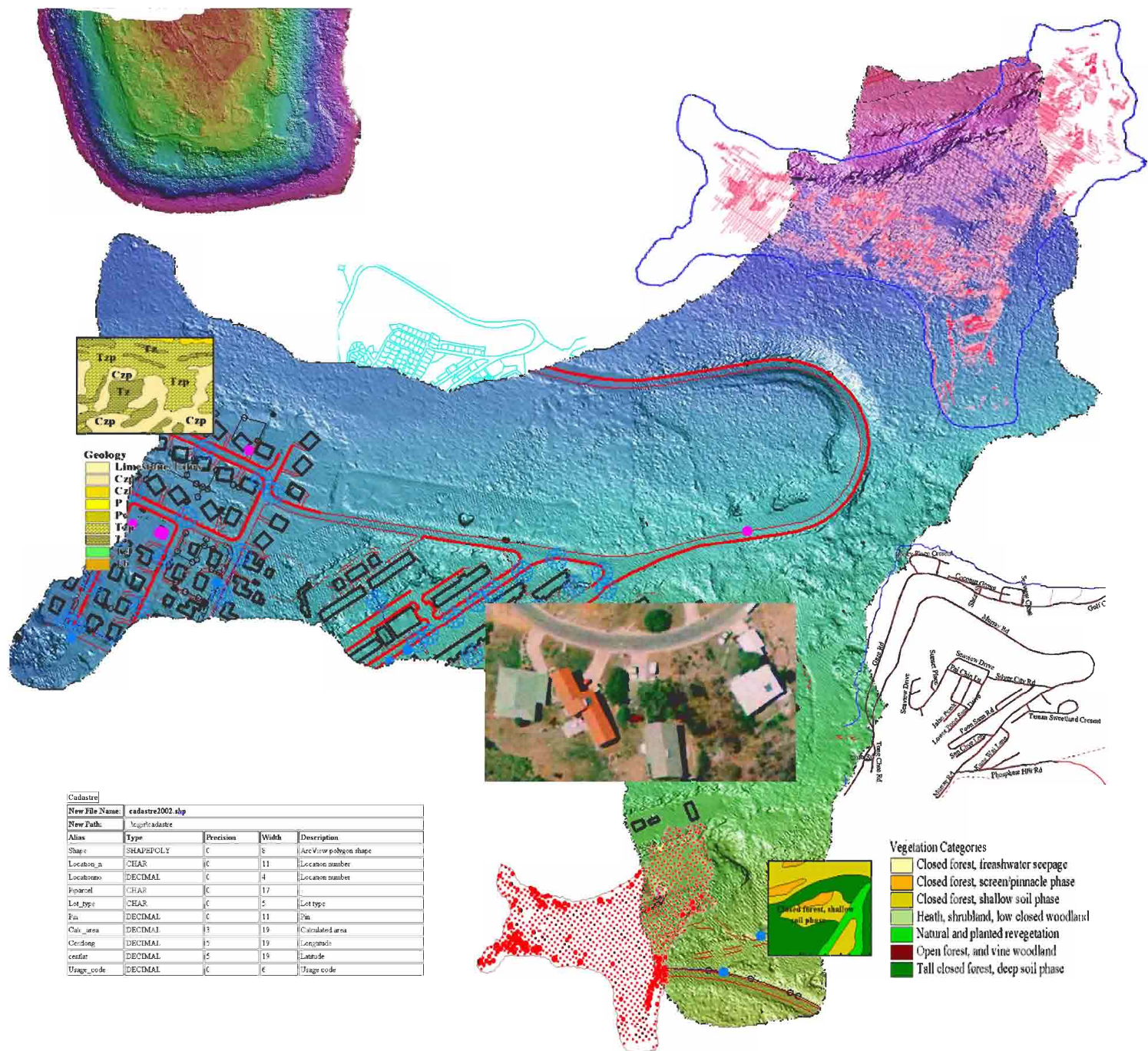


Christmas Island Geographic Information System *SYSTEM DOCUMENTATION*

December 2003 Release



Australian Government
Department of Transport
and Regional Services
Geoscience Australia

Christmas Island
Geographic Information System
System Documentation
2003 Release

**Prepared for the
Territories Office, Commonwealth Department of
Transport and Regional Services**

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Geoscience Australia
Commonwealth Department of
Industry, Tourism and Resources

2003



Australian Government

**Department of Transport
and Regional Services**

Geoscience Australia

GA Catalogue #61035

Disclaimer

The data in this GIS were assembled by the Mineral Resources and Advice Project of the Geoscience Australia (GA). In compiling the product, GA has translated and integrated data as received from many other sources. GA has undertaken initial checks as to the accuracy or completeness of these externally supplied datasets and the result of these examinations are reported throughout this documentation manual.

It should be noted that the Christmas Island GIS datasets may contain information that is not totally accurate or complete. Therefore you should not rely solely on the information in this GIS when making a commercial decision. Please read the accompanying documentation and where further information is required please contact:

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The CIGIS manuals and CD ROMs should remain with your employer if you leave your present position to work for another organisation.

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Acknowledgments

Christmas Island GIS Team

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A number of people from GA contributed to the Christmas Island GIS. Dr. William McKay provided management support and advice. For the 2003 release, Ms Jane Bryan produced the Laser DEM images, converted the 2002 shapefiles into the MGA (GDA94) projection, and provided documentation edits and updates for the 2003 version of the GIS. For the October 2002 release, Mr. Kane Orr produced the data dictionary, provided documentation edits and updates of metadata sheets, and revamped the HTML document. Mr. Martin Sholtez developed a substantial proportion of the original HTML documentation and contributed data edits and documentation for a number of June 2001 datasets. Mr. Andrew Lucas had a substantial input to the development of the 1996, 2001, and 2002 versions of the Christmas Island GIS.

Through this team effort, valuable spatial and attribute data that over time may have become lost are now widely distributed and readily accessible in one integrated system.

Christmas Island GIS Data

The Commonwealth (usually Territories Office) commissioned data capture in a variety of projects over the last fourteen years for nearly all of the data.

Geoscience Australia generated the 1997 orthophotography in 2002 from aerial photography flown by Fugro in November 1997.

Geoscience Australia also generated the Laser DEM using data obtained from an airborne laser scanning survey of Christmas Island. This survey was conducted by AAM Surveys Pty Ltd in September 2000.

BHP Engineering, Land Technologies Division generated orthophotography in 1996 from aerial photography flown by the Australian Survey Office Canberra on 16-Aug-87 to 1-Sep-87.

The Australian Land Information Group (AUSLIG) Western Region office digitised cultural and topographic themes at 1:1,000 scale for Christmas Island in the early 1990's on behalf of Territories Office.

The Western Australian Ministry of Planning was commissioned by the Commonwealth Government to carry out a planning study that assembled the *Town Planning Scheme* data, which was completed on the 24th September 1996.

The Western Australian Department of Lands Administration (DOLA) extracted the cadastre snapshot packaged on this cd-rom set from the DOLA database on 22-May-01.

Responsibility for the cadastral information passed from AUSLIG to DOLA in 1992. On-going maintenance of cadastre is undertaken by DOLA under a Memorandum of Arrangement with Territories Office.

AUSLIG, DOLA and the Australian Valuation Office (AVO) jointly developed data underpinning the March 1996 ground audit of Christmas Island through Australian Estate Management (AEM) as consultants to Territories Office.

The Australian Land Information Group (AUSLIG) Canberra office digitised cultural and topographic themes at 1:25000 scale for the Christmas Island to produce the AUSLIG 1995 1:25,000 topographic map of Christmas Island.

New in 2003

Following on from the 2002 release of the Christmas Island GIS, Geoscience Australia has added a number of new features and layers. Most significantly is the Laser DEM shiny colour drape images and Laser DEM grids of the eastern half of Christmas Island.

For the 2003 version of the CIGIS, all layers have been converted to the Map Grid of Australia (MGA) coordinate system using the GDA94 datum. For the purposes of the CIGIS, this coordinate system is equivalent to the UTM projection using the WGS84 datum, and means that the CIGIS now uses the coordinate system most commonly used in Australia, and is compatible with commonly used GPS.

A plan of Christmas Island, with the entire Island classified as either mildly, moderately, or severely constrained to urbanisation or unconstrained to urbanisation is also present on the 2003 version of the CIGIS. See the “What’s new in 2003” section on cd-rom #1 for more detail about any of the above.

Christmas Island

Christmas Island is located in the Indian Ocean, at latitude 10° 30' South and longitude 105° 40' East. It is approximately 380 kilometres south of Java Head at the southern entrance to the Sunda Strait, approximately 1,350 kms from Singapore and approximately 2,650 kms from Perth. The nearest point of the Australian mainland is Northwest Cape which lies approximately 1,565 kms to the south east. The island has an area of 135 square kilometres.



Geography and Climate

The Island is the summit of a submarine mountain. It rises steeply to a central plateau dominated by stands of rainforest. The plateau reaches heights of up to 361 metres and consists mainly of limestone with layers of volcanic rock. The Island's 80 kilometre coastline is an almost continuous sea cliff, ranging in height to 20 metres. In a few places (about 13) breaks in the cliff give way to shallow bays and small sand and coral beaches. The largest of these bays forms the Island's port at Flying Fish Cove. The Island is surrounded by an encircling coral reef. There is virtually no coastal shelf and the sea plummets to a depth of about 5000 metres within 200 metres of the shore.

The climate is tropical and temperatures range from 21°C to 32°C. Humidity is around 80-90% and south-east trade winds provide pleasant weather for most of the year. During the wet season, between November and April it is common for some storm activity to occur, producing a swell in seas around the island. The average rainfall is 2,000 mm per annum.

Social Aspects and Government

The 2001 Census indicated that there were 1408 people ordinarily resident in Christmas Island. Results from the 1996 census indicated that the population of the island has an ethnic composition of approximately 70% Chinese, 20% European and 10% Malay.

Local Government legislation based on that of Western Australia was introduced in 1992. The Shire Council is comprised of nine members and has similar responsibilities to a local government in mainland Australia. For the purposes of enrolment and voting in federal elections, Christmas Island is an electoral district of the Commonwealth Division of the Northern Territory. The Commonwealth is currently responsible for delivering Commonwealth, State and some Local Government type services to Christmas Island. State Government type services are provided through Service Delivery Arrangements (SDAs) between the Commonwealth and WA State Government agencies, through informal arrangements with WA agencies, directly by the Christmas Island Administration and through agency arrangements with other Government bodies and the Shire Council. The Australian Federal Police provide policing and regulatory services, such as immigration and customs.

Christmas Island
Geographic Information System

SYSTEM DOCUMENTATION

December 2003 Release



Chapter 1.

Introduction



Australian Government
Department of Transport
and Regional Services
Geoscience Australia

Chapter

1

Introduction

Background

This documentation accompanies the delivery of the Christmas Island Geographic Information System (CI GIS) 2003 release to the Territories Office, Department of Territories and Regional Services (DoTaRS) and also to CI GIS stakeholders under a support and supply arrangement with DoTaRS.

The CI GIS was first developed by the Australian Geological Survey Organisation (AGSO) for DoTRS in 1996. Subsequently there were ad hoc updates through follow-on CI GIS data development projects and the provision of three on-Island-training courses to PRL, CIA, PANCI and CI Shire during 1998. Fostering and facilitating data sharing between CIGIS stakeholders and the supply of CIGIS cd-roms and manuals is now on a more formal basis through a Memorandum of Understanding (MoU) with Territories Office dated 23rd May 2000. In November 2001 AGSO merged with AUSLIG to form Geoscience Australia.

General Features

The Christmas Island Geographic Information System is a collection of spatial data, viewing and analysis tools dealing with the Christmas Island. The data include orthophotography, topographic, cultural and environmental features both of the islands and the ocean immediately surrounding them.

The data are presented in both ESRI ArcView and ArcExplorer projects. The ArcView projects require a licensed copy of ArcView. ArcExplorer is a free viewer and is distributed on the Christmas Island GIS cd-rom No.1. Data are stored as ESRI shapefiles and therefore readily useable with most modern GIS applications.

Data were received from a variety of custodians and in many cases had no accompanying documentation. Lack of documentation made it difficult for AGSO and now GA to interpret, translate and document the data. GA has attempted to include metadata for many of the datasets to the ANZLIC core metadata standards, but the value of this is limited by the poor initial documentation.

In some cases further work could be done by GA to improve the value of the data. As data is improved or new data is developed and agreed as available it will be distributed to stakeholders on an annual basis under the scope of the current MoU.

Getting Started

CD-ROM # 1 automatically runs a web (HTML) document containing details and tools for getting started with the Christmas Island GIS. A hard copy of most of the HTML documentation is included in this guide as Appendices 1 and 2.

Christmas Island
Geographic Information System

SYSTEM DOCUMENTATION

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Chapter 2.

Thematic Layers
and Data



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Chapter

2

Thematic Layers and Data

Viewers

The Christmas Island GIS cd-rom # 1 contains ESRI's free data viewer ArcExplorer 2.0. This enables viewing of all the vector data and the TIFF versions of the raster data.

If editing or more complex GIS analysis is required, ArcView GIS is recommended. GA has gone to considerable effort to correct errors in the source data that might have obstructed use by GIS software packages. Use of the data in ArcInfo or most other available GIS software packages should be straightforward.

Data Formats

The Christmas Island GIS uses ESRI shapefiles as its major vector format. This enables editing within ESRI ArcView GIS rather than requiring a more expensive software package. It also allows preservation of 3-D data components. The existence of a 3-D component, which enables viewing in a 3-D viewer such as ArcView's 3-D Analyst, was preserved wherever possible to maximise data value. In cases where this may limit shapefile portability to other software packages, the 3-D component can be removed by saving as a 2-D shapefile from ArcView.

The primary format for raster data is uncompressed Tagged Image File Format (TIFF) full colour. A secondary image format is the Enhanced Compressed Wavelet (ECW) (a compressed file format distributed with ERMapper and viewable in ArcView after the installation of a plugin). This format significantly reduces file size and loads to view quickly in ArcView. GA has observed some spatial accuracy variability at higher resolutions with some ECW format images.

Source files are in a variety of formats, as received from the data custodian. Source formats include Microstation Design Files (DGN), ESRI Shapefiles, ESRI Coverages, ESRI ArcInfo Export (E00), MapInfo (TAB, MID/MIF) as well as various tabular and database formats.

Projection

Data within the CIGIS is in the Map Grid of Australia (MGA) projection using the GDA94 datum. This projection is equivalent to the UTM WGS 84 projection. Previous versions of the CIGIS supplied data in Christmas Island Grid 1985 (CIG85) projection. This is the most commonly used map projection for the island.

Definition of Christmas Island Grid 1985 (CIG85)

As defined on the AUSLIG 1996 dyeline plans;

CIG85 is a plane rectangular grid coordinate system with True Origin coinciding with a point at UTM GRID ZONE 48 coordinates 570 000mE and 8 840 000mN (WGS72). At that point the false origin is 20 000mW and 60 000mS of True origin.

CIG85 is thus merely a shift on UTM (WGS 72), a 550 000m shift for eastings, and an 8780000m shift for northings.

The current CIGIS uses the MGA (GDA94) projection and is therefore compatible with the most common map system used Australia wide. The MGA (GDA94) projection is considered to be equivalent to the Universal Transverse Mercator (UTM) projection using the WGS84 datum. The CIGIS is therefore also compatible with standard GPS coordinates which utilise the UTM WGS84 system.

Conversion to MGA (GDA94)

Datasets from previous versions of the CIGIS were in CIG85 projection, and an x y shift was used for conversion to MGA in this particular instance. It was assumed, given the smallness of the island, that the shape of the earth would have minimal effect and that an x y shift would therefore suffice. This assumption was confirmed by subsequent tests.

Pre-existing datasets in the CIGIS were converted into MGA (GDA94) by reversing the easting and northing shift that defines the CIG85. This consisted of an easting shift of 550000mE and a northing shift of 8780000mN, thereby producing data in UTM (WGS 72) projection. A further shift was applied to then project the data from UTM (WGS 72) to MGA GDA94 (WGS 84 equivalent). The magnitude of this shift was determined by overlaying several newly projected UTM (WGS 72) surfaces onto AAM LaserDEM images which had been recorded in MGA (GDA94) units. The UTM (WGS 72) surfaces were then shifted to align with the AAM data.

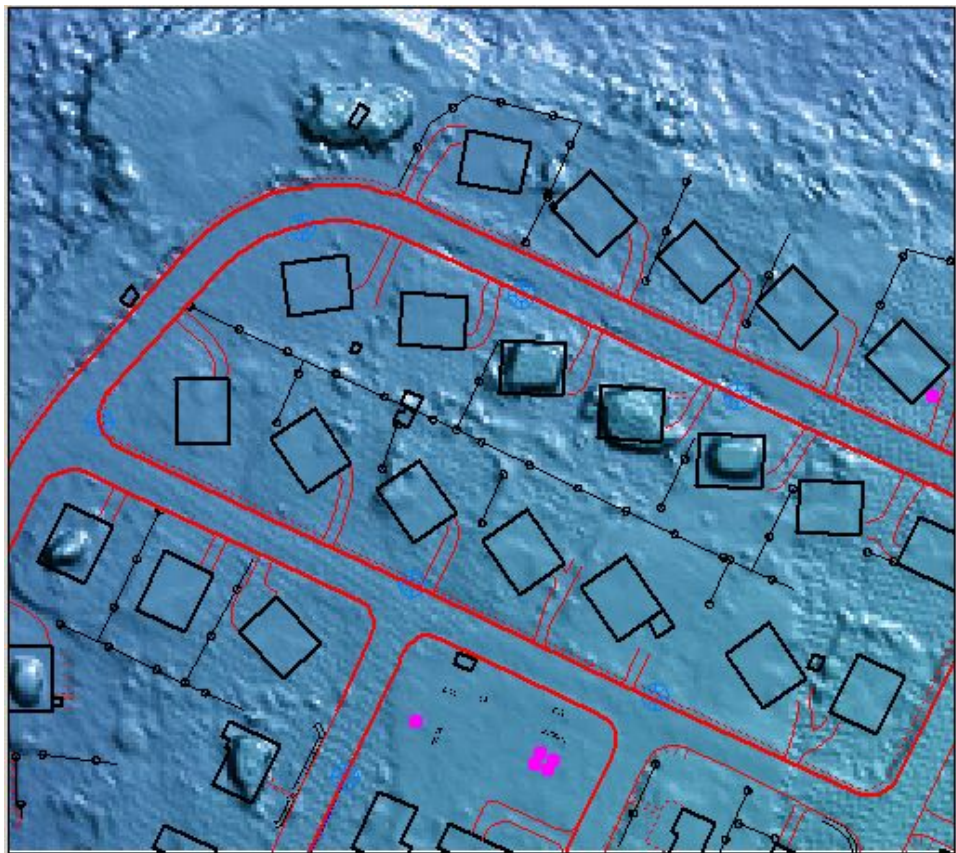


Figure 1. Shows the roads and buildings shapefiles which have been shifted to align with the background Laser DEM image. A high level of fit between the two can be seen.

This shift consisted of adding 15m to the eastings, and 1m to the northings. Thus the shift used to convert from CIG85 to MGA (GDA94) was

Eastings: + 550 015mE

Northings: + 8780001mN

A shift of similar magnitude is used by Gutteridge Haskins & Davey (GHD) Pty Ltd in their process of projecting from CIG85 to GDA94. The GHD conversion can be seen by opening the file 'cigis\documents\GHD_prj_conv.jpg'.

Accuracy

The accuracy of this shift was assessed by comparing the eastings and northings generated using the shift with GPS coordinates of points obtained on site in the '85contrl.shp' shapefile. This shapefile consists of orthophotography control points and is located in the

'cigis\orthophoto\orth1987' directory. The comparison indicated that the difference between the GPS UTM (WGS84) coordinates and the shifted MGA (GDA94) coordinates were sub-metre for the north east portion of the island. Greater variability occurred in the south of the island. The eastings in the south of the island differed between 1 and 5m, whilst the northings differed from 3 to 7m. Differences also varied in the western half of the island, with eastings differing between 0.3 to 8m, and northings differing between 0.3 and 11m. The high level of fit between the different coordinate sets in the north east portion of the island is probably due to the fact that it was shapefiles zoomed over the north east that were fitted to MGA Laser DEM images and used to generate the x y shift.

AAM advises that the positional accuracy of the airborne laser scanning is within 0.4m, indicating a high level of accuracy for the Laser DEM images (airborne laser scanning accuracy can be seen in the 'als_horiz_accur.txt' document located in the 'cigis\documents\als_horiz_accur.txt' directory. Thus the positional accuracy of the CIGIS is good for the north eastern part of the island, and mimics the accuracy of the AAM LaserDEM images, but variable on the rest of the island.

Laser Digital Elevation Model

A Digital Elevation Model was constructed for the eastern half of Christmas Island from ground heights obtained from an airborne laser scanning survey flown September 2000. Shiny colour drape images of the ground surface were then produced from this DEM.

2000 Airborne Laser Scanning

In 2000 AAM surveys was commissioned by the Commonwealth to fly an airborne laser scanning survey of Christmas Island. Here is a description of the technology from an article on the web by AAM:

"An Airborne Laser Scanning system consists of three components:

- *A Global Positioning System (GPS) to position the moving aircraft in space.*
- *An Inertial Measurement Unit (IMU) to record the aircraft attitude and acceleration.*
- *A laser light source which directs a stream of discrete laser points towards the ground at approximately ninety degrees to the line of flight. The time taken for each of these discrete points to return to the aircraft is accurately recorded.*
- *In addition, a ground based GPS unit is required to be operating within 20km to 50 km of the survey area, depending on survey accuracy required. The coordinates of this base must be known. Data from the station is used to compute a differential GPS solution for the aircraft.*

The system components are shown diagrammatically below.

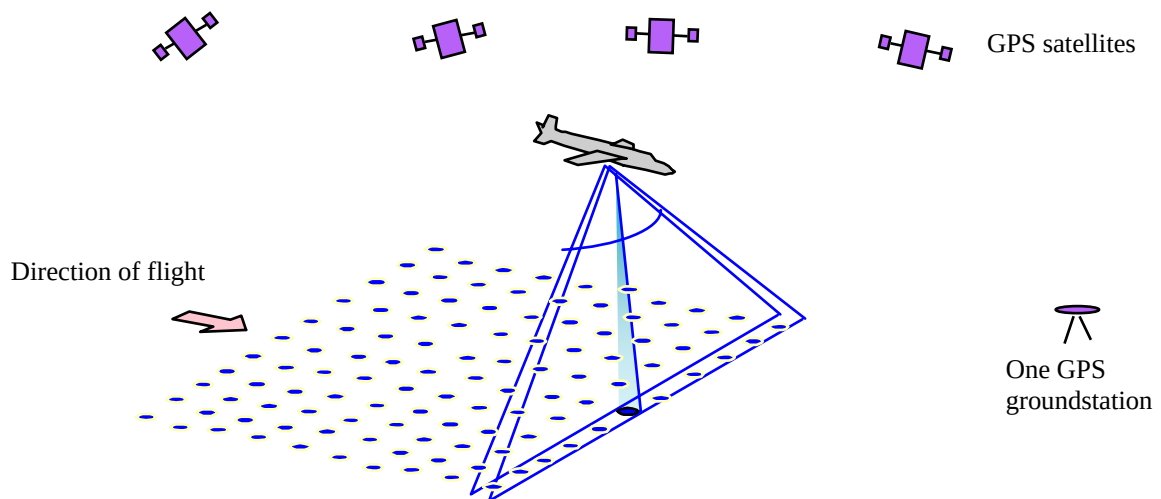
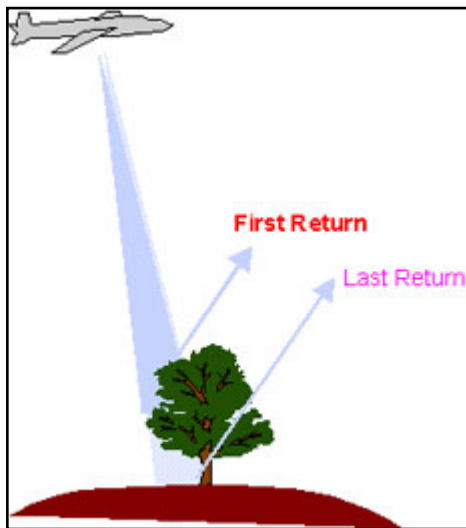


Figure 2. Airborne Laser Scanning system components.

Depending on the ALS manufacturer at least two recordings of each of the laser points emitted are stored by the system. These include the first return received and the last return received. The first return may be from the top of a tree while the last may represent the ground beneath the tree. Coordinates are computed for both the first and last returns.



First Return: Measures the distance to the first object encountered ... in this case, the tree foliage.

Last Return: Measures the distance to the last object ... in this case, the ground.

By acquiring first and last return data simultaneously, it is possible to measure both the tree-heights and the topography of the ground beneath in a single pass.

Information from the three ALS components is combined with ground base station GPS data to produce XYZ co-ordinates of the reflected points. These are then separated automatically into points reflected from the ground and those reflected from above ground features."

Figure 3. First return (from a tree) and last return (from the ground) that would go back to the plane.

Processing undertaken by Geoscience Australia

AAM surveys divided the eastern part of the island into 36 2km x 2km grid tile squares. Geoscience Australia processed the set of last returns (mostly ground heights), and the GPS location in MGA (GDA94) units of each height, for each of the 36 tiles. Geoscience Australia converted each height dataset into a text file and imported each file into Microsoft Access. This height dataset was then exported in dbf format, and imported into Arcview. The databases were added as event themes into Arcview and converted to shapefiles corresponding to each of the 36 2km x 2km tiles.

Previous versions of CIGIS had produced DEM tiles based on a different tile system. The 36 shapefiles were adjusted to align with this previous tile system. This was done by merging shapefiles adjacent in the north-south direction and clipping them according to the extent of the previously used tile. In order to minimize areas of ocean or no data, shapefiles containing less than 30% land within the new 2km x 2km tile were merged with adjacent shapefiles, and then clipped to remove excess areas of ocean or no data. As a result, coastal shapefiles, and inland tiles located at the extent of the airborne laser scanner flight path deviate from the standard 2km x 2km tile size. The end result was 27 shapefiles, 17 of which were 2km x 2km.

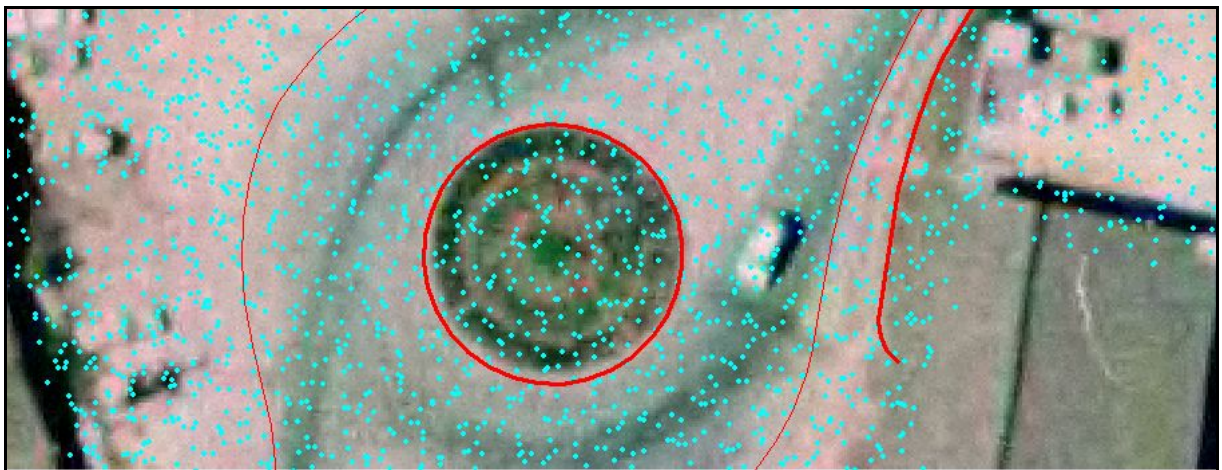


Figure 4. Points from a laser last return shapefile - typical density. At the roundabout.

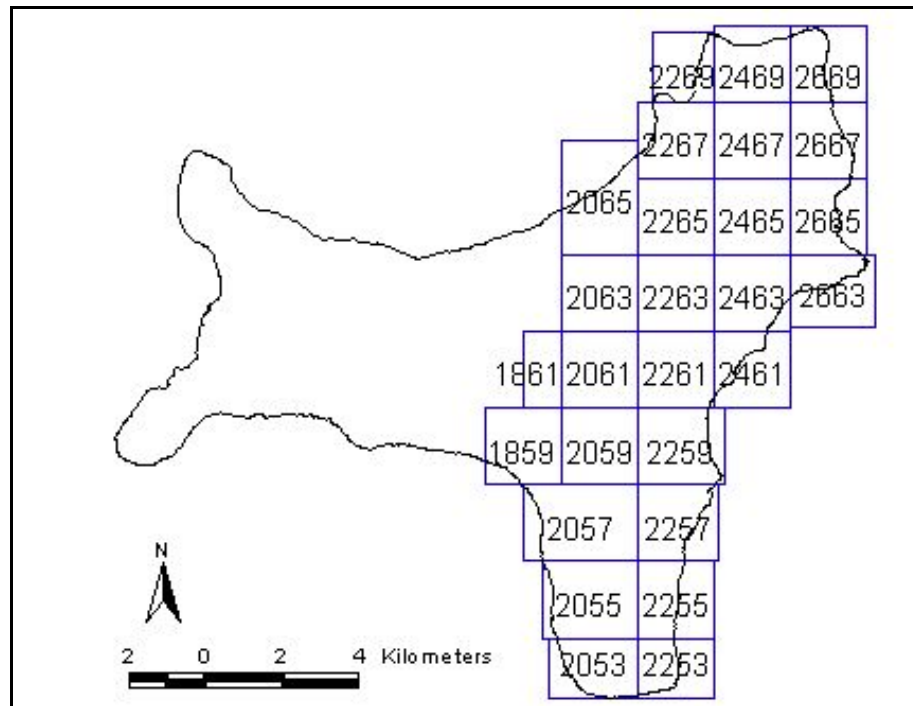


Figure 5. Laser DEM tileplan of the eastern half of Christmas Island flown 11-16 September 2000.

These shapefiles are stored in the directory 'cigis\LaserDEM\als_height'. For the purpose of providing a straightforward answer, our interpretation of the accuracy statements provided by AAM is that the heights and the XY locations are nearly always within half a metre (see files "cigis\documents\aam_laserdem_readme.pdf" and "cigis\documents\als_horiz_accur.txt" respectively).

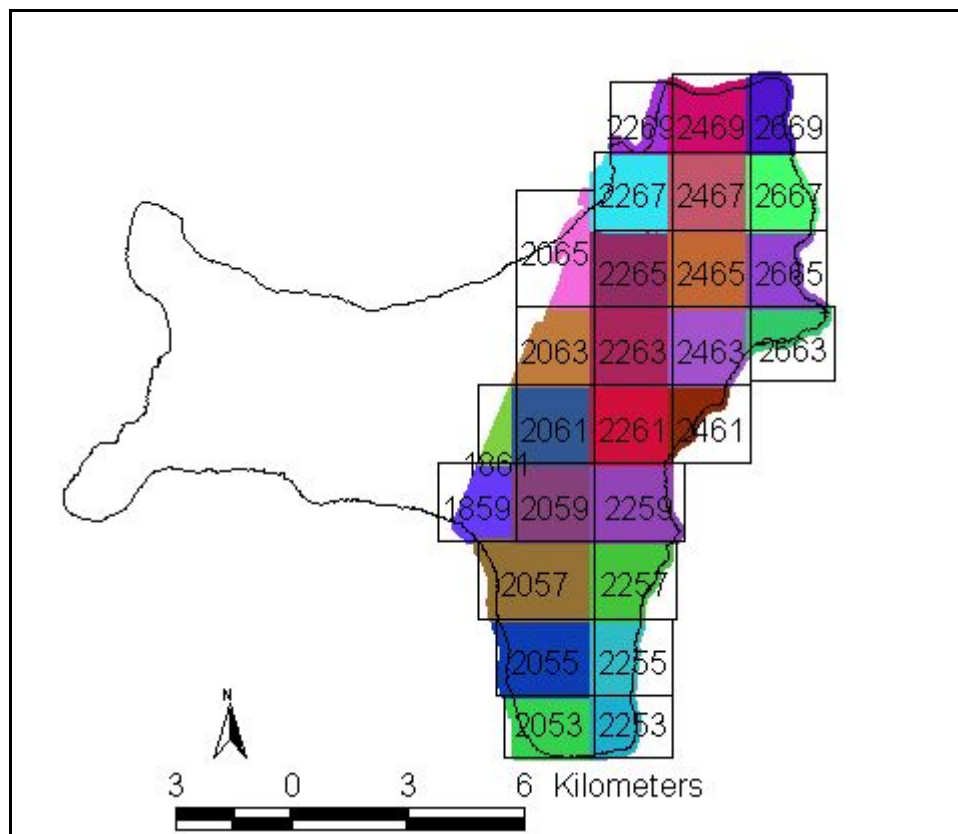


Figure 6. Shapefiles containing locations in MGA (GDA94) of heights in metres of the ground surface of the eastern half of Christmas Island.

2000 LaserDEM Grids

A DEM grid tile was interpolated from each of these shapefiles using the inverse distance weighted (IDW) method of grid interpolation. Seven nearest neighbours, and a power of three were used to interpolate the grid tiles. This combination was chosen because trials conducted by GA found that it minimized noise due to overlap between adjacent laser scanner flight paths and maximised detail in the images produced from the LaserDEM grids.

The output grid cell size was set to one meter. Inspection of the source data shapefiles indicates the original last return data density averages to better than a 4 X 4 meter cell size. For example; tile 2261 has 471,251 last (mostly ground) laser returns and over the whole of the 2 X 2 Km tile this gives an average of one ground laser return every eight square meters (less than a 3 x 3 meter cell size). Similarly, tile 2263 has 285,622 data points averaging one data point every fourteen square meters which is slightly better than a 4 x 4 meter cell size on average. Laser returns are distributed fairly randomly.

Buildings are often not included in the last return data - the laser reflections from buildings are mostly filtered into the first return data files (not processed by Geoscience Australia). By overlaying the original laser point data stored in the shapefiles, an opinion can be formed for the particular location in question about the certainty of the values read from the grid. The author has interpreted the metadata from the data provider (AAM Surveys) as indicating a vertical accuracy for the source data points of nearly always better than half a meter (see file AAM_Survey_readme.doc). The AAM metadata section reports that comparisons with 105 test points gave an accuracy of within 0.23 meters at the 68% confidence level.

Here are excerpts of some explanations kindly provided by David Jonas, AAM Surveys:

"The laser light used is very close to the visible spectrum, so in deciding whether the feature will be measured or not, consider the analogy of a torch. If you were in the aircraft shining a 0.2m diameter torch beam onto the surface, everything that you "see" illuminated by the torch beam, will be measured by the ALS. A building will definitely reflect the beam, so will be measured very well. The very top wispy parts of a tree may not reflect much of the torch beam, so that may not be measured. A bitumen road is both black and has a dispersive surface, so reflections from the road can be less than from dirt tracks.

If you are seeing gaps in the ALS data where buildings should be, it is because you are looking at a file comprising those laser strikes classified as "ground". Laser points did hit the building and were duly recorded, but subsequent data processing recognised these as being "non-ground" features and therefore removed from the terrain definition. Similarly, in areas of dense vegetation, the point density of "ground" strikes will be less, as some of the laser beams would have hit the canopy and not penetrated through to the ground. In this case, the density of laser points classified as "ground" is an indication of the density of the tree canopy.

In areas of dense vegetation or radical "moonscape", the software may have become confused when classifying the data into "ground" and "non-ground" laser strikes. So in such terrain shapes, it is unwise to describe the terrain model as accurate to 0.23m, even though the individual points are accurate to that level."

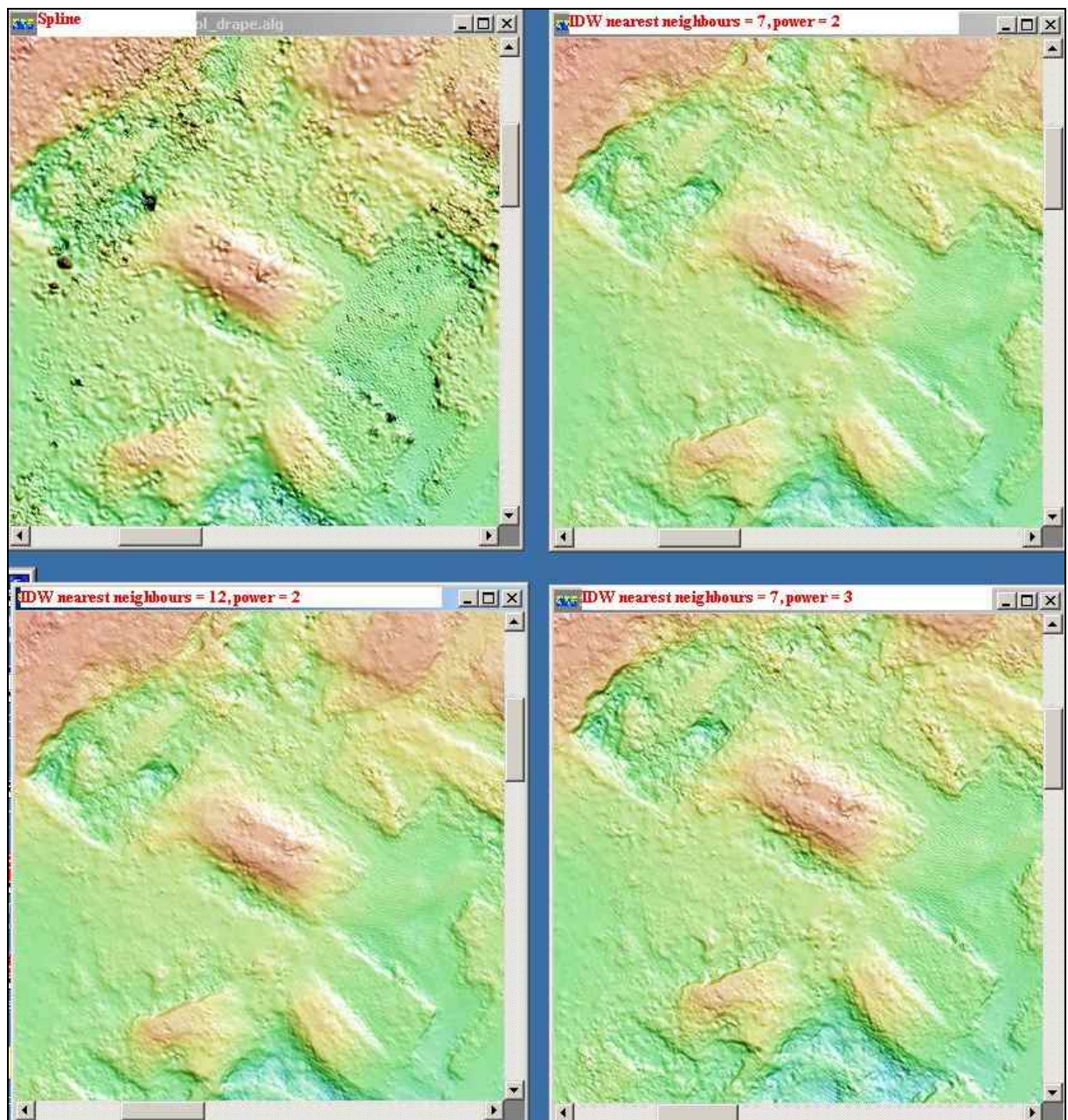


Figure 7: Interpolation methods showing the most noise due to flight path overlap using the spline method. Maximum detail with minimal flight path noise was produced using the IDW(power = 3, nearest neighbours=7)

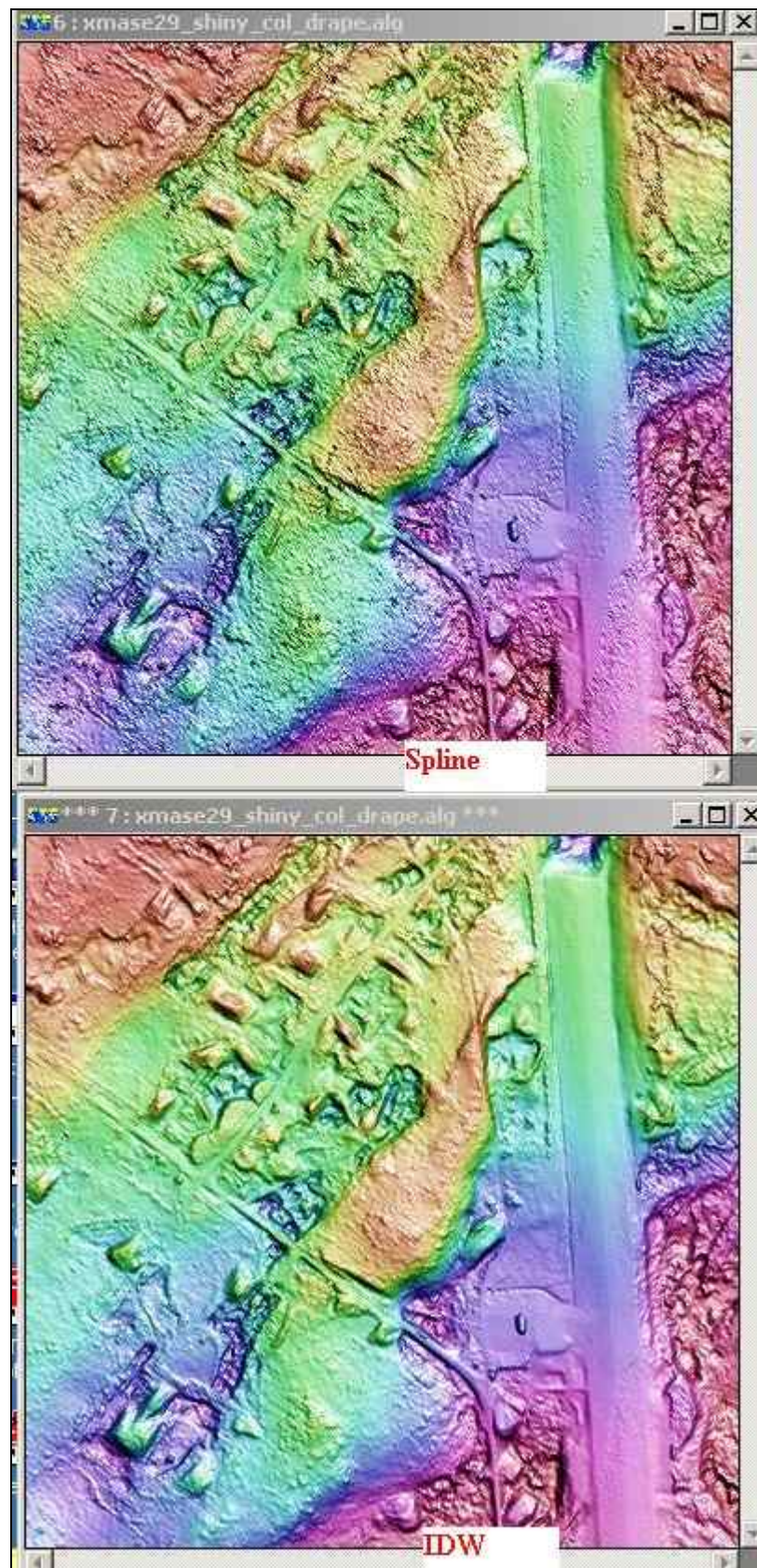


Figure 8: Image noise due to flight path overlap present when the spline interpolation method is used, and greatly reduced when the IDW method is used.

The spline interpolation method also produced frequent data spikes in the image. One further advantage of using the IDW grid interpolation method is these data spikes were absent.

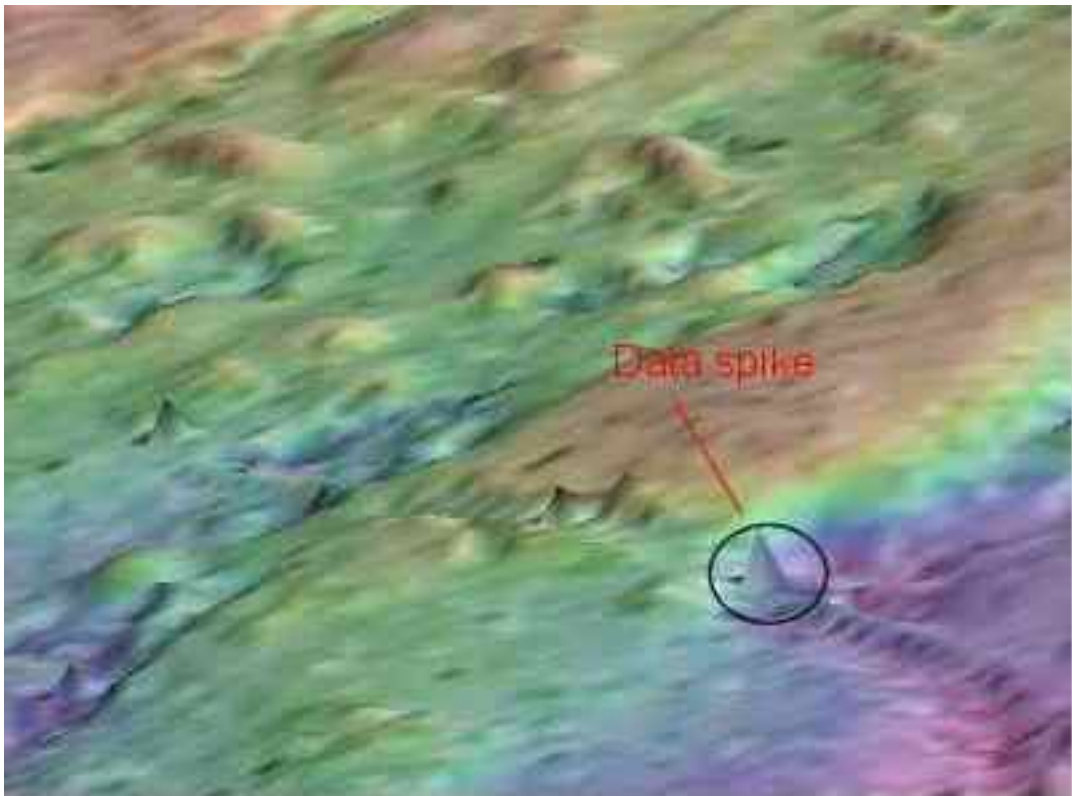


Figure 9: Shows data spikes present in the image when the spline interpolation method is used. These spikes are not present when the IDW method is used.

The Laser DEM grids produced from the grid interpolation process are stored on cd-rom#3 in the directory 'cigis\LaserDEM\LaserDEM_grids'.

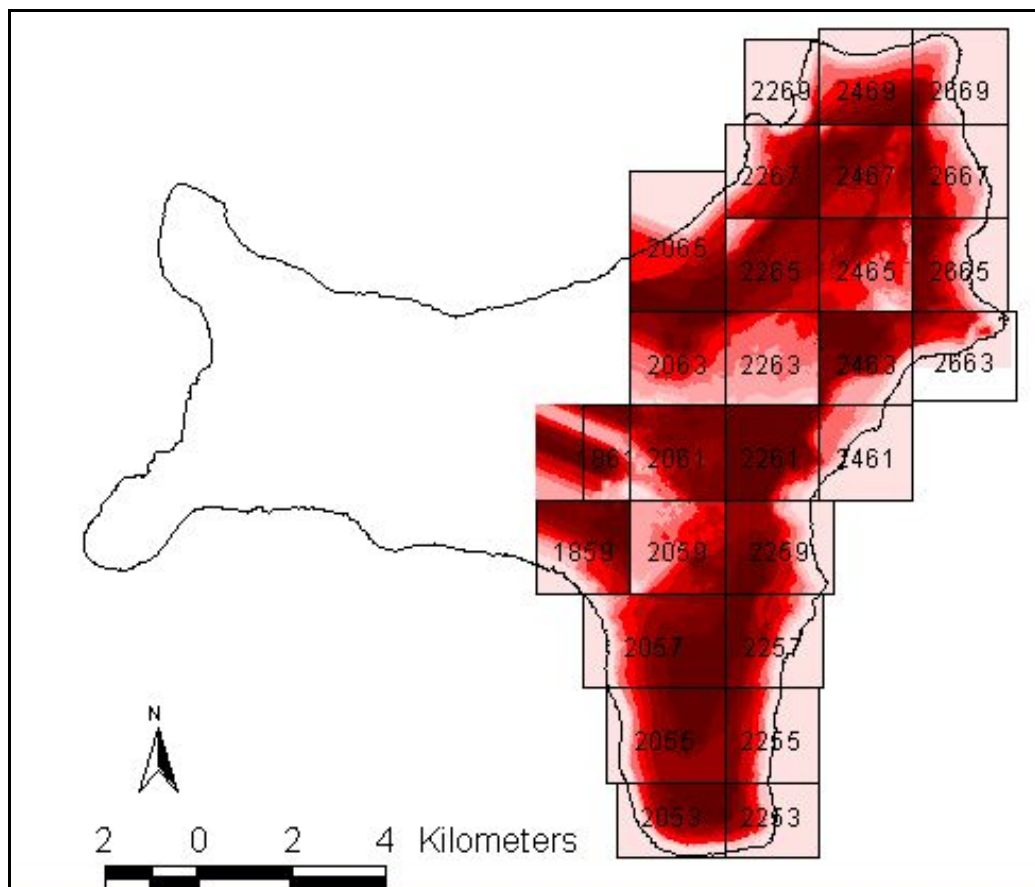


Figure 10: Laser DEM grids in the CIGIS GDA94

The laserDEM grids are stored in a zip file. When extracting grids from this file, the relevant grid file as well as the entire 'info' directory must be unzipped for the grid file to be fully operational. Using the grids, height values can be inspected and contours can be generated however this requires additional software (eg ArcView Spatial Analyst).

AAM Surveys provided the following metadata with the airborne laser scanning data: -

DATA CHARACTERISTICS

Characteristic	Description
Format	ascii xyz
Size	18,492,000 ground and 29,123,000 non-ground points (approx)
Terrain model	1.4m estimated point density, separated into ground & non-ground
Classification	Single classification applied to whole site

REFERENCE SYSTEMS

	Horizontal	Vertical
Datum	GDA94	CIHD
Projection	MGA Zone 48	N/A
Geoid Model	N/A	EGM96
Reference Point	Christmas 13	Christmas 13
	575492.624 E	256.959 Ellipsoidal Ht
	8844717.025 N	260.194 Orthometric Ht
Height Redatuming		Heights corrected with EGM96 were subsequently redatumed by 0.32m to agree with supplied test points

SOURCE DATA

	Source	Description	Ref No	Date
Primary control	DOLA	SSM Report	3578697	05.05.2000
Laser Scanning	AAM Geodan	10,000 Hz	325087	11-16.09.00
Test points	GHD Surveys			

ACCURACY

	Measured Point	Derived Point	Basis of Estimation
Vertical data		0.23	
Test points	unknown		Comparison with 105 test points

ACCURACY NOTES:

- 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.
- Standard errors shown above are derived from the differences between data supplied in this volume and test points. No allowance has been made for errors in the test points.

USE OF DATA

- Intended use : Planning, Conceptual Design
- Intended scale of use : 1:500

LIMITATIONS OF DATA

- The definition of the ground under trees may be less accurate.
- This data has not been field tested for completeness.

LaserDEM Shiny Colour Drape Images

A wet look shiny colour drape algorithm was applied to each DEM tile using ERmapper® and the results saved as 8 bit (256 colour) and 24 bit (16 million colour) Tagged Image File Format (TIFF). The 8 bit TIFFs are stored in the cigis\LaserDEM\TIFF directory, and the 24 bit TIFFs are stored in the cigis\LaserDEM\TIFF_24 directory. Each DEM tile was also saved as an Enhanced Compressed Wavelet (ecw) image. These ecws are stored in the cigis\LaserDEM\ecw directory.

The colour range for each individual tile has been optimized to give maximum information. A consequence of this is that colours may not match at adjoining edges. Each tile has a 1 metre pixel size. Most inland tiles and several coastal tiles have a 2km x 2km size. The inland tiles located at edge of the laser scanner flight path and most coastal tiles deviate from the 2km x 2km standard tile because adjacent shapefiles were merged to minimize areas of no data and ocean.

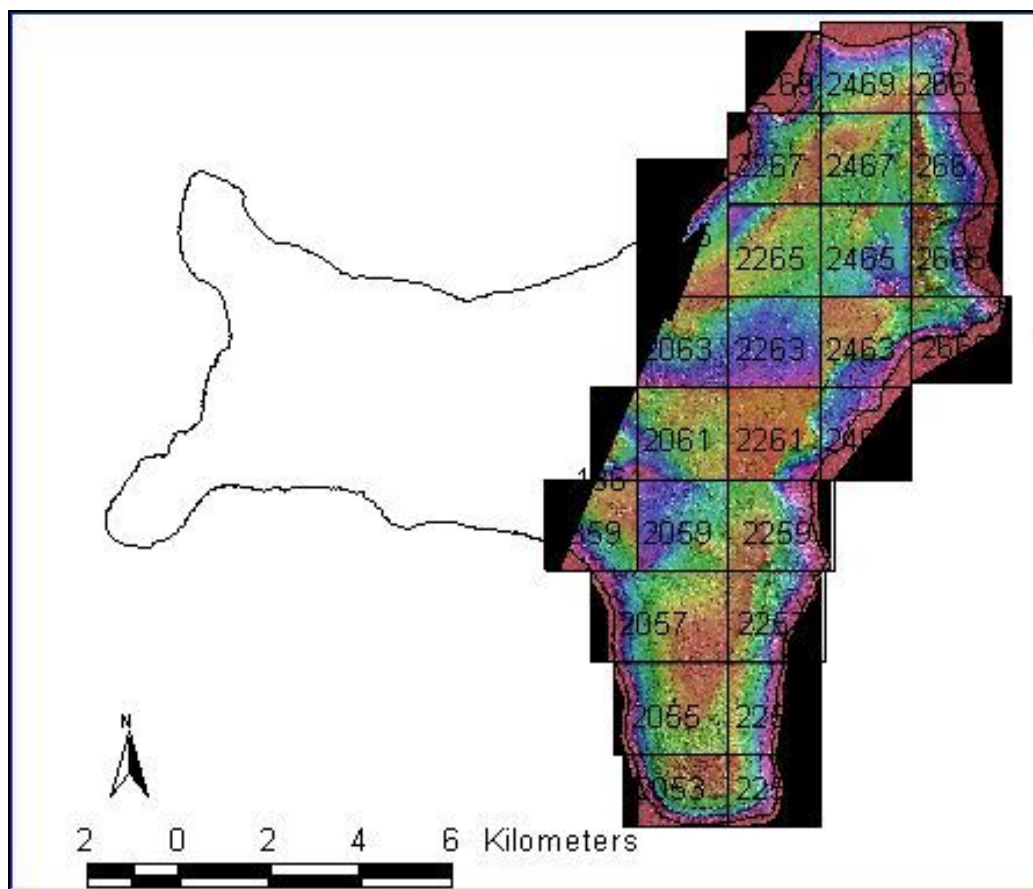


Figure 11: Laser DEM shiny colour drape images

Although the grid interpolation method minimised the amount of noise due to flight path overlap in the image, some noise still remains. Image noise occurs in varying degrees across all of the shiny colour drape images.

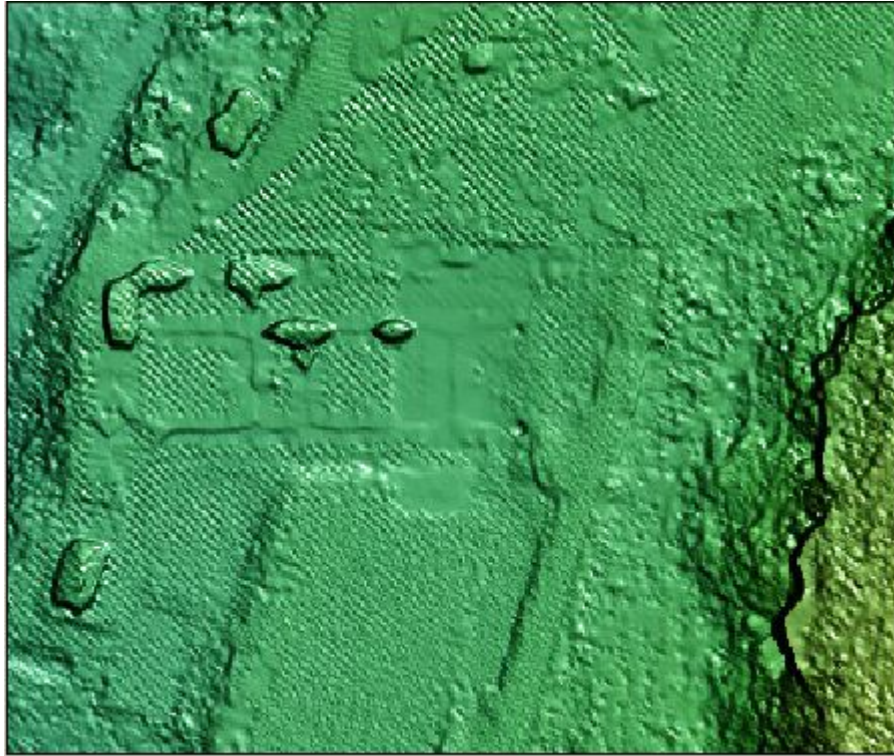


Figure 12. Shiny colour drape Laser DEM image showing the regular check pattern associated with overlapping edges of the airborne laser scanner flight paths.

Laser DEM features

The advantage of the new Laser DEM over previous DEMs is its ability to penetrate vegetation cover. This means that topographic features overgrown with vegetation are apparent on the Laser DEM images, where in previous versions of CIGIS DEMs they were not. The 1987 DEM present in earlier versions of the CIGIS included tree heights as part of the elevation of the land surface. The Laser DEM does not include tree heights, and is therefore a more accurate representation of the land surface of the eastern half of Christmas Island.

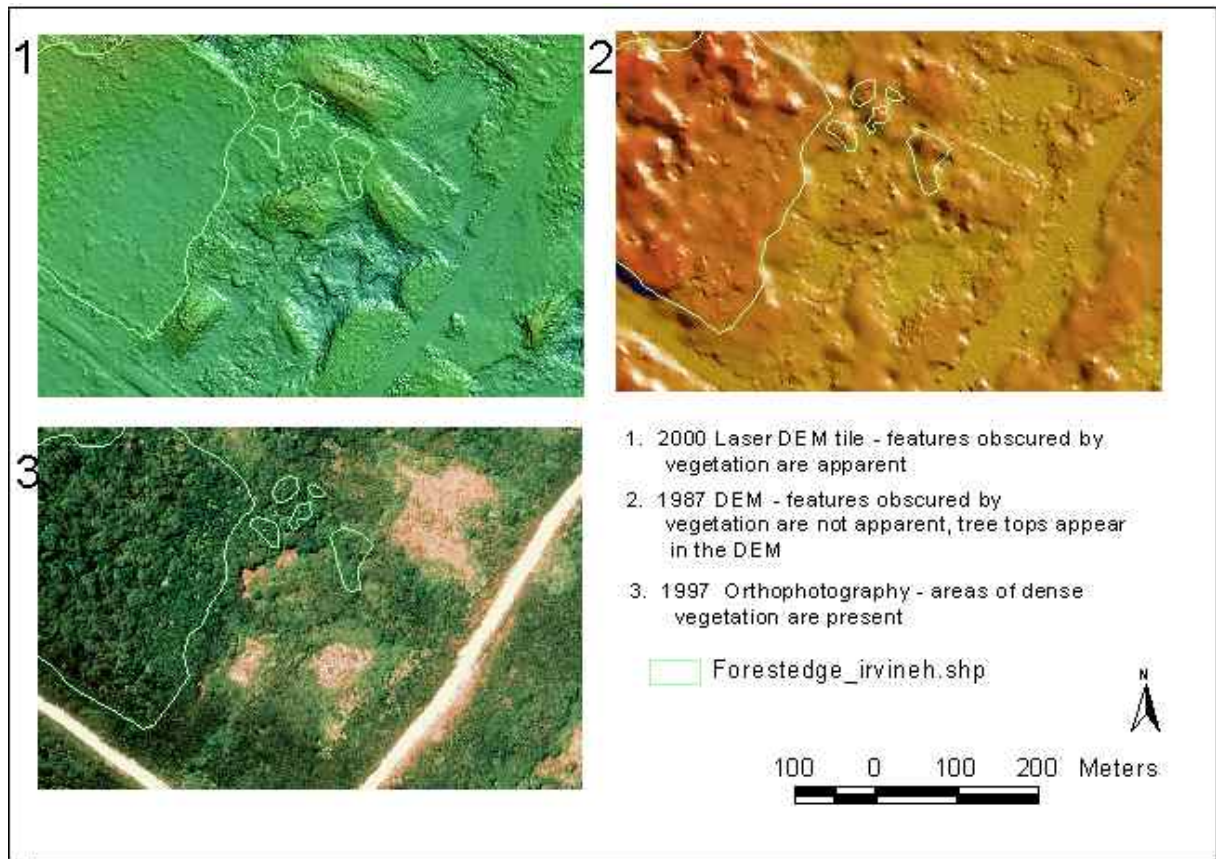


Figure 13. 2000 Laser DEM image, 1987 DEM image and orthophotograph of the same area of Christmas Island. The Laser DEM image shows topographic features which are not apparent in the 1987 DEM due to vegetation cover.

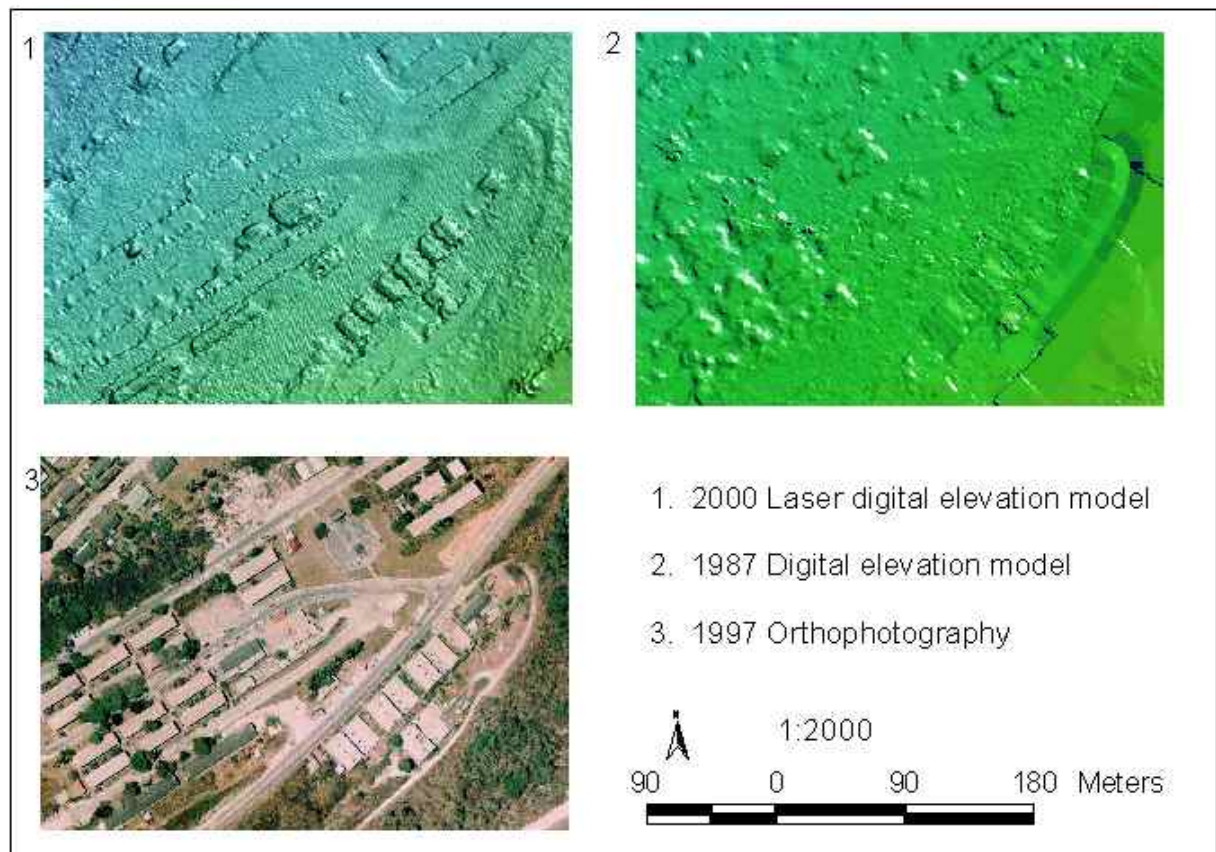


Figure 14. 2000 Laser DEM image, 1987 DEM image and orthophotograph of the Poon Saan area of Christmas Island. The laser DEM image shows the ground surface beneath the trees in the SE.

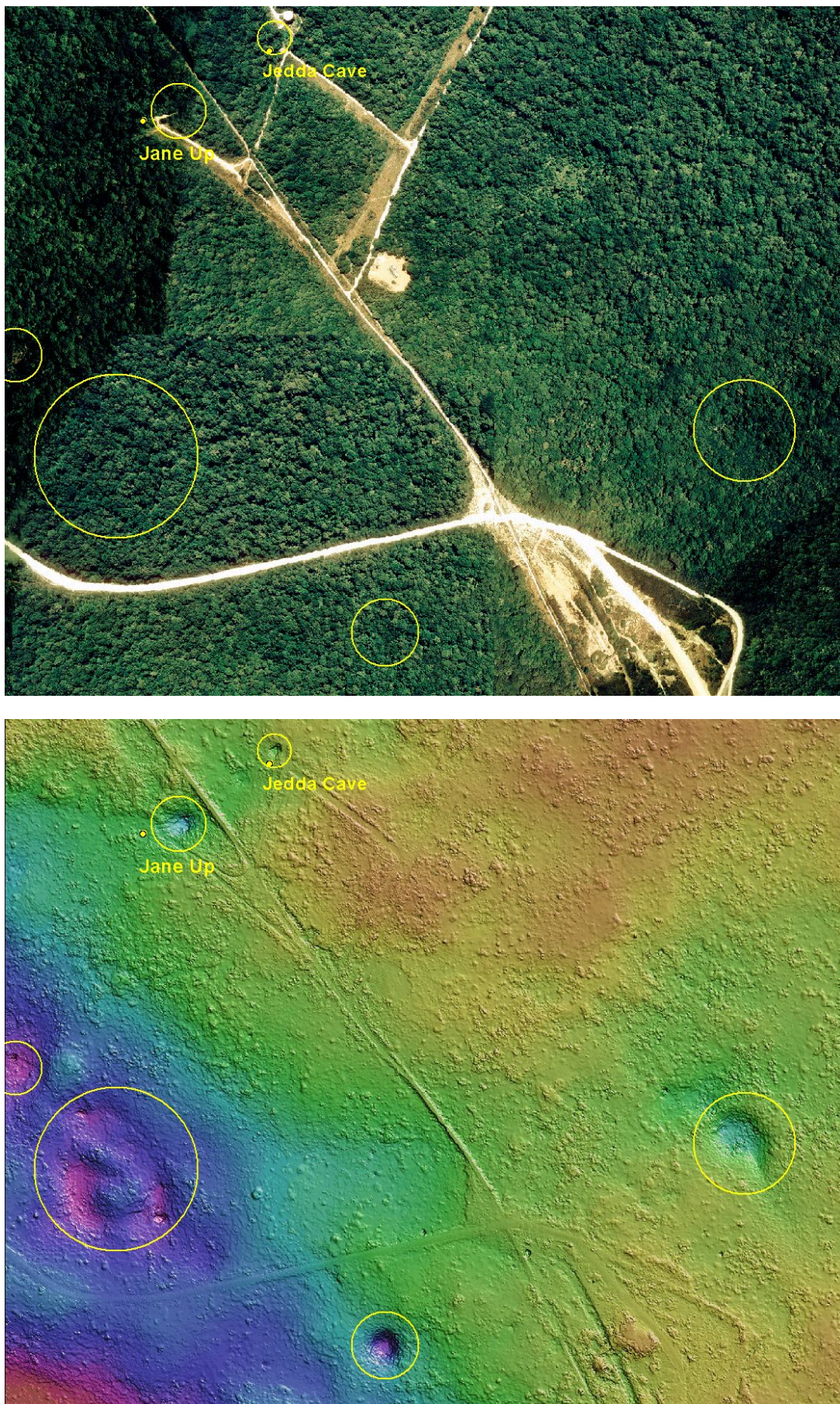


Figure 15. Caves and sinkholes (in the vicinity of the research station) amongst thick rainforest become apparent on the colour images derived from the laser DEM.

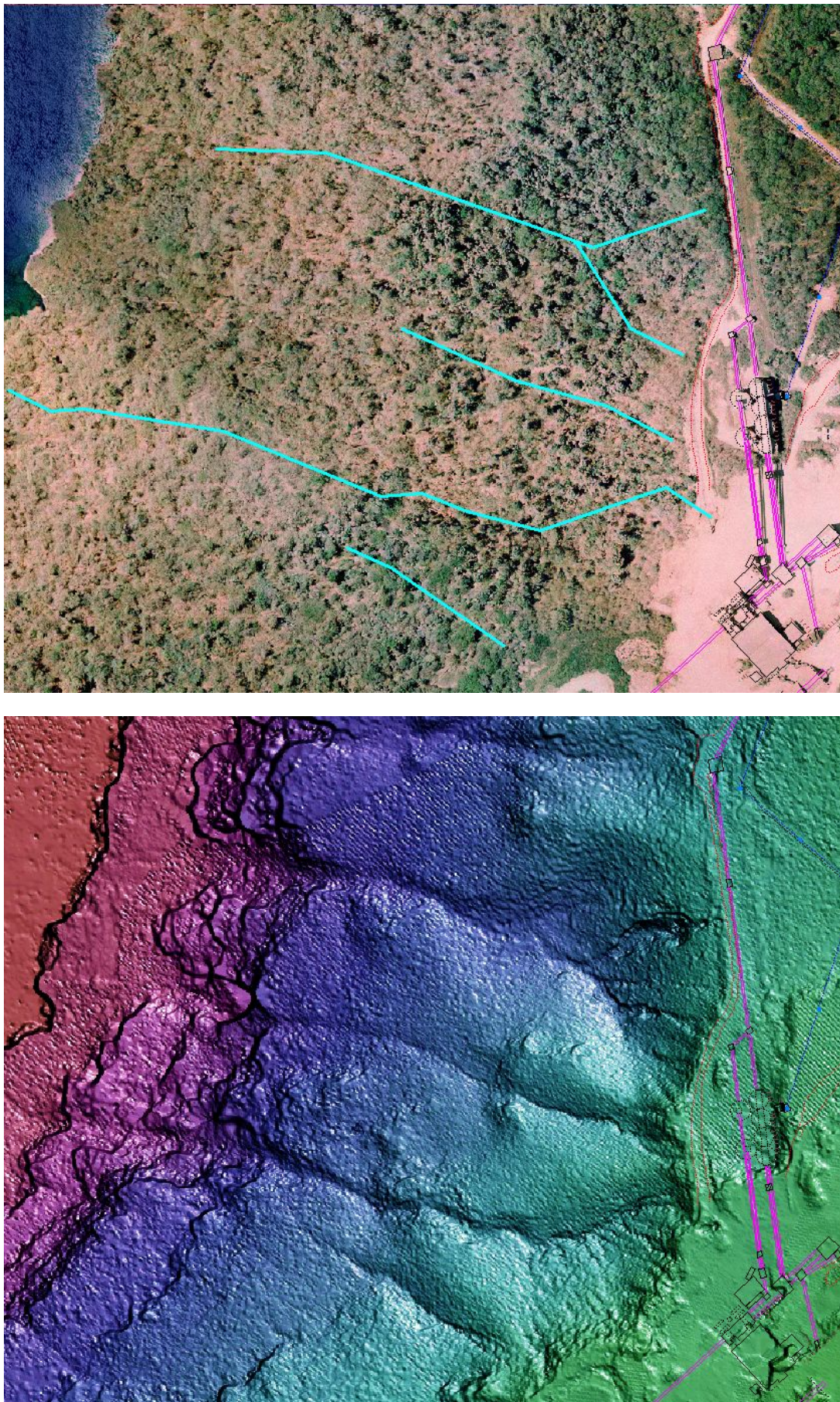


Figure 16. The laser DEM reveals gullies in the forest. The gullies are interpreted as being due to near surface volcanic rocks that cause runoff and groundwater outflow resulting in the erosion seen. This example is down slope from the dryers at Drumsite.

Constraints to urbanisation

In January 2004, Koltasz Smith (KS) supplied GA with CAD files, which when overlaid produced a map showing the appropriateness of urbanisation and development on Christmas Island (see Plan 5 in Christmas Island draft local planning strategy located in the 'cigis/documents/Draft_Local_Planning_Strategy_Text_Plans1to5.pdf on cd-rom#1). Areas where urbanisation is mildly, moderately, and severely constrained, as well as unconstrained areas, appear on this map. GA was not supplied with the map in its entirety in digital form. A considerable amount of effort has gone into converting the eleven CAD files that make up this map into one ESRI shapefile.

KS used the following components in CAD file format to produce areas of mild, moderate and severe constraint:

Mildly constrained: Slope 10–20 degrees, Active mining leases, Crabs (routes, movement, nesting)

Moderately constrained: Vegetation1, Vegetation2, Buffers around radio transmitters

Severely constrained: Slope 20-30 degrees, Slope 30–40 degrees, Slope > 40 degrees, Bird nesting sites, APSC satellite centre

KS has not explicitly stated the reasons for each component being labelled as mild, moderate, or severe. However a discussion about each constraint can be found in the Draft Local Planning Strategy located on cd_rom#1 (cigis/documents/Draft_Local_Planning_Strategy_Text_Plans1to5.pdf).

GA converted the above eleven separate CAD files into 2D shapefiles. A "mild" constraint shapefile was then created by joining the 'slope 10-20', 'active mining leases', and 'crabs' shapefiles using the union option in the Arcview Geoprocessing Wizard. Both "severe" and "moderate" constraint shapefiles were created using the same method. The "moderate" shapefile was created by joining the "vegetation1", "vegetation2" and "buffers around radio transmitters" shapefiles. The "severe" shapefile was created by joining the "slope 20-30", "slope 30-40", "slope>40", "bird nesting sites" and "APSC satellite centre" shapefiles.

A 'constraint' field was added to the table of each of the mild, moderate, and severe shapefiles. This field listed all polygons in the mild shapefile as "mild", the severe shapefile as "severe", and the moderate shapefile as "moderate". The dissolve option in the Arcview Geoprocessing Wizard was then used to remove overlapping polygons and produce contiguous areas of mild, moderate, and severe constraint in each of the mild, moderate and severe shapefiles respectively.

The mild, moderate and severe shapefiles were then joined to form one shapefile using the union option in the Arcview Geoprocessing Wizard. The "constraint" field in this shapefile was edited so that where polygons overlapped, the classification was always the most severe category. The dissolve option in Arcview Geoprocessing Wizard was then used to produce contiguous areas classified as either mildly, moderately or severely constrained.

KS did not produce a CAD file containing unconstrained areas, but considered unconstrained areas to be places on Christmas Island not covered by any of the eleven component CAD files. GA produced a set of polygons corresponding to these unconstrained areas. This was

done by creating a shapefile with one polygon covering the whole island. The "intersect" option in Arcview was then used to intersect this whole island shapefile with the shapefile created by GA containing the mild, moderate and severe constraints. This produced a set of polygons at the locations in the mild, moderate and severe constraints shapefile where there were no constraints. These polygons were then converted to a shapefile. This shapefile then contained the unconstrained areas of Christmas Island.

Unconstrained areas in Christmas Island were then joined to the shapefile containing the mild, moderate and severe constraints, using the union option in the Arcview Geoprocessing Wizard. This produced a shapefile containing the whole of Christmas Island classified as either mildly, moderately, severely constrained or unconstrained. This shapefile is called "constraints.shp" and is located in the 'cigis/planning/constraints.shp' directory.

KS supplied the CAD files in CIG85. GA projected the final "constraints.shp" to MGA (UTM Zone 48) using an x y shift (x shift = 550015, y shift = 8780001).

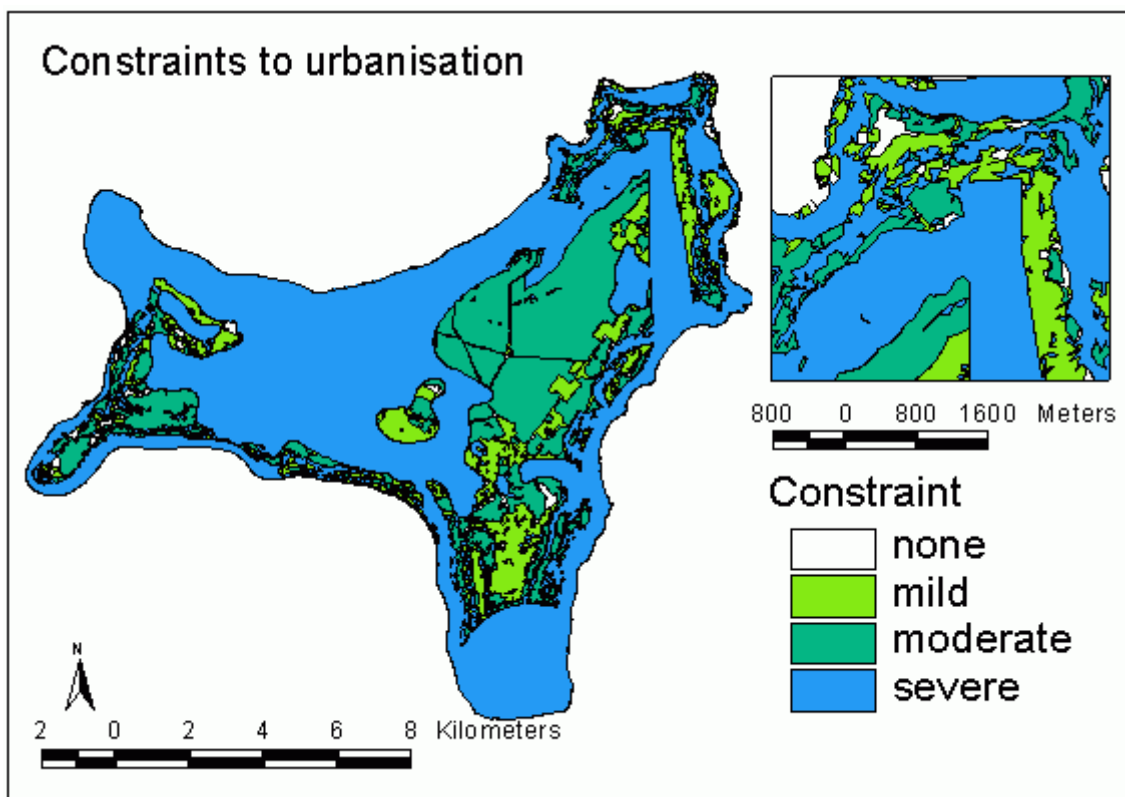


Figure 17. Shows whole of Christmas Island classified as either severely constrained, mildly constrained, moderately constrained or unconstrained for urbanisation or development.

1997 Orthophotography

Digital orthophotography has been prepared from aerial photography that was flown by Fugro Spatial Solution Pty Ltd on 2 November 1997 (commissioned by Parks Australia North Christmas Island). In June 2002, Geoscience Australia commissioned Fugro to generate orthophotography from the 1997 aerial photography at minimal cost as a component of the Christmas Island GIS project and as part of other work undertaken on behalf of Territories Office in 2002.



Figure 18: An image captured from the Christmas Island GIS orthophotography at approximately 1:800 scale, showing clarity and resolution of land and underwater features. The current orthophotography was created from aerial photography flown in 1997.

The orthophotography has a 15cm on-the-ground pixel size. The quality of the orthophotography is impressive, with reasonable resolution down to 1:500 scale. The pale red colour associated with the image is a result of Geoscience Australia trying to best highlight variances in vegetation species related to revegetation in areas of mining disturbances. The image also has warping in localised areas, in particular building outlines. This may be a result of the image having been pinned down by a broader DEM.

The 1997 orthophotography was generated in Christmas Island Grid 1985 (CIG85) by directly correlating the 1997 aerial photography with the 1987 aerial photography for which there had been good survey control points. In September 2003, GA projected the orthophotography into the MGA (GDA94) projection. The MGA coordinates in the north east of the island agree with the 1987 ground control points to within one metre, the south and west of the island are variable in their accuracy.

To decrease storage, GA has supplied the 1997 orthophotography in two reduced size formats:

1. As 256 colour .tif tiles suited to both ArcExplorer and ArcView (pixels were down sampled to 30cm). See figure 6 for converted .tif tiles, and
2. As full colour, 15cm pixels Enhanced Compressed Wavelet (ECW) compressed imagery. See figures 4 and 5 for ECW coverage that can be viewed in ArcView using a plugin¹ provided on the cd-roms.

¹ File 'ArcView_3.2a_ECW_Plugin_v2.5.exe' is on CD2 in folder '\tools\extensions'.



Figure 19: *Laecena* (dark grey – green stipple pattern) growing along tracks, *Saw Tooth Fern* (pale green growing amongst pinnacles in areas of higher grade phosphate) and *Macaranga* regrowth trees (bright green).

ORTHOGRAPHOTOGRAPHY DETAILS

Aerial Photography:

Fugro Spatial Solutions Pty Ltd

Division: Geomatics

Address: 121 Hill Street, East Perth WA 6004

Phone: 61-8-9325 2644

Aerial Photography for Christmas Island (Indian Ocean)

Film No: -

Film Type: colour

Photo Scale: 1:10000

Dates: 2/11/97

O/Lap: 60% approx.

Project Name: CHRISTMAS ISLAND 1997

Run No(s): 1 to 9

Scanning for CHRISTMAS ISLAND GIS: Fugro Spatial Solutions Pty Ltd

Orthorectification for Christmas Island GIS: Fugro Spatial Solutions Pty Ltd



Figure 21: Shows the limits of the 1997 orthophotography coverage.

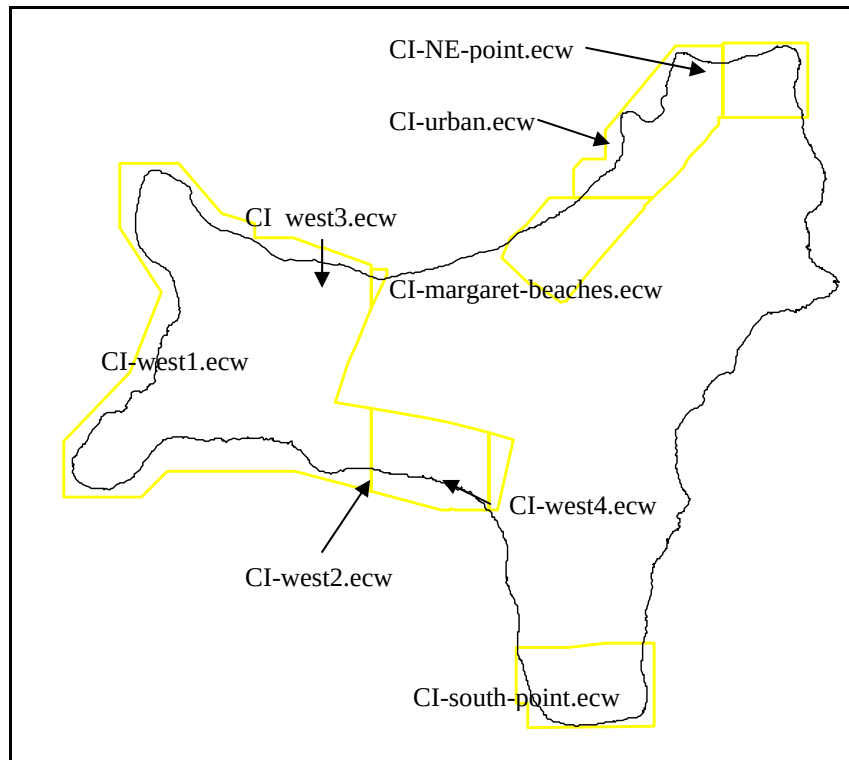


Figure 22: Index of the 1997 orthophotography showing the names and limits of each orthophotography coverage. Each .ecw file is associated with an .ers file which georeferences the image. The index file is stored as a shapefile (97_ecw_plan.shp) for use within ArcView and ArcExplorer.

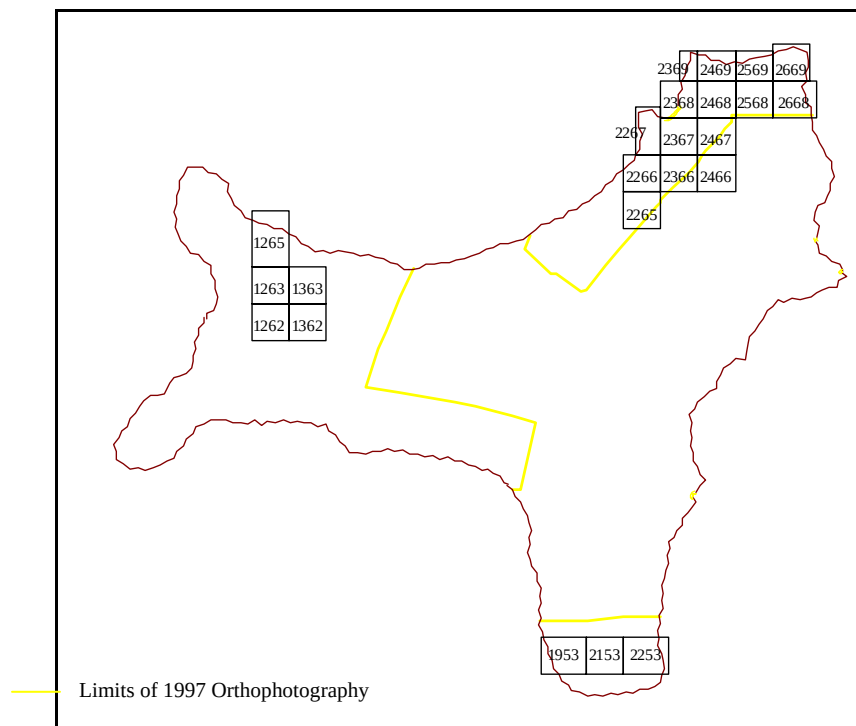


Figure 23: Index of the orthophotography showing the names and extent of each orthophotography tile made to date. Each .tif file is associated with a .tfw file which georeferences the image. The index file is stored as a shapefile (97_1ktilenbd.shp) for use within ArcView and ArcExplorer.



Figure 24. 1997 orthophotography example showing National Parks Australia nursery.



Figure 25. 1997 orthophotography example in the vicinity of Rocky Point suburb.



Figure 26. 1997 orthophotography example showing newer homes in west Silver City.



Figure 27. 1997 orthophotography example showing the Christmas Island hospital.

1987 Orthophotography

Digital orthophotography has been prepared from aerial photography flown on the 16th, 20th, and 21st of August and the 1st September 1987 by the Australian Survey Office Canberra. AGSO commissioned BHP Engineering, Land Technologies Division to generate orthophotography from the 1987 aerial photography as a component of this Christmas Island GIS project that AGSO undertook on behalf of Territories Office in 1996.

The orthophotography has a 30cm on-the-ground pixel size. A 'pixel' or 'picture element' is the smallest component in a digital image — a pixel is an individual square of colour. The quality of the orthophotography is impressive, with reasonable resolution down to 1:500 scale.



Figure 28: An image captured from the Christmas Island GIS orthophotography at approximately 1:800 scale, showing clarity and resolution of land and underwater features.

The orthophotography is considered to be the most accurately located dataset overall. This high quality locational accuracy results from the use of surveyed ground control points in conjunction with recognisable features and a 3D model. In addition, there are intersecting flight lines, which also underpin positional accuracy. Hardcopy sketches of the survey ground control points are held in archive and are available for inspection.

Orthophotography was generated in Christmas Island Grid 1985 (CIG85) by directly applying the aerial photography survey control as it was originally surveyed on the ground in CIG85.

From ongoing use of the orthophotography and subsequent GPS checks, GA expects the Christmas Island orthophotography over the Island to generally be within a metre of its true position. Exceptions to this high level of accuracy could be the more inaccessible parts of the

Island such as SW point, which did not have reliable ground control available (see Fig 30 in the 1996 System Documentation). In September 2003 GA projected the orthophotography into the MGA (GDA94) projection. The MGA coordinates in the north east of the island agree with the original ground control points to within one metre. Thus the high level of positional accuracy of the 1987 orthophotography is retained for the MGA version in this part of the island. The accuracy of the south and west of the island is variable

The original orthophotography consists of one hundred and fifty-seven 1km X 1km 24-bit colour Tagged Image File Format ('.tif') tiles taking up about 5.4Gb of disk space for the whole of the Island. To decrease storage, GA supplied orthophotography in two reduced size formats:

3. as 256 colour '.tif' tiles suited to both ArcExplorer and ArcView use, and
4. as full colour Enhanced Compressed Wavelet (ECW) compressed imagery which can be viewed in ArcView using a plugin² provided on cd-rom 2.

An attempt has been made to match the digital orthophotography colour to that of the source aerial photography.

ORTHOPHOTOGRAPHY DETAILS

Aerial Photography:

Australian Survey Office, Canberra

Aerial Photography for Christmas Island (Indian Ocean)

Film No: SOC 728 & SOC 729,

Film Type: colour

Photo Scale: 1:10000

Dates: 16-8-87, 20-8-87, 21-8-87, and 1-9-87

O/Lap: 60% approx.

Project Name: CHRISTMAS ISLAND

Run No(s): 1 to 17

Scanning for CHRISTMAS ISLAND GIS: Kevron Aerial Surveys

Orthorectification for Christmas Island GIS: BHP Engineering Land Technologies Division

² File 'ArcView_3.2a_ECW_Plugin_v2.5.exe' is on CD1 in folder 'cigis\tools\freeware'.

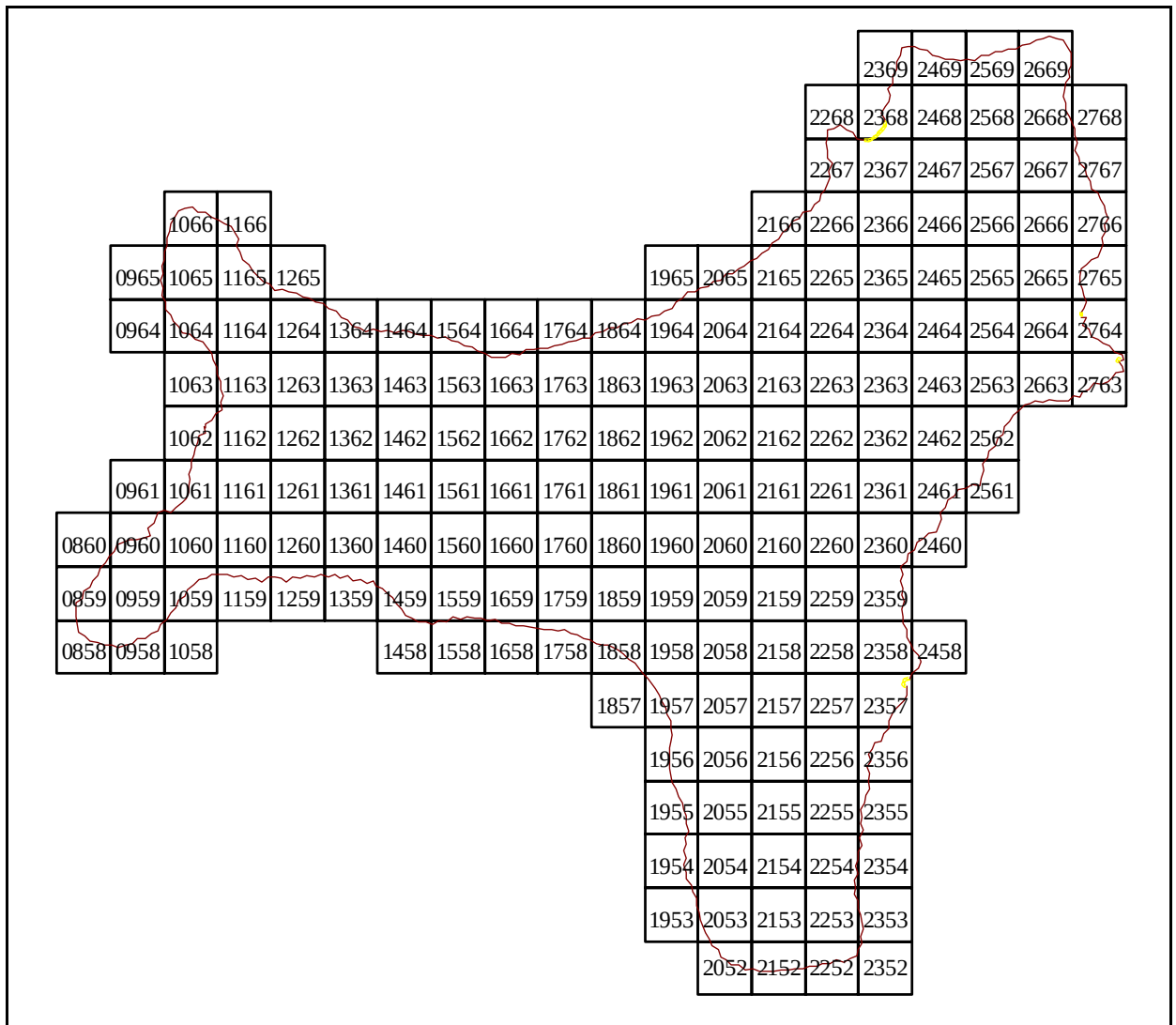


Figure 29: One Km graticule providing the base layout for the 157 1Km X 1Km orthophotography tiles created for the Christmas Island GIS from the 1987 aerial photographs. Where a tile would have only a small land component it was generally amalgamated with the adjacent tile and the top left number for the joined pair was used (see Fig. 6).

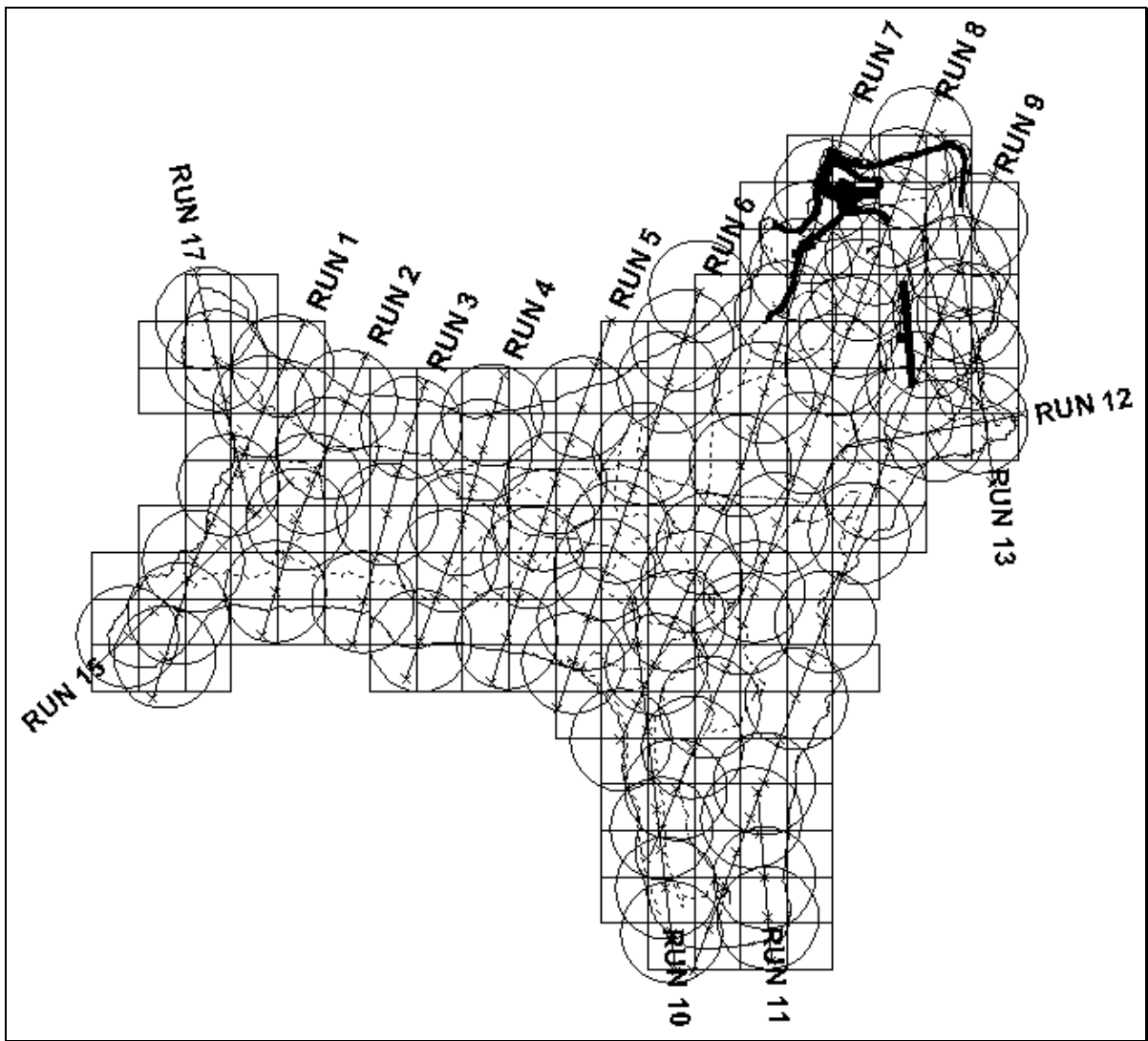


Figure 30: Flight lines and photo circles of the 1987 aerial photographs used for the Christmas Island GIS orthophotography. Flight lines are numbered at one end of the line.

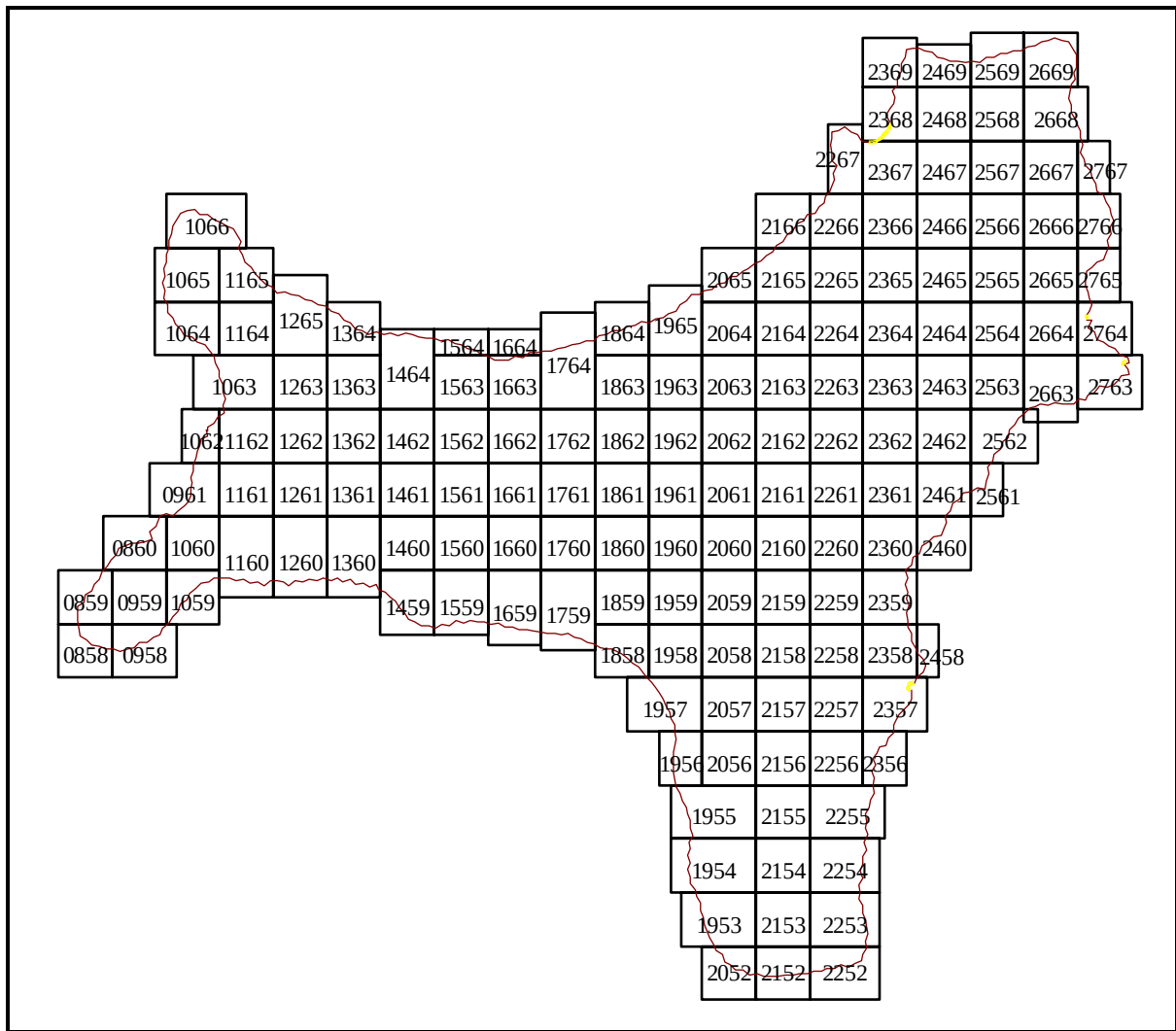


Figure 31: Index of the orthophotography showing the names and extents of each orthophotography tile. Each '.tif' file is associated with a '.tfw' file which georeferences the image. The index file is stored as a shapefile ('1ktilendb.shp') for use within ArcView and ArcExplorer projects.

Digital Elevation Model

The CIGIS Cd-roms contain representations of a Digital Elevation Model (DEM) prepared by BHP Engineering as part of the orthophotography production. GA applied a shiny colour drape algorithm to the DEM tiles in ERMapper® and the results were saved as 8-bit (256 colour) Tagged Image File Format (TIFF) images. These are stored in the 'cigis/demtiles' directory. The colour range for each individual tile has been optimised so as to give a maximum of information. A consequence of this is that colours may not match at adjoining edges. Tiles over disturbed areas have a one metre cell size, while those over primary rainforest have a five metre cell size.

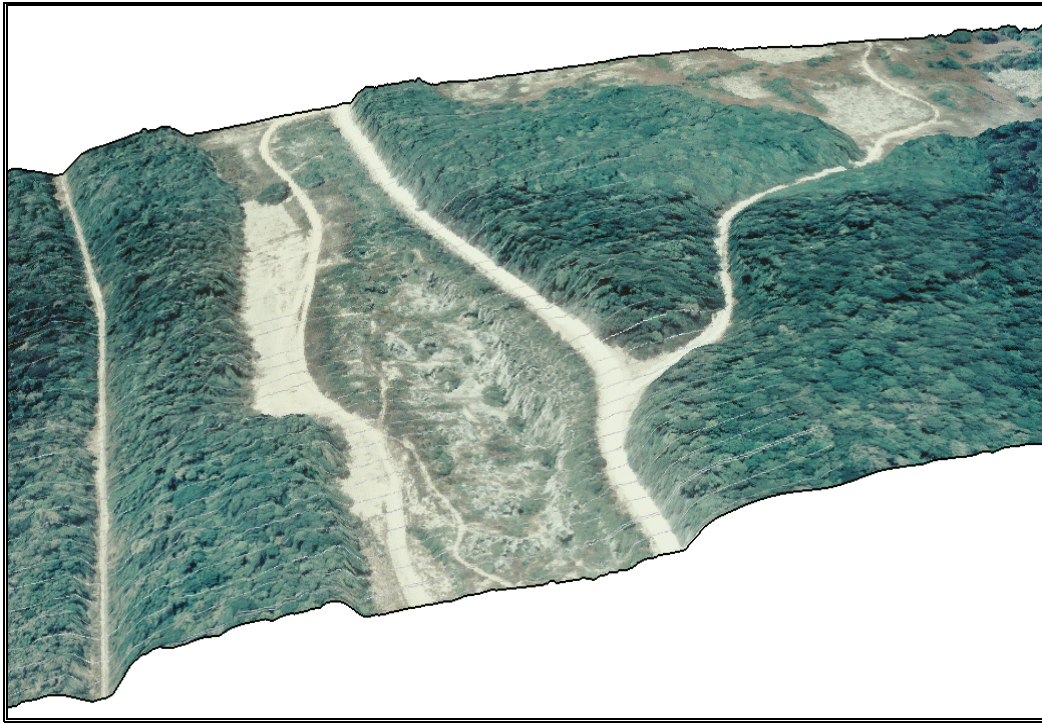


Figure 32: Three-dimensional drape of orthophotography over DEM (South Point area), showing that the DEM surface is not always the ground surface. In this case much of the DEM surface is tree canopy. The DEM cell size over rainforest is 5 metres, while over disturbed areas it is 1 metre.

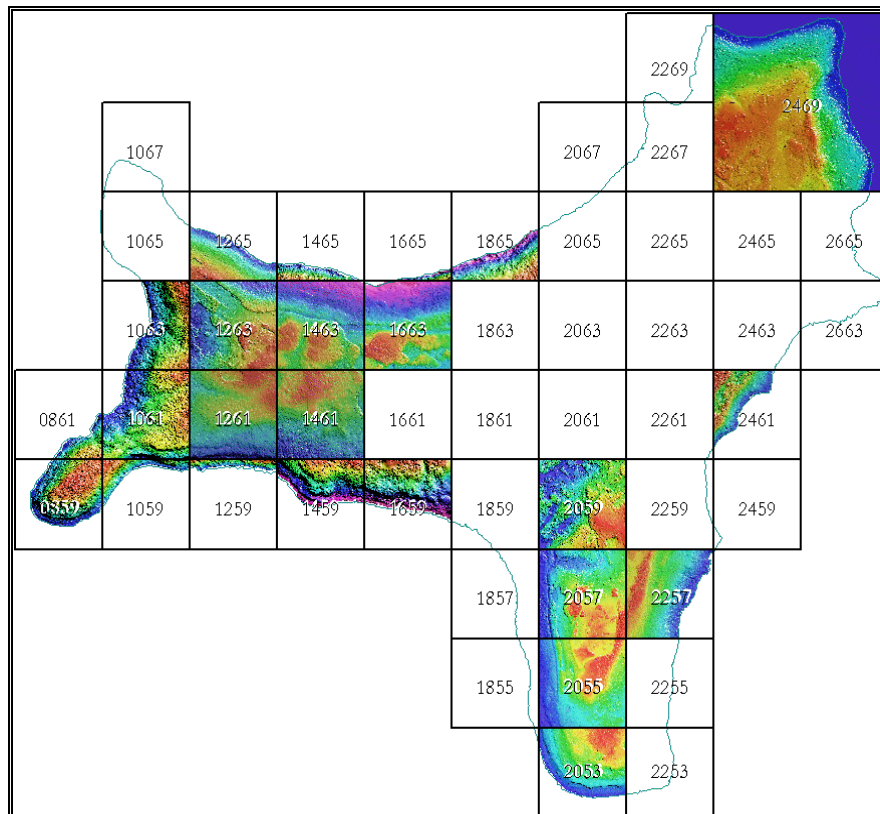


Figure 33: Shiny colour drape DEM tiles supplied with the CIGIS. Further tiles can be generated by GA. The colour range for each tile has been generated so as to give a maximum of information, hence colours may not match at adjoining edges.

There is one 4 kilometres by 4 kilometres tile (tile number 2469) at the north-eastern extremity of the island. Other tiles are 2 kilometres by 2 kilometres (except for some partial tiles along the coast). Further TIFF images like these can be prepared on a cost recovered

basis. The original DEMs are not supplied on CD-ROM 1 or 2 as they take up a large amount of space and are not useful without additional software.

DEM-derived contours

A useful spin off of the digital orthophotography is the opportunity to get one metre contours over the disturbed areas of the Island. For the north-east area of the Island 2km X 2km DEM contour tiles have been trialled in the CIGIS. Most are at a contour interval of 5 metres but tiles 2269 and 2469 have been done at a one metre contour interval. They have been saved on CD-ROM 2 in the 'cigis\demtiles\dcontour' directory. The DEM contours are surface contours. They pick up the reflective surface beneath the aircraft. The reflective surface may be a surface other than the ground (eg. dense vegetation canopy, rooftops). Further one metre contour coverage can be prepared on a cost recovered basis. In September 2003 GA projected the dem tiles and contours into the MGA (GDA94) projection using an x y shift (x = 550015, y = 8780001).

Cadastre and Ground Audit

Cadastre - 2002

The 2002 Cadastre was supplied by DOLA as an extract from their database to Christmas Island Administration (ESRI shapefile dated 1 August 2002). This shapefile was then passed onto Geoscience Australia.

Geoscience Australia adjusted the cadastre shapefile in the following ways:

1. Polygon outlines rather than solid-fill polygons were set to be the default display by including an .avl file.
2. The data was projected to CIG85 so the cadastre now plots with the other layers in the CIGIS.
3. Duplicate polygons were deleted.
4. The location numbers were extracted from the last few characters of the 'piparcel' field, both as a string for sorting and as a number for numerical queries.
5. Field headings from the attribute table were updated to conform to suggestions received from Christmas Island Administration in August 2002. Requested attributes that were not present in the cadastre but were present in the ground audit were then copied from the ground audit attribute table to the cadastre attribute table. This was achieved by joining the tables using the "Pin" fields in both shapefiles. Attributes that displayed information such as property gross income, house value, etc were removed from the CIGIS public release in view of government guidelines relating to privacy.

In September 2003 GA projected the 2002 cadastre into the MGA (GDA94) projection using an x y shift (x = 550015, y = 8780001).

The data is concerned with the north-east portion of Christmas Island and is mostly complete for that area. A few location numbers have been found to be incorrect because a global method of attaching the location numbers was used. GA recognises that there is considerable work to be done to yield an up to date and error free data set with all fields proposed by CIA filled with values.



Figure 35: Screen capture of cadastral data including some attributes relating to lot No. 501.



Cadastre - 2004

In early 2004, DOLA supplied GA with an updated version of the cadastre. This cadastre was supplied in MGA(GDA94). GA shifted this cadastre to match existing MGA (GDA94) datasets (x shift = -0.5m, y shift = +1m). GA joined the 2002 table to the new cadastre using the Pin field. The 2004 cadastre is located on cd-rom#1 in the 'cigis\cadastre\cadastre2004' directory.

Ground Audit – 1997/2001

The ground audit cadastre version from the 2001 CIGIS release is included in the 2002 and 2003 release for comparison and verification purposes.

Australian Estate Management (AEM) supplied ground audit data in a flat MS Access table in 1997 (in contrast to the relational database structure identified in the *Ground Audit Module 1 Final Report*). In addition to this data GA identified and joined data from other sources where value could be added.

Filling of the attributes appears incomplete. Examples of probable missing data are:

- ❑ Some fields have no data in them for all records;
- ❑ Nearly all fields have some blank entries;
- ❑ A postcode is only entered for some lots.

GA originally joined the ground audit data to the cadastral shapefile using the following steps:

- ❑ Exporting the MS Access table to DBASE V,
- ❑ Adding the DBASE table to ArcView and
- ❑ Joining using Ground Audit "Pin" field to the cadastre shapefile's "A_pin" field.

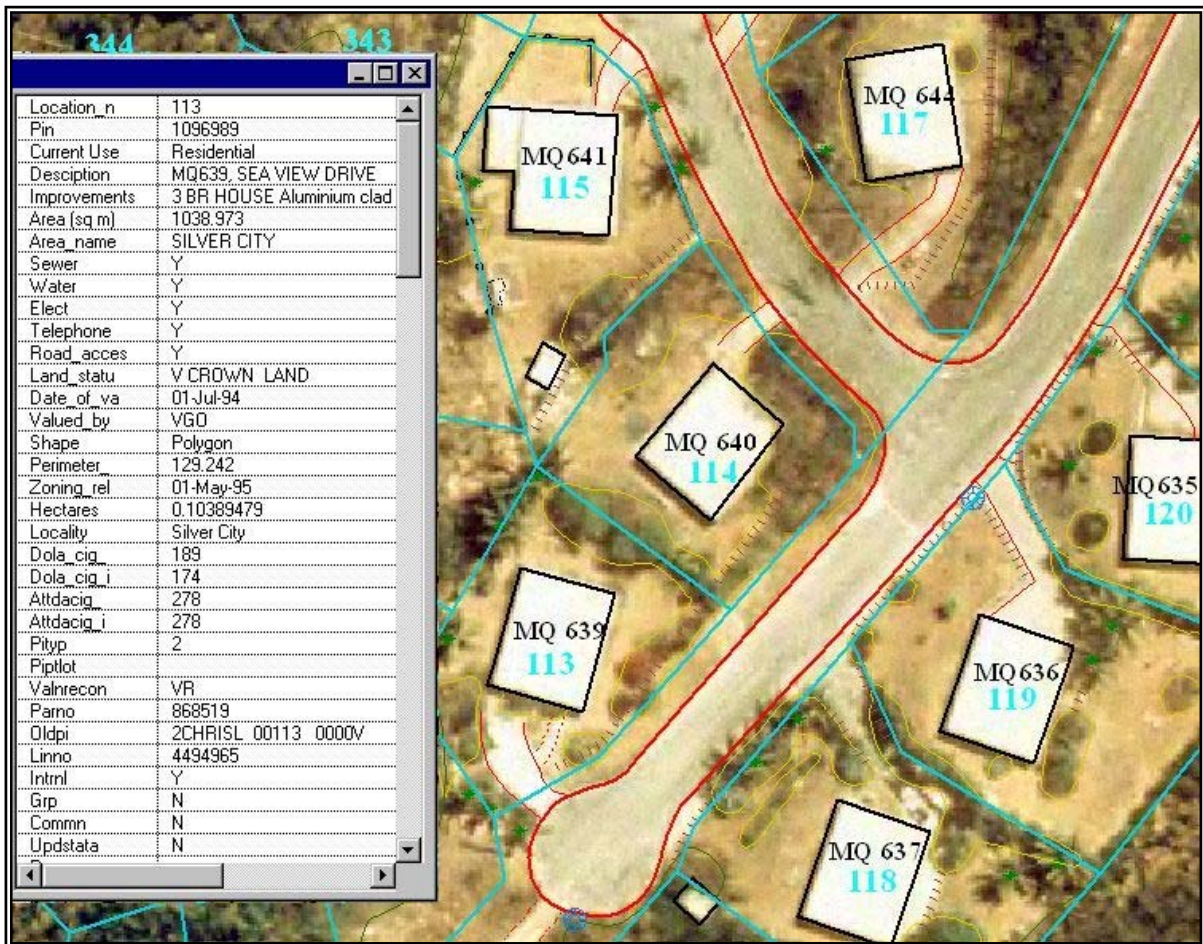


Figure 36: Cadastral data including some of the ground audit data relating to Location No 113.

On receipt of the 2001 cadastre, GA joined the 1998 table to the new cadastre using Pin and A_pin and calculated revised values for fields supplied with the cadastre, and for area and perimeter fields. Cadastre polygons that have undergone boundary changes may no longer carry the detail previously attached. This is because the "Pin" field value will have changed in the DOLA database and no longer match the ground audit "Pin" field value. GA could look to address these parcels with CIA staff during our visit by selecting polygons and joining in the prior values as appropriate.

Further details on ground audit data sources and lineage (up to 1997) can be found in the *CIGIS Phase II Cadastre Documentation* (on the Cd-roms in 'cigis\documents\grndaudt.pdf').



Figure 37: Screen capture of ground audit information of the Poon San area.

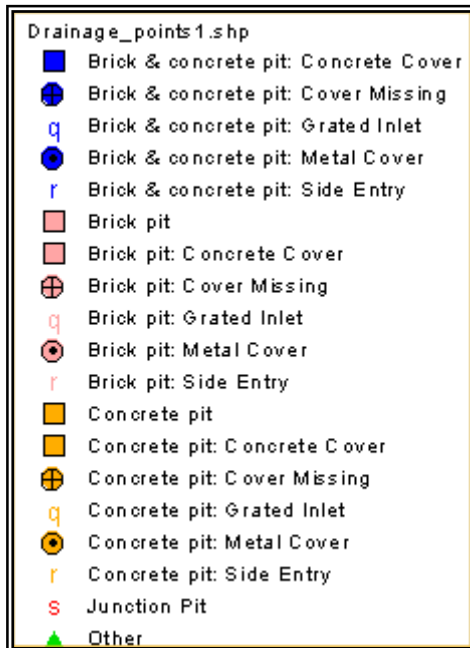
Utilities

Utilities data were supplied to GA by Gutteridge Haskins & Davey Pty Ltd (GHD) via cd-rom on 25th May 2001. Utilities data supplied are of the following major categories; electrical, stormwater, telecommunications (Telstra), wastewater, water sources and water supply. The cd-rom contained all data as ESRI shapefiles with the original CAD files in a subdirectory.



Figure 38: All utilities layers with default symbology in Poon Saan area.

An example of the utilities data can be seen above. It shows a zoomed in area at Poon Saan with all the utilities themes turned on, orthophotography and the 1998 cadastre has been included as a backdrop.



GHD compiled the utilities data from original CAD drawings collected over many years through management of island infrastructure by the Commonwealth Department of Administrative Services. These were converted into ESRI shapefiles by GHD and georeferenced to align with CIG85. In September 2003, GA projected these shapefiles into the MGA (GDA94) projection using an x y shift (x = 550015, y = 8780001).

The cd-rom supplied by GHD contained a number of customisations to enhance ArcView's interface. These included a 'metatool' (for viewing the utilities metadata sheet), hotlinks to CAD files and a GHD special font set.

Figure 39: Default drainage symbology if the GHD font is not installed.

The GHD-supplied custom font allows ArcView to generate point theme legends with custom symbols preferred by GHD. Examples of these can be seen in Figure 29. GA considers that GHD did not adequately document how to implement this special font

Premade ArcView projects on the GHD-supplied cd-rom contained hotlinks that attempt to display original CAD drawings with the new utilities vector layers. Through investigation of the GHD cd-rom this feature can be utilised by copying the necessary data using the folder structure found on the cd-rom and installing a GHD-supplied ArcView extension. Some of the GHD enhancements required registry edits, installation of DLLs in addition to ArcView extension (AVX) files. This requires a level of system access not available on most public service PCs. Consequently these particular enhancements were not implemented by GA.

The font used for GHD symbology is stored on CIGIS CD1 as 'cigis\infra_topo\water_res\ghdsym.ttf'. In order to view the symbols as GHD intended, install this font by opening your windows font directory (eg. C:\winnt\fonts), clicking 'File|Install New Font...', navigating to 'cigis\infra_topo\water_res', selecting 'GHD Utilities Geocomp Symbols (TrueType)' and pressing 'OK'.

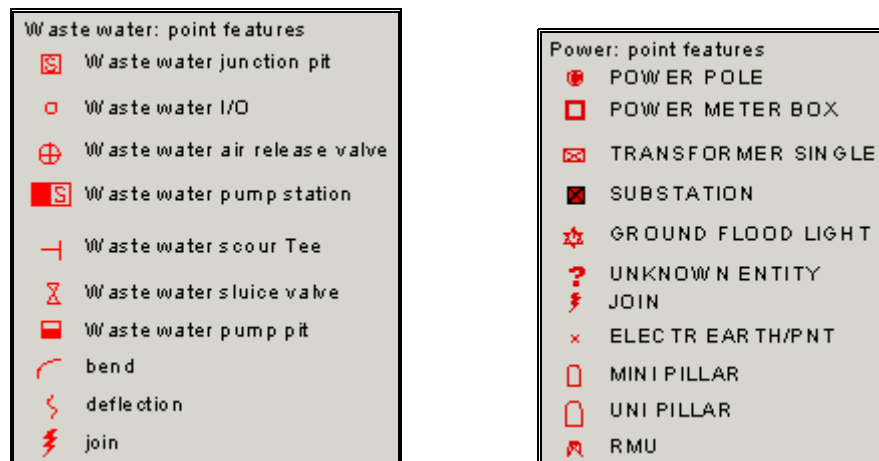


Figure 40: Examples of utilities legends in ArcView after installation of the font containing the GHD symbol set.

Water Resources

Water resources data for Christmas Island were supplied on cd-rom by Ecowise Environmental in Canberra. These data were assembled as part of ongoing groundwater investigations and monitoring undertaken on Christmas Island during the period from October 1996 to June 1999. The relevant reports are supplied as PDF documents on cd-rom 1. The Ecowise report describing the supplied data layers is in appendix 5 (it is stored as 'cigis\documents\ecowise\Report.doc').

Layers were supplied as ESRI shapefiles in CIG85 projection. They include aquifer boundaries (both saline and freshwater), bores and wells, caves and sections. In September 2003, GA projected these shapefiles into the MGA (GDA94) projection using an x y (550015, y = 8780001) shift. GA is impressed by the quality of the data and documentation supplied by EcoWise. The following table lists the shapefiles supplied to GA by Ecowise.

Directory	Shapefiles
.\\Cigis\\infra_topo\\water_res	Mb_pre1996.shp mb_install1996.shp non_developed.shp water_collection_locations.shp caves.shp h_brackish_saline.shp h_vulnerability.shp vh_vulnerability.shp vh_vuln_line.shp basal_aquifer_brackish.shp basal_aquifer_fresh.shp perched_aquifer_fresh.shp perched_aquifer_line.shp

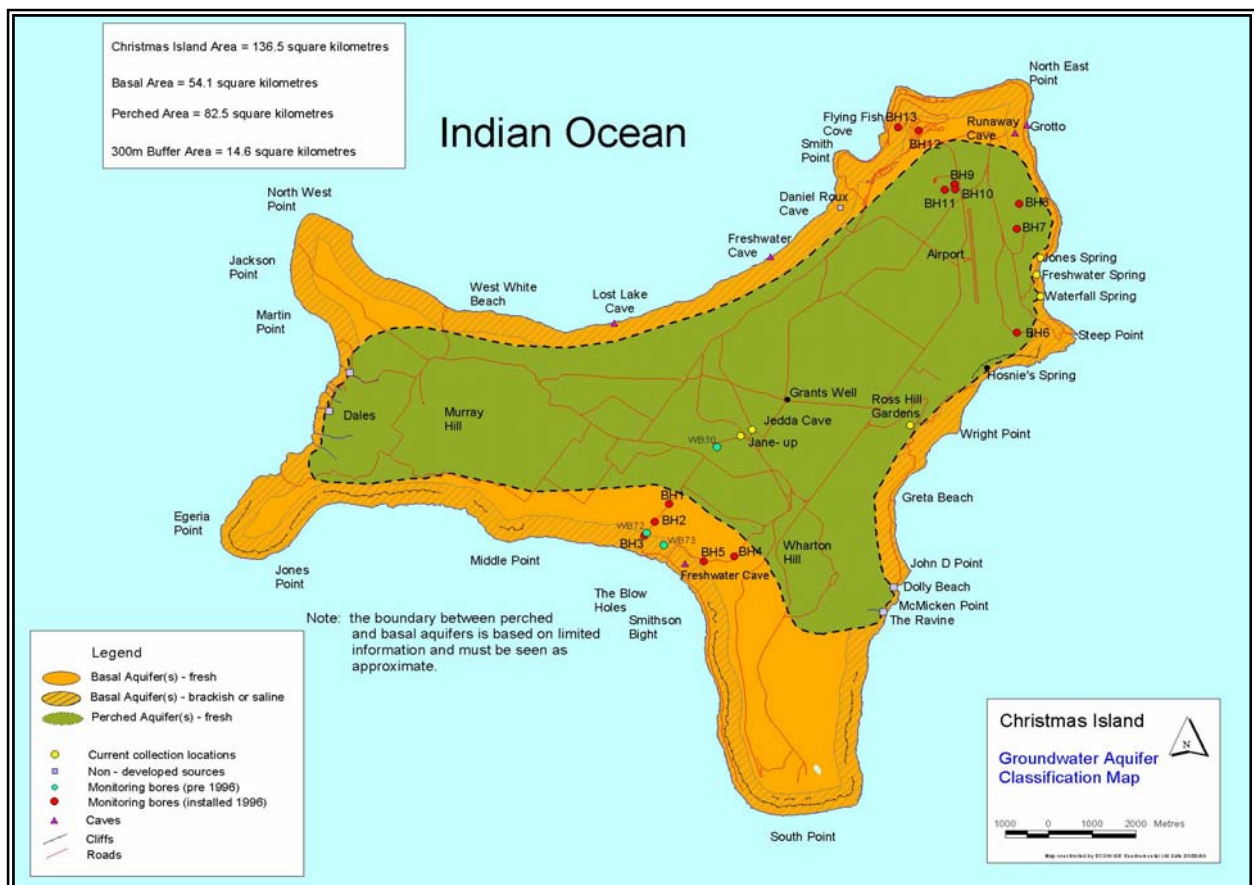


Figure 41: Christmas Island Aquifer classification map produced by Ecowise - from the Ecowise Groundwater Investigations And Monitoring Report November 1999.

Register of National Estate

The Register of National Estate is maintained by the Australian Heritage Commission (AHC), Environment Australia. AHC provided three ESRI shapefiles containing point and polygon spatial data for Christmas Island national heritage sites. Associated attributes contain name, class and status information about each site.

The 'class' field distinguishes natural heritage and historic heritage data

Data attribute classes apply to the polygon themes and was subsequently used to separate the natural heritage data from the historic heritage data. Natural heritage data extends beyond the coastline and covers areas of pinnacle fields.

The original data supplied to AGSO by AHC was in Latitude - Longitude and needed to be converted into the CIGIS85 coordinate system, so a projection to WGS72 was done. The translation between projections highlighted differences in accuracy of the polygon data between the historic class and natural class. To resolve the offset in the historic data GA shifted these data by 16.5 metres westward to match existing data. The polygon data was then all merged together, but because of polygon overlap natural heritage data was converted into its own shapefile. In September 2003, GA projected the data into the MGA (GDA94) projection using an x y (x=550015, y = 8780001) shift.



Figure 42: Register of National Estate attributes for the Administrators House are shown in the 'Identify Results' dialog box.

Mine Lease Boundaries

The mine lease boundaries supplied in the 1996 CIGIS were captured several years earlier by AUSLIG W.A. from field visits in conjunction with the use of the 1987 aerial photography. AUSLIG W.A. set the boundaries back from the forest edge.

Around 1995 the Department of Minerals and Energy W.A. (DOMEWA) became the designated authority for mine leases on Christmas Island on behalf of the Commonwealth. In 1998 the Commonwealth allowed an increase in the mine lease area up to the forest edge where the mine lease abuts Crown land, but not where it abuts National Park.

In response to this allowance, changes to the mine lease data were supplied to AGSO in 1998 by the surveyor to PRL at the time (Russell Payne). This data came to AGSO as a series of ESRI shapefiles, each containing a mine lease polygon. These boundaries were produced by digitising off the orthophotography in conjunction with site visits. GA merged all individual polygons that were supplied into the one ESRI shapefile, so as to allow easier access to the data.

In November 2002, the minelease boundaries were checked against the 2002 cadastral boundaries for discrepancies. Minelease ML133A was updated from the 2002 cadastre – changes relate to airport land and a communications tower in the north. In September 2003, GA projected the minelease shapefile into the MGA (GDA94) projection using an x y shift (x = 550015, y = 8780001).



Figure 43: An example of mine lease boundary using orthophotography as background.

1:25 000 Topography and Cultural Data

This data set contains 1:25000 scale topographic data originating from the Australian Surveying and Land Information Group, Department of Administrative Services, Canberra, ACT, Australia (AUSLIG). Topographic data has been reproduced with permission of the

General Manager, AUSLIG. The data covers the whole island, and includes polygons, lines and points describing both natural and built environment.

The AUSLIG data includes the following 1:25000 layers :

- roads,
- 10 metre contours,
- coastlines and cliffs,
- spot heights,
- buildings and other structures,
- hydrology,
- boundaries for the national park,
- boundaries for the mining leases and
- boundaries for four vegetation types.

The 1995 release of the AUSLIG digital data for Christmas Island was published at the 1:25000 scale. For this release the existing 1988 map was updated. The data was provided in Arc/Info format in the Christmas Island Grid projection. Only 'feature coded' data was available as AUSLIG do not see there being many sales of this dataset. Feature coded data are the lowest level of release for Arc/Info data by AUSLIG. There was basically no documentation with the data - only a list of feature codes and their frequency. GA have had to re-work the data into its present form. In September 2003, GA projected the AUSLIG 1:25000 shapefiles into the MGA (GDA94) projection using an x y shift (x = 550015, y = 8780001).

The AUSLIG data are subject to copyright and GA hold a licence. The cost was \$300. Licence / royalty arrangement pro forma were submitted by GA for Territories Office and PRL in January 1996. Maps produced and distributed beyond the licensee that include the AUSLIG data are required to carry the following acknowledgment:

Topographic data reproduced with permission of the General Manager, Australian Surveying and Land Information Group, Department of Administrative Services, Canberra, ACT.

Accuracy

Publication at the 1:25000 scale has important implications for the use of the AUSLIG topographic data. Some of the plots GA has produced include enlargements to scales of 1:2000. This means the AUSLIG data are being displayed at over ten times its published scale. Users should view AUSLIG lines on such enlargements as representing a line around ten times as thick, the true line occurring somewhere within that much thicker line. It is far more expensive to capture data at small scales.

As the data was originally intended to be used at 1:25000 scale, zooming in past this will show visible offset from the orthophotographs, potentially by as much as 25 metres. On zooming, the orthophotography will be more accurate, having error of at most 6 metres.

Data source

The original data was obtained as two Arc/Info export files (xmas.e00 and xmasrel.e00), containing general data and contour/spot-height data respectively. Considerable work was necessary to make this useful for the GIS.

Manipulation of Data

A series of Arc/Info macros were used to strip out different feature classes and build them as separate point, line or polygon coverages as appropriate. In generating polygon coverages cleaning was required. To suit use in Surpac mining software a version of the contours as polygons was created.

'Auslg25k' national park boundaries

The AUSLIG 1:25000 scale national park boundaries were found to be of insufficient accuracy for a number of requirements of the CIGIS. This data subset has been moved to the 'defunct' subdirectory and should not be used. The value of keeping this data in the system is to help eliminate any spurious national park boundary data sets that may turn up from other sources over the years.

The best set of national park boundaries MREB could locate are stored in the 'CIA' directory. These were obtained from Auslig Perth as part of the 1987 cadastre data set and are accurate to 1:1000 scale.

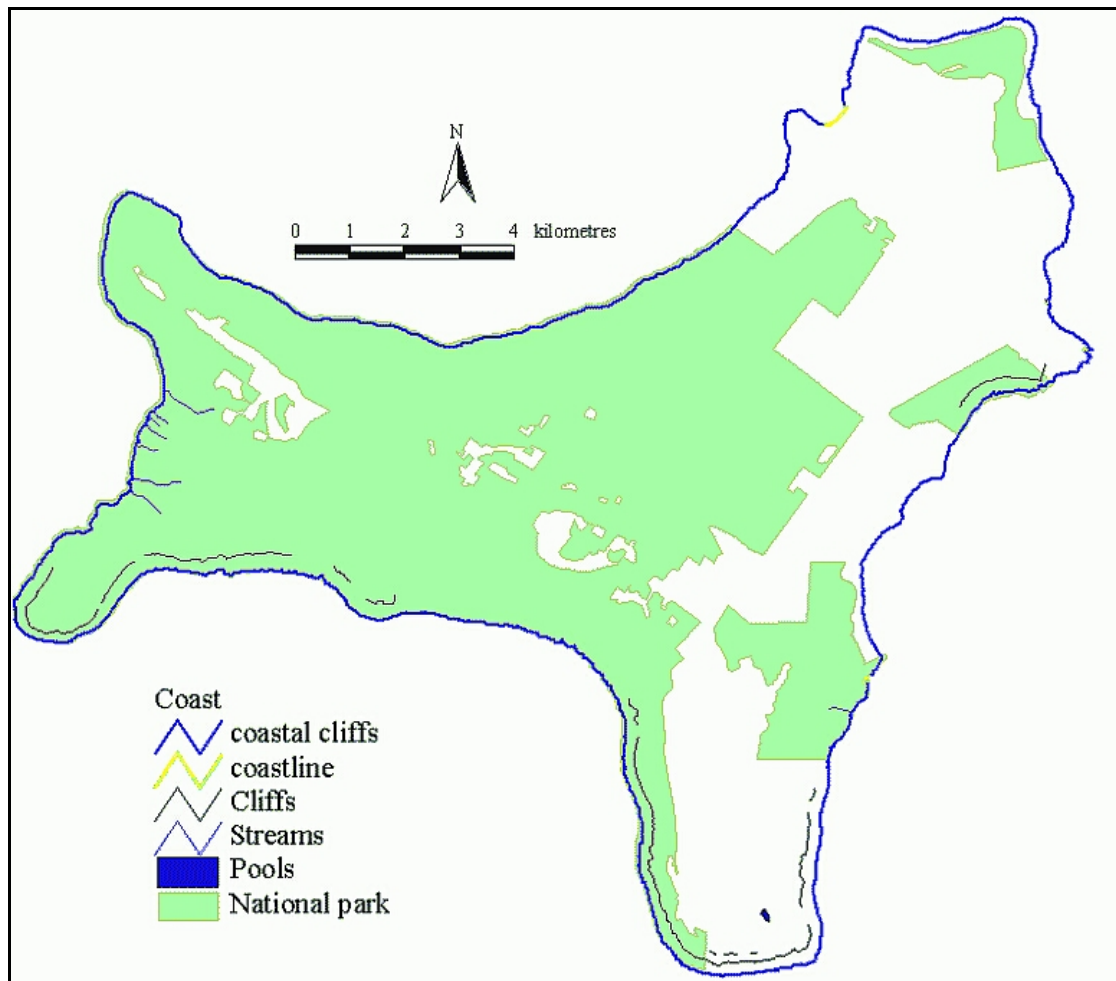


Figure 44: Coastline, Cliffs, Streams, Pools and National Park (1:25000 data)



Figure 45: Vegetation of Christmas Island (1:25000 data)

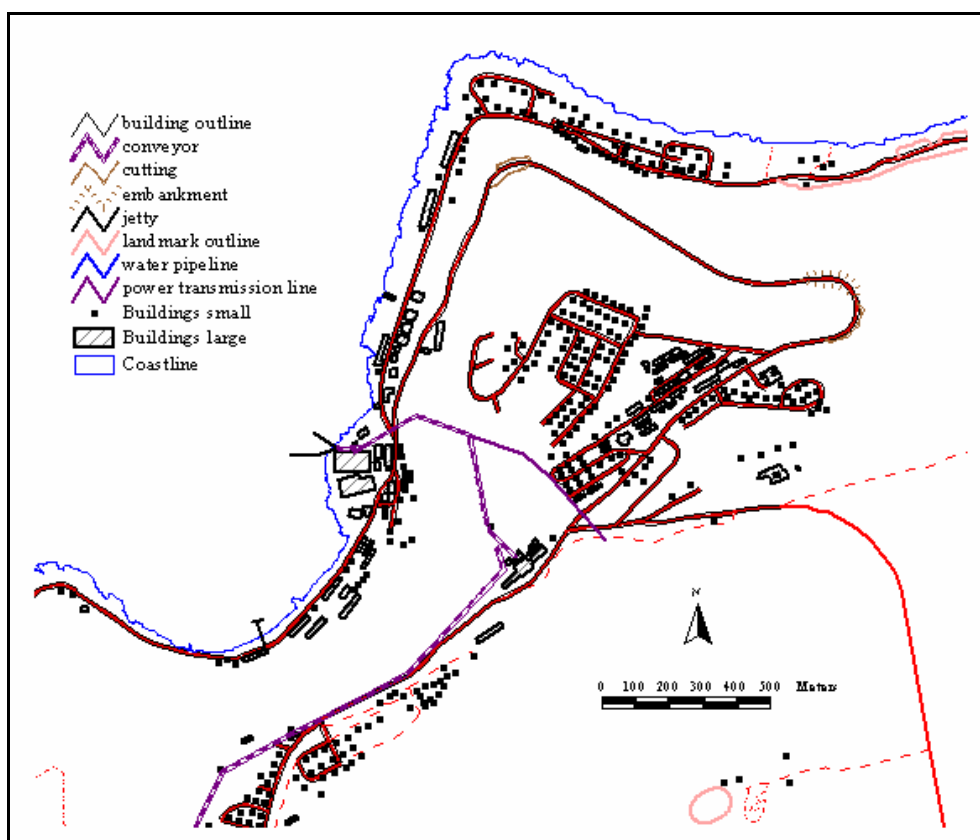


Figure 46: Built Environment (1:25000 data, township region)

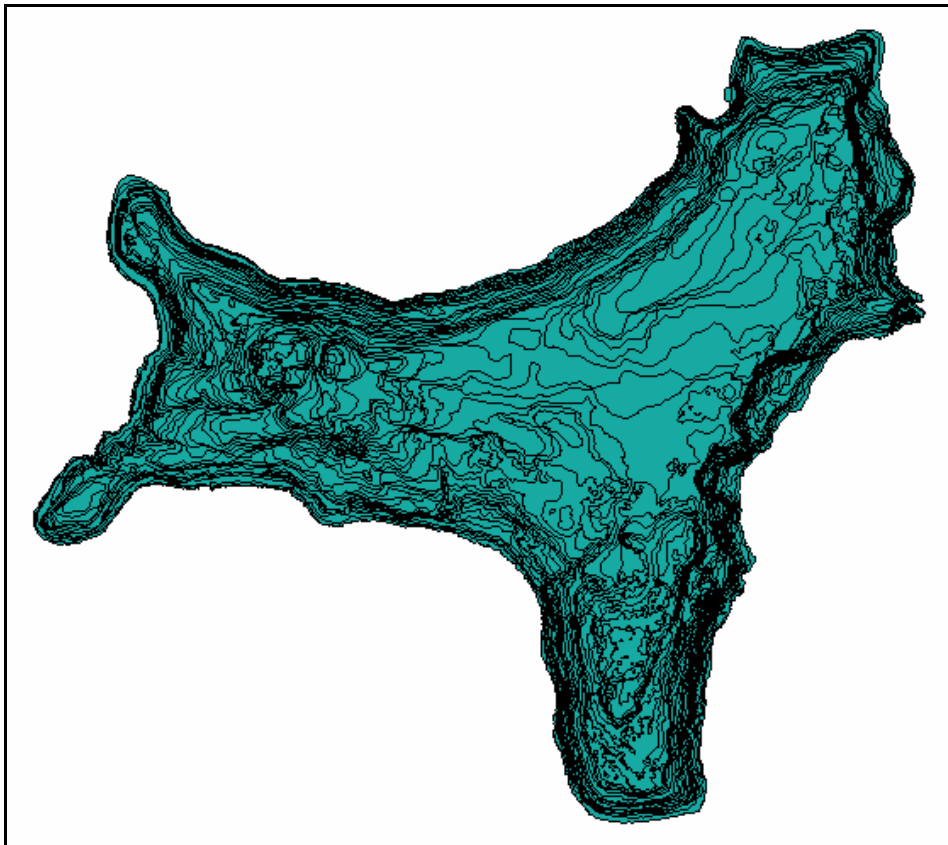


Figure 47: Ten metre contours (1:25000 data)

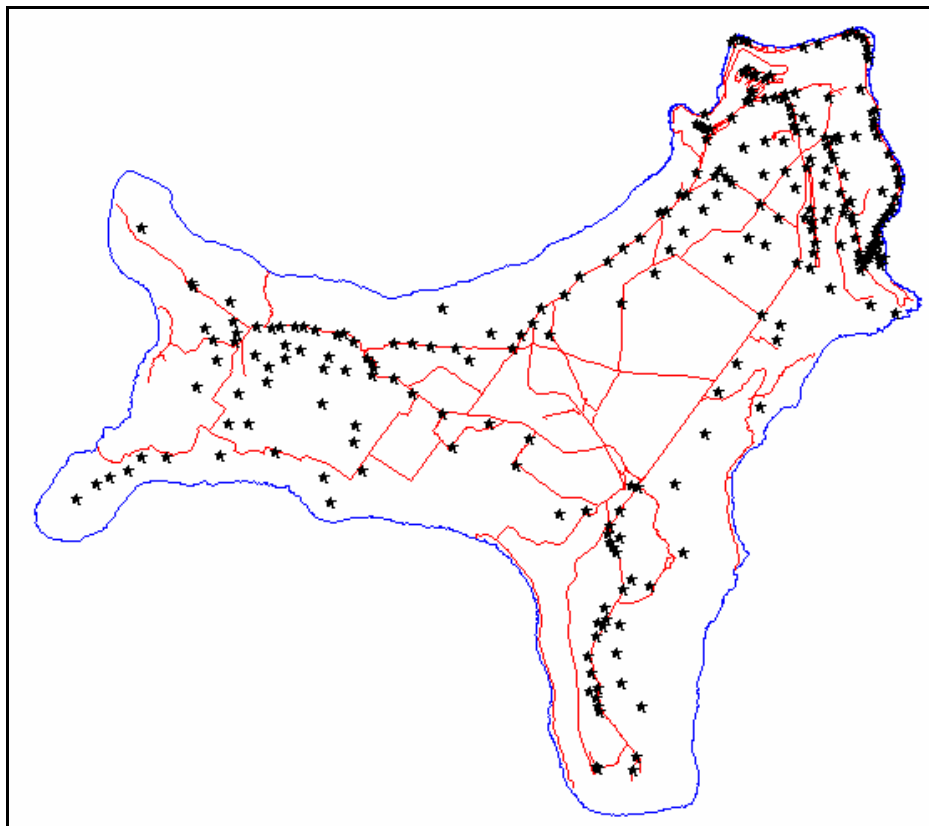


Figure 48: Spot height data points (1:25000 data)

1:1 000 Detailed Topography and Cultural Data



Figure 49: Screen capture of part of Rocky Point showing typical line and point features of the 1:1000 detail survey data. This data was digitised directly from the 1987 aerial photography so when compared to the orthophotography it matches very well.

The data presented in the 1:1000 detailed survey was prepared by AUSLIG (Western Region) for Christmas Island Administration and this work was paid for by the Commonwealth. This data is 1:1000 scale data and covers the north-east portion of the island. It contains essentially the same features as the AUSLIG 1:25000 topographic and cultural data but in more detail and more precisely located.

Accuracy

This data should be correct to about 1 metre. For most of the north east portion of the Island this data and the orthophotography have a very good correlation — usually well under one metre in difference. Around tall buildings and cliffs there may be discrepancies between the data and the orthophotographs. This is a factor of aerial photography angles and interpretation and in these cases the 1:1000 vectors should be more reliable than the orthophotography.

The dataset includes contours where the ground could be estimated using a stereo plotter (see figure. 37). These contours do not have height values attached as the source CAD file did not include this. However, using spot heights (*spot_hgt.shp*) and the ArcView annotation layer called “contours” in the “.\\infra_topo\\topo1k” directory, Geoscience Australia have observed 1m contours in the urban areas and 2m contours elsewhere. These intervals were confirmed by looking at the 1987 Christmas Island AUSLIG 1:1000 and 1:2000 map series.

In the western most extremity of the data set the accuracy has been called into question by the orthophotography contractor. They observed, after checking the orthophotography against

results from analytical stereo plotters, that “it appears that in the vicinity of the market garden, the mapping data supplied... may be in error by approximately 5 m in east”.

The data was provided as six Arc/Info export files that are stored on the CD#1 of the 2001 release in the directory ‘Cigis\Cia\source\e00’:

Detail of manipulation of the data for use in CIGIS is presented in the 1996 CIGIS System Documentation at Appendix 1. Separate data themes were split out of the provided export files via Arc/Info routines. In the 1996 Appendix 1 there is an example and description of the Arc/Info macro series that were used to do this. In 2003, GA projected the 1:1000 Detailed Topographic and Cultural Data shapefiles into the MGA (GDA94) projection using an x y shift (x = 550015, y = 8780001).

1:1000 scale National Park boundaries

The national park boundaries in this directory cover the whole of Christmas Island and are the best GA could obtain. They originate from AUSLIG Perth as part of the 1987 cadastre data set and are accurate to 1:1000 scale. The cadastral data did not include internal boundaries of the park. Thus it was necessary for GA to add the mining lease boundaries (supplied as part of the cadastral data) to the data of national park boundaries to create the full national park boundaries. This process is explained in more detail in the 1996 CIGIS System Documentation at Appendix 1.

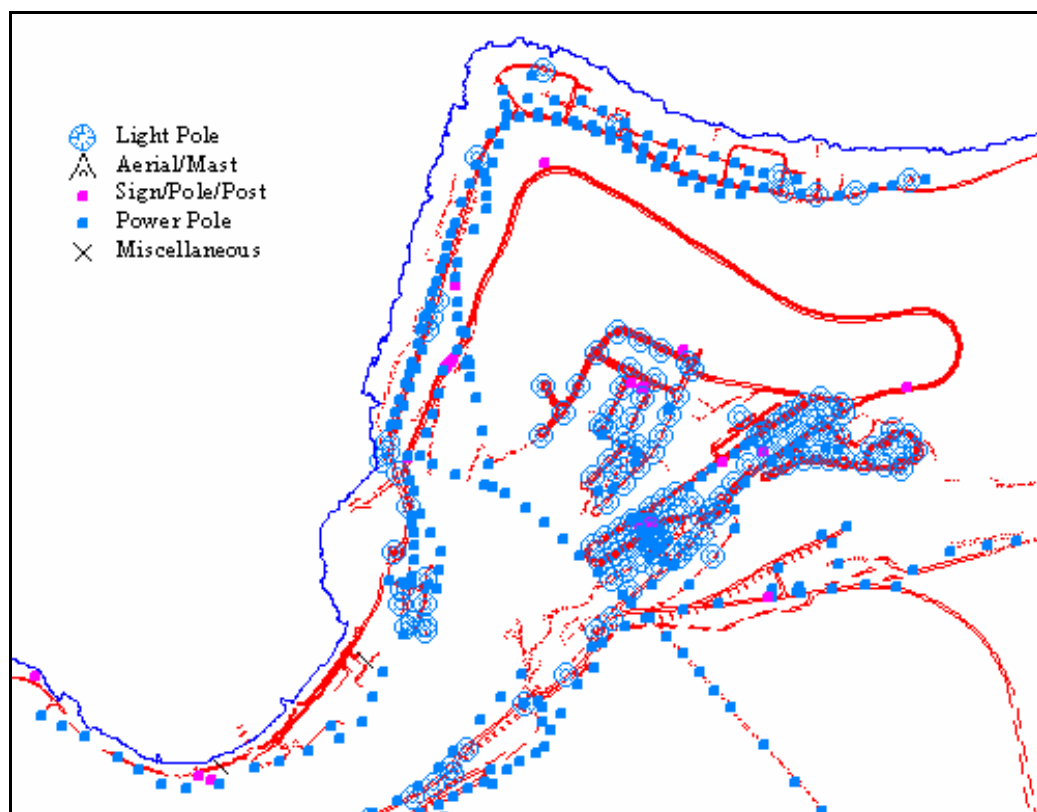


Figure 50: Point infrastructure of north-east region (1:1000 data)

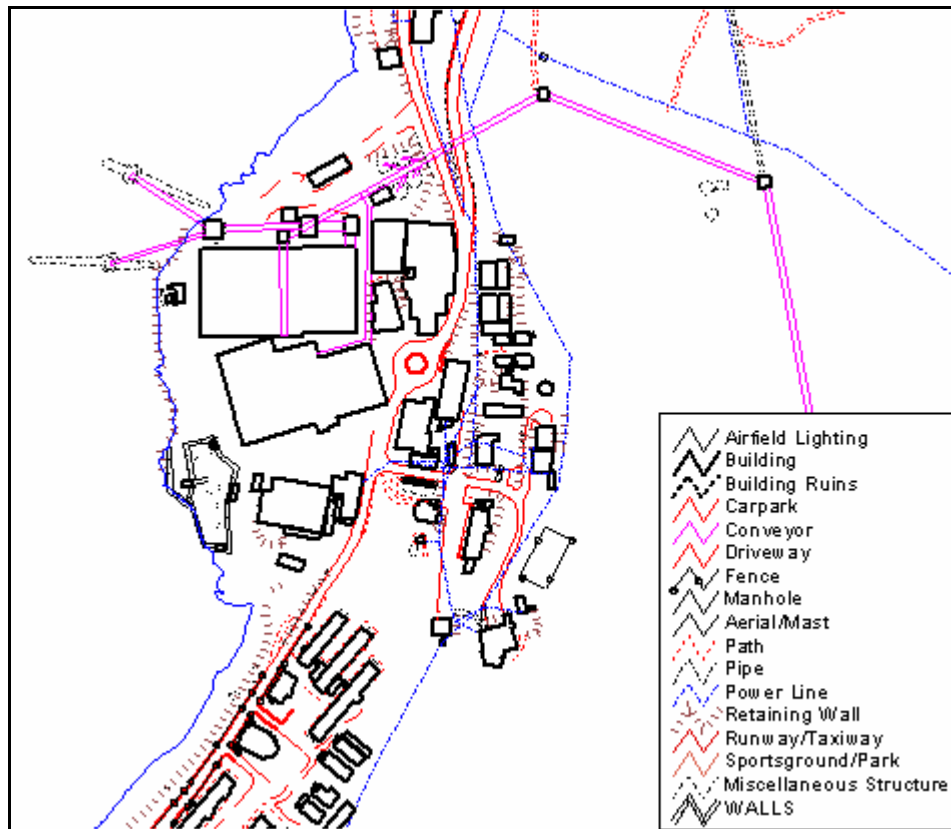


Figure 51: Line Infrastructure of north-east region (1:1000 data, detail of phosphate loading area, Flying Fish Cove)

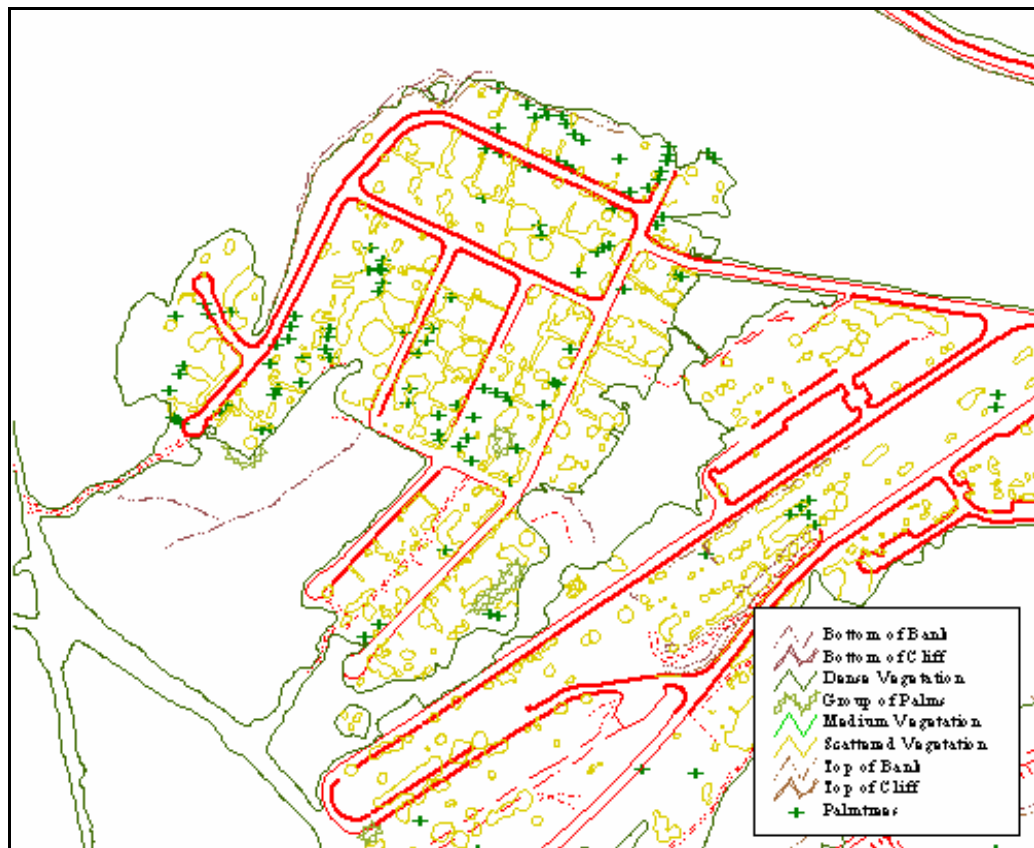


Figure 52: Vegetation of north-east region (1:1000 data, detail of Poon Saan Area with roads added for reference)

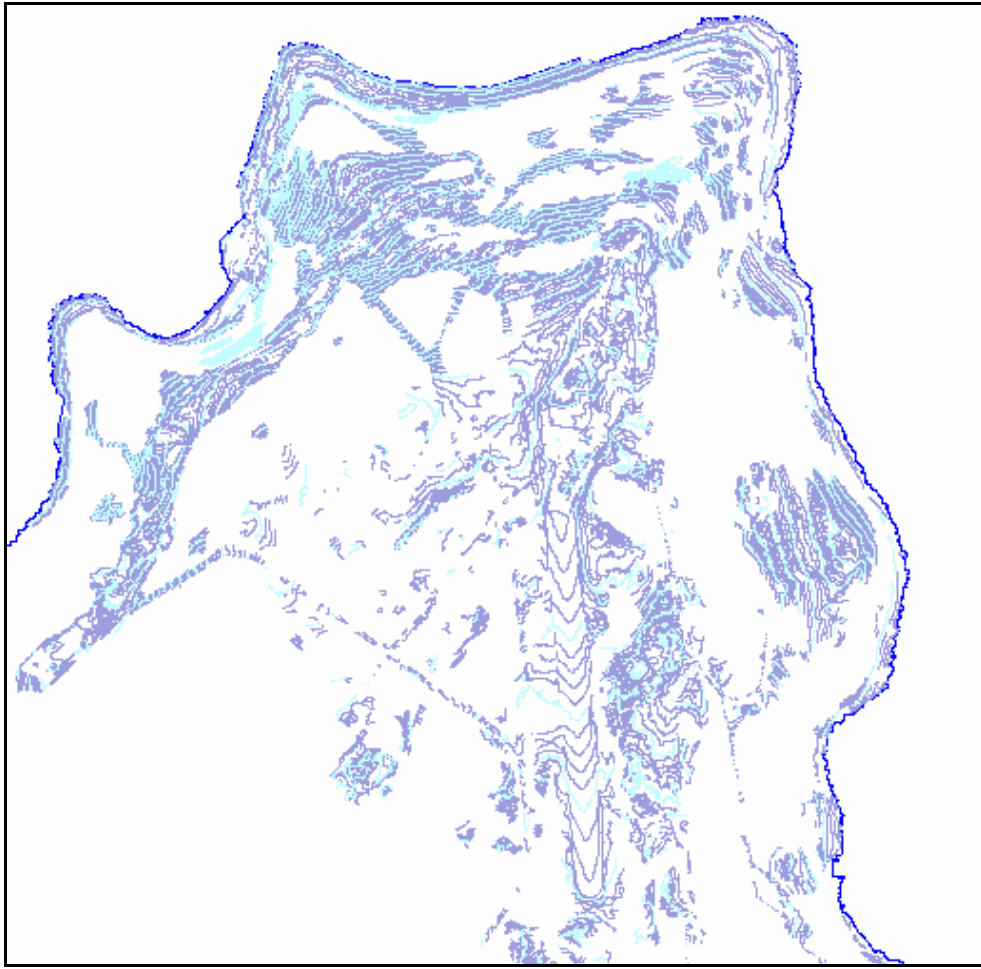


Figure 53: One metre urban and two metre elsewhere contours of north-east region (1:1000 data)

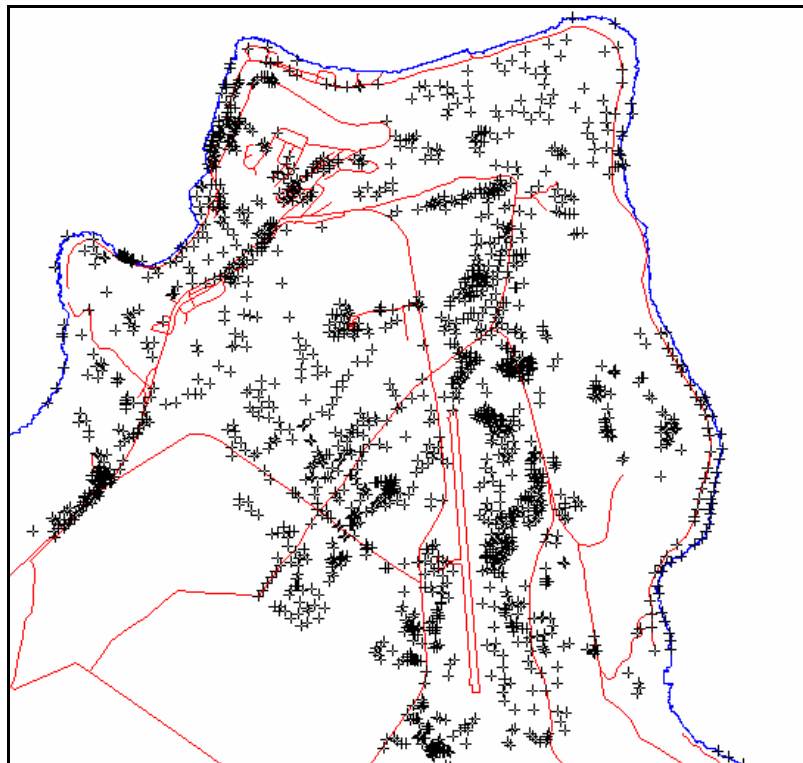


Figure 54: Spot heights for north-east region (1:1000 data)

Roads 1:25000 scale update

In 2002, GA received a shape file (coordshp_cig85.shp) from the Shire of Christmas Island that allowed considerable improvements to GA's 1:25000 roads shape file. The street names were added to the majority of the island's roads and additional roads, not known to GA, were also added using ArcView vector editing tools.

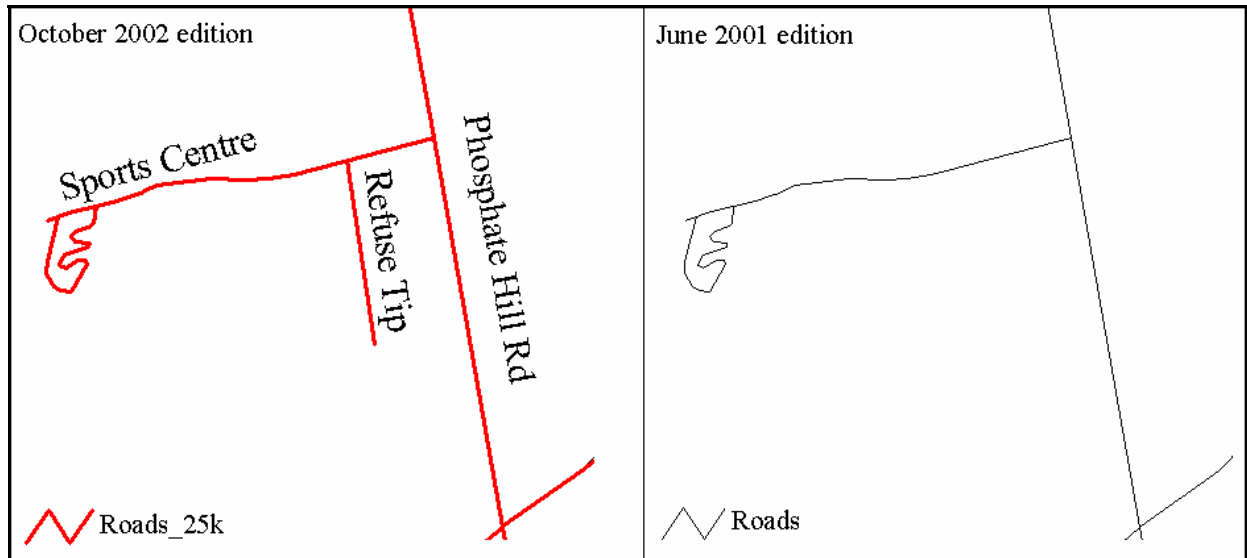


Figure 55: Spatial and attribute updates from the Shire of Christmas Island roads shapefile.

In 2002 GA redefined the Golf Course and Casino Road from the "coordshp_cig85" shapefile. GA also altered the Lily Beach Road and Quarry Road junction. Both edits were performed using ArcView vector editing tools. An update of the road surface attributes to include recent work upon the road surfaces (unsealed to sealed, etc) was also performed. This data was obtained from Christmas Island Shire Council in 2002.

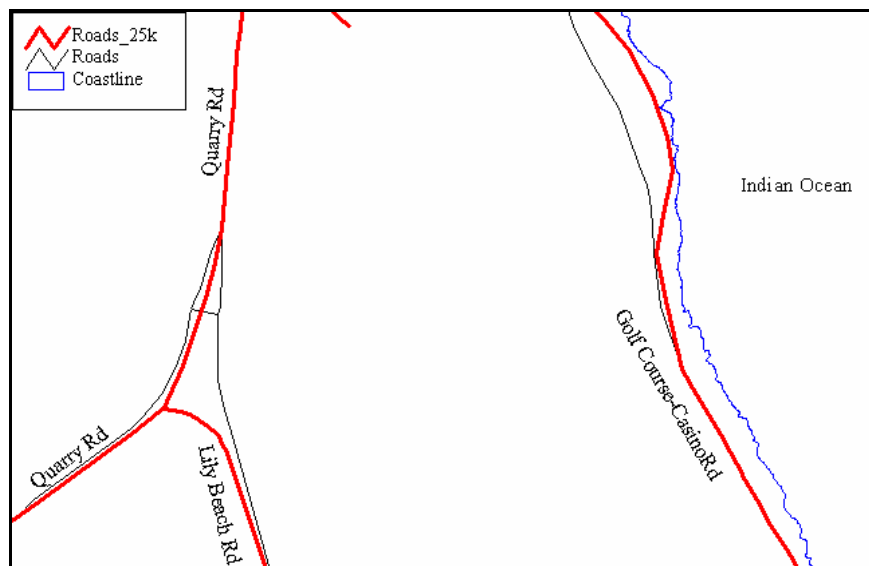


Figure 56: The updated roads file showing the alterations made to the Golf Course and Casino Road and also the intersection of Lily Beach Road and Quarry Road.

Town Plan

The Christmas Island Town Planning Scheme (TPS) data was prepared by the WA Ministry of Planning for the Commonwealth on a fee for service basis. A copy of the TPS data was supplied to AGSO as Arc Info export files on cd-rom in March 1998. The TPS has been signed off by the Minister and initialled as approved. Currently endorsement by the Shire is awaited for gazettal to proceed.

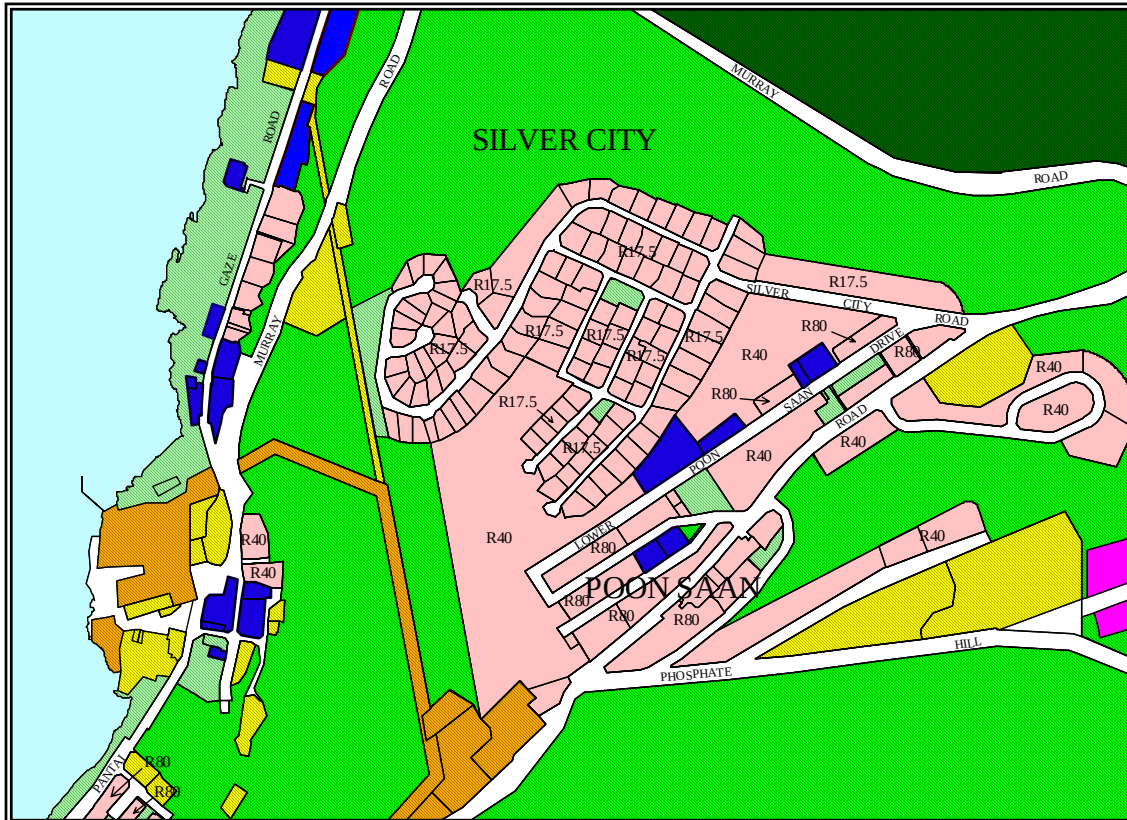


Figure 57: Data from the Christmas Island Town Planning Scheme (TPS) as prepared by the WA Ministry of Planning.

Reprojecting the Ministry of Planning data to Christmas Island Grid 1985 (CIG85) was not straightforward. GA has endeavoured to integrate the TPS data with the rest of the CIGIS as best as possible. The TPS data was supplied in a zone 50 projection despite Christmas Island being in zone 48. Ministry of Planning advised by phone that a standard Australian Map Grid had been used. However both AGD66 and AGD85 gave data over 200m out of place to the NE and so by trial and error a best match was sought and found to be WGS84. ArcInfo projection files (*z50_geo.prj* and *ll_cig85.prj* in the planning directory) were used to unproject the data to geographics and then reproject it to zone 48 CIG85. Note - there was a necessary final adjustment of two meters south and two meters west to get the TPS data into a better ultimate alignment with CIG85.

A "special points" dataset was included with the Ministry of Planning data. A number of inaccuracies in this data set were observed. The radio masts did not coincide with the masts visible on the orthophotography. GA moved five of these points by 20 to 70 metres so that they plot on top of a



most visible on the 1987 aerial photography. There are also some 'consult with Parks Australia' sites that could also well be similarly inaccurate. At two sites the radio mast points were duplicated in the TPS data.

There was a cadastre dataset included with the Ministry of Planning data. It contained many spurious polygons. There were 295 of the 1136 polygons supplied that had an area less than 2 square metres. These 295 polygons were distributed over the whole of the Island, generally in the vicinity of the coastline and most commonly in the 'Dogs Head' area. These cadastre polygons of less than 2 square metres were judged to be errors and deleted from the final shapefile "mopcadas.shp" (Ministry of Planning cadastre).

Selecting MoP cadastre polygons from 2 to 150 square metres in size showed land parcels of which some may actually be valid (eg a walkway of 28 sq metres). So a lesser selection was made of polygons between 2 and 20 square metres and this yielded 282 of the 841 remaining MoP cadastre dataset polygons. A brief inspection indicated these were all on the coastline. They were presumed to be relict sliver polygons and deleted. This left 559 of the original 1136 polygons. Many of these appear to be sliver polygons along the coast. If this MoP cadastre data set it to be taken seriously and used, a reliable way to select and eliminate these slivers needs be found (perhaps using the ratio of area and perimeter).

In September 2003, GA projected the Town Plan shapefiles to the MGA(GDA94) projection using an x y shift (x = 550015, y = 8780001).

Crazy Ant Grid

An updated version of the crazy ant survey grid was received by Geoscience Australia from Parks Australia North Christmas Island (PANCI) in November 2001. This working version contains observation data made by PANCI employees during their research of the crazy ants colonies on Christmas Island.

Each of the points represents a surveyed crazy ant site. Using field methods (eg number of ants running across a sheet of paper), PANCI employees estimated the concentration of ants at each site. The results were then represented as total ants and incorporated into the shapefile "crazyants_grid" in the ".cigis/environment/" directory". In September 2003, GA projected the Crazy Ants shapefiles to the MGA (GDA94) projection using an x y shift (x = 550015, y = 8780001).

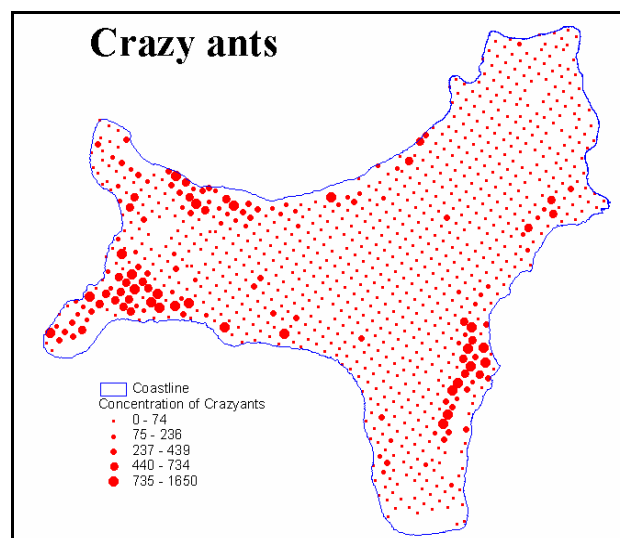


Figure 58: Crazy ant grid showing concentration of ants at each site.

Pinnacle Field Boundaries

The production of pinnacle boundaries was first initiated by AGSO in 1996 and GA completed digitising the NE part of Christmas Island. These original boundaries were generated for the pinnacle fields in the Dogs Head area by use of an automated classification utility associated with an image processing package. The resolution obtained by this method gave polygon outlines that appear "smooth" to a scale of at least 1:500. However this process of classifying regions of pinnacles proved very time consuming as many non-pinnacle areas were picked up by the automated classification (such as patches of bare earth beside roads etc).

Fortunately in 1998 the digitising of pinnacle boundaries was continued by the mine surveyor's assistant (James Keogh). James completed the rest of the Island was by way of "heads - up" digitising (on screen digitising) using the orthophotography as the background. From this work the typical scale that provides a "smooth" outline is no better than 1:10,000.

As part of the 2002 airport extension project, Geoscience Australia added eight new pinnacle boundaries to the existing dataset. Six of the fields were to the north and two were to the south of the runway. After reviewing the field closest to the southern section of the runway with the 2000 Airborne Laser Scanning, it was expanded from 30,606m² to 48,015m². The resolution obtained provides the eight polygon outlines with a "smooth" appearance to a scale of at least 1:500. In September 2003, GA projected the Pinnacle field shapefile from CIG85 to MGA (GDA94) using an x y shift (x = 550015, y = 8780001).

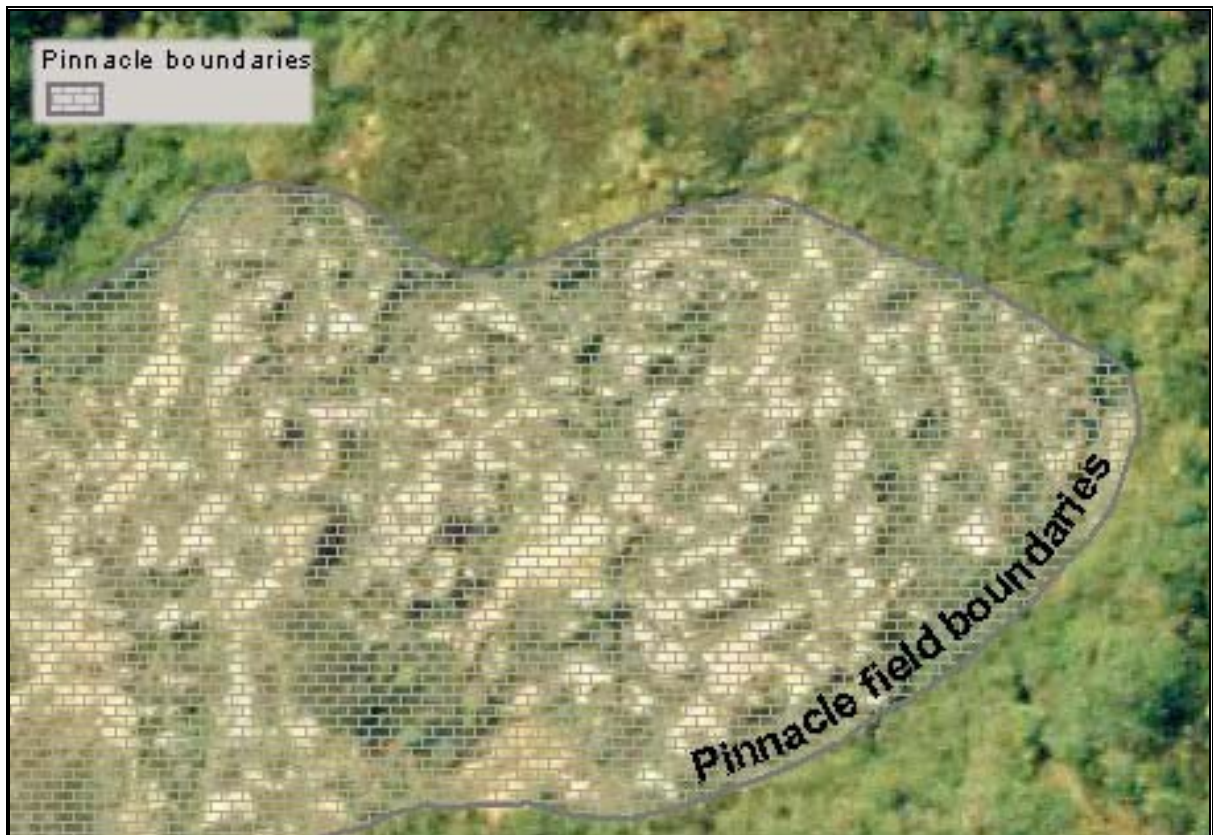


Figure 59: Pinnacle field area east of the airport (50m across N-S). The automated classification process has produced a smooth boundary at this close scale.

Vegetation

The vegetation dataset is derived from the 1:25000 vegetation map of Christmas Island by J. Barrie in 1966. On behalf of Parks Australia North Christmas Island, in October 2001 Geoscience Australia used ArcInfo to perform 'heads up' digitising upon a scanned copy of the original to formulate a raster based copy in CIG85 projection. Upon formulation of this digital copy all attributes relating to vegetation boundaries were extracted from the map and incorporated into the 'vegetation.shp' table. 'Vegetation.shp' is located in the .data\environment directory on CD#1. The table fields were based on Geoscience Australia's data dictionary guidelines.

Alias	Type	Precision	Width
Shape	FIELD_SHAPEPOLY	0	8
Ufi	FIELD_DECIMAL	0	6
Area	FIELD_DECIMAL	5	18
Perimeter	FIELD_DECIMAL	5	18
Map_symb	FIELD_CHAR	0	8
Desc	FIELD_CHAR	0	64
Categories	FIELD_CHAR	0	50
Feature	FIELD_CHAR	0	12
Plotrank	FIELD_DECIMAL	0	1

It should be noted that the positional accuracy of the scanned map is greater than the original 1966 map. The 'heads up' digitising process ensured that the original lines captured were many times larger than those on the printed map.

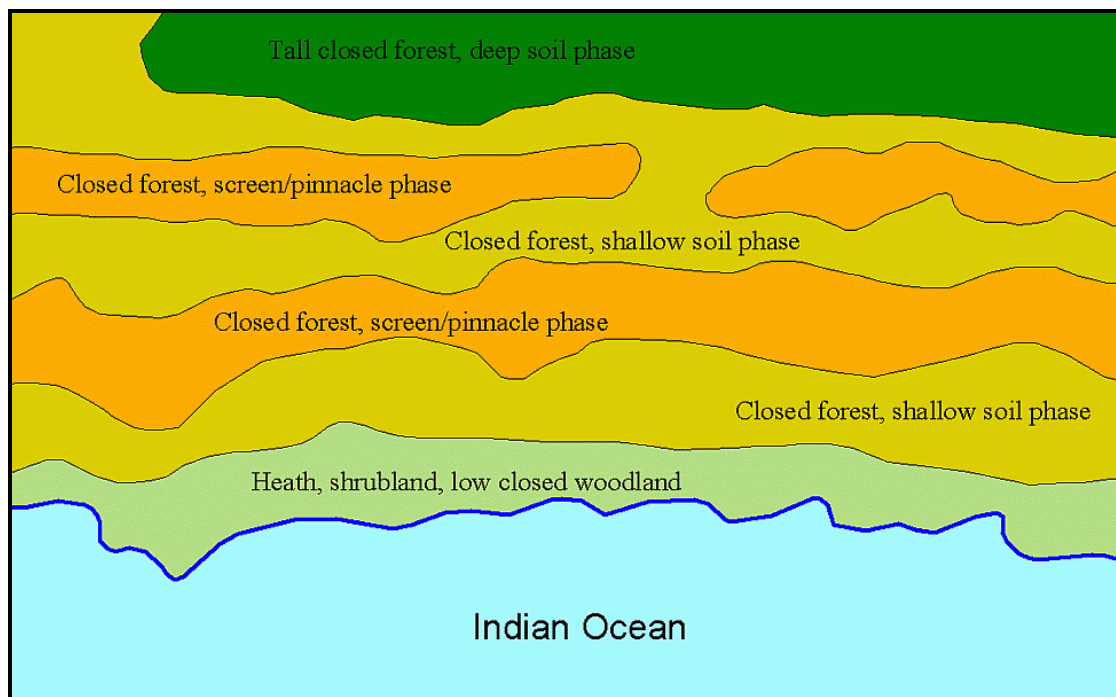


Figure 60: Vegetation boundaries in the southern coastline of Christmas Island.

Geology

The Geology dataset was digitised from the 1:27400 geology map of Christmas Island created by J. Barrie in 1966. Geoscience Australia used ArcInfo to digitise a scanned version of the map and project it into the CIGIS projection. The map was then populated with attributes according to the Geoscience Australia data dictionary guidelines. All information relating to the geological and lineations faults were extracted from the 1966 map and incorporated into the corresponding attribute tables. Details of the “geology.shp” fields can be seen below:

Alias	Type	Precision	Width
Shape	FIELD_SHAPEPOLY	0	8
Area	FIELD_DECIMAL	5	18
Perimeter	FIELD_DECIMAL	5	18
Map_symb	FIELD_CHAR	0	20
Lith_desc	FIELD_CHAR	0	254
Ufi	FIELD_DECIMAL	0	6
Stratno	FIELD_DECIMAL	0	7
Unitname	FIELD_CHAR	0	64
Unitage	FIELD_CHAR	0	100
Agerank	FIELD_CHAR	0	10
Feature	FIELD_CHAR	0	12
Rocktype	FIELD_CHAR	0	50
Plotrank	FIELD_DECIMAL	0	1

It should be noted that the positional accuracy of the scanned map is greater than the original 1966 map. The ‘heads up’ digitising process ensured the original lines captured are many times larger than those on the printed map.

The attributes capture all the information that was supplied on the original map. The Geoscience Australia QA & QC process ensured that all the fields have maximum attributes attached and also contain fields that expand and value add to the original map. In 2003, GA projected the geology shapefile from CIG85 to MGA (GDA94) using an x y (x = 550015, y = 8780001)

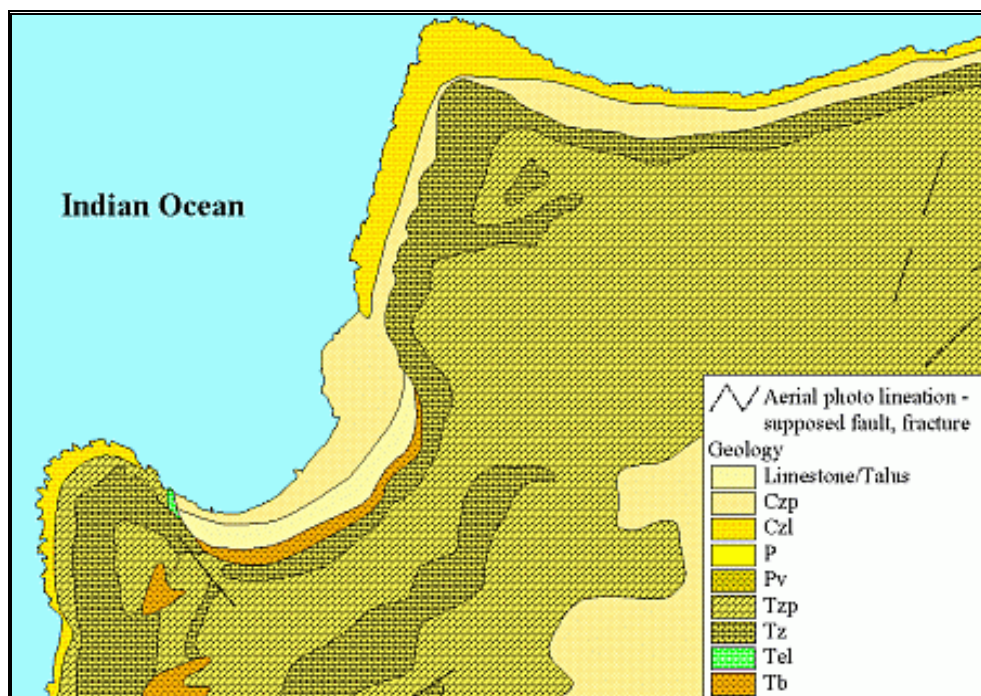


Figure 61: Geology boundaries and lineations in the northern section of Christmas Island

Valley Networks

The valley networks shapefile models the drainage networks for Christmas Island. It was produced from the 1999 DEM created from mostly 1:25000 scale vector data.

The valley networks are not entirely representative of the island's hydrology lines. The low elevation points are calculated from low elevation points in the DEM. The island primarily comprises of highly permeable limestone. Therefore, precipitation is not given the opportunity to form above ground streams or rivers shown in the 'valley_net' shapefile. The 'valley_net' shapefile does not take into account the sub-surface flows or sink holes that have a major bearing on the island's hydrology networks.

The shapefile 'valley_net.shp' was constructed using a sequence of ArcView hydro v1.1 extension grid commands, which produced filled sinks, flow direction, flow accumulation, and watersheds. Because of the size of the coverage's (256Mb) they were left off the CIGIS CD-ROMs. In September 2003, GA projected the valley_net shapefile from the CIG85 to the MGA (GDA94) projection using an x y shift (x =550015, y = 8780001).

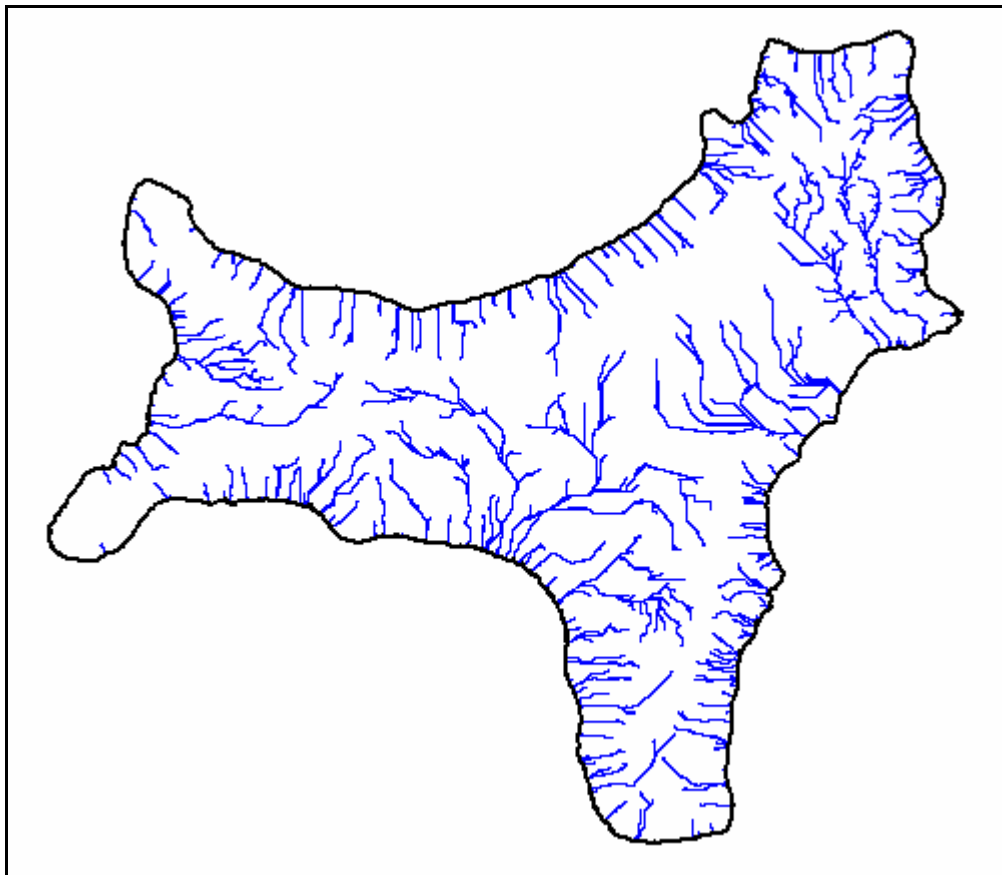


Figure 62: Valley Networks derived from the 1999 DEM of Christmas Island

Irvine Hill Forest Boundaries

The Irvine Hill forest area can be found in the north-east part of Christmas Island. An example of the extent of the forest boundaries can be seen in the following figure. This data

was collected by surveying in flags placed by a National Parks officer to enclose patches of primary forest for conservation consideration should the Irvine Hill area be developed for urban use. GA built the surveyed points into the polygon shapefile 'forestedge_irvineh.shp'. In September 2003, GA projected this shapefile from CIG85 into MGA (GDA94), using an x y shift (x = 550015, y = 8780001)

There is possibly other data that may be of value in the source files from which these boundaries were extracted (see directory 'cigis\environment\source' on cd-rom #1).



Figure 63: Limits of the Irvine Hill forest boundaries with orthophotography as a backdrop.

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Australian Geological Survey Organisation, 1996, Geographic Information System for Christmas Island Phase II, System Documentation. Prepared for the Territories Office, Commonwealth Department of the Environment, Sport, and Territories.

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Department of Land Administration (DOLA), 1992, Christmas Island & Cocos (Keeling) Islands Land Tenure System Project Planning & Detailed Costing Report

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Tony Falkland, ACTEW Corporation Ltd, Oct 1999, Christmas Island Indian Ocean Groundwater Investigations and Monitoring Report, prepared for GHD Pty Ltd and Christmas Island Administration

ANZLIC, 2001, ANZLIC Metadata Guidelines: Core metadata elements for geographic data in Australia and New Zealand Version 2 (February 2001), prepared for ANZLIC by the ANZLIC Metadata Working Group

GA Catalog details for the 2003 Christmas Island GIS (#61035)

Cat # : 61035 **Flags** **Product :** N **Publication :** Y **Dataset :** Y **Resource :** Y **WWW :** N
Title : Christmas Island GIS
Medium : **Scale :** 1000 **Contact :** Keith Porritt
Type : Data Package **Sub Type :** Geothermic **Project Id :**
Pub'n Source : A - Geoscience Australia advice to DoTaRS **Pub'n Year :** 2004

Abstract : The Christmas Island Geographic Information System (CIGIS) is a collection of spatial data, viewing and analysis tools dealing with Christmas Island, Indian Ocean. The data include orthophotography, topographic, mining, cultural and environmental features of the island. This work is part of ongoing service to the Department of Transport and Regional Services.

----- **Bounding Rectangle** -----
N Latitude : -10.4 **S Latitude :** -10.583 **W Longitude :** 105.517 **E Longitude :** 105.717

Comments :
 Various nominal scales including down to 1:1,000. Projection is MGA (GDA) as well as Christmas Island Grid 1985 (two versions).

----- **List of Authors** -----

Name :
 1 Porritt, K.R.
 2 Bryan, J.E.

Theme :
 GIS
 culture
 information management
 topography
 mineral exploration

GeoCat Query Form, Cat #: 61035 only

Action Edit Query Block Record Field Help

Title: Christmas Island GIS (2003 release) Cat #: 61035

Main Details Files Images

Type: Data Package Medium: CD-ROM + PRIN Map (GIS) Themes: various

Sub Type: Geothematic Scale: 1000 State(s):

Abstract: The Christmas Island Geographic Information System (CIGIS) is a collection of spatial data, viewing and analysis tools dealing with Christmas Island, Indian Ocean. The data include orthophotography, topographic, mining, cultural and environmental features of the island. This work is part of ongoing service to the Department of Transport and Regional Services.

Source: GA - Geoscience Australia advice to DoTaRS

Pub Year: 2004 Reliability Year: Edition: Volume/Map ID:

Comments: Various nominal scales including down to 1:1,000. Projection is MGA (GDA) as well as Christmas Island Grid 1985 (two versions). ISBN: (Price excludes GST)

Contact: Keith Porritt Supplier: GA Price:

Select Flag: Product OR Resource Dataset Publication Available Web Visible

Authors: Porritt, K.R. 1 Bryan, J.E. 2

N Lat: -10.4 S Lat: -10.583 W Long: 105.517 E Long: 105.717

1:100k Maps 1:250k Maps 1:1m Maps

Spatial Locator

Legend: Display Only, Mandatory, Admin Only, Standard Text

Click to set current catalog entry as a resource

Record: 1/1 <OSC>

Figure 64: Christmas Island GIS GA Catalog entry — #61035

Christmas Island Geographic Information System

SYSTEM DOCUMENTATION

December 2003 Release



Chapter 3.

Appendix 1: CD-ROM HTML Documentation



Australian Government
Department of Transport
and Regional Services
Geoscience Australia

Chapter

3

Appendix 1: cd-rom HTML documentation

Hard copy print of the HTML pages comprising the autorun content for cd-rom # 1.



Australian Government
Department of Transport and
Regional Services

Christmas Island 2003 GIS HOME

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What's New in 2003!



Click here for descriptions of the new components
in the Christmas Island 2003 edition.

Jump Menus

Metadata:

Select Metadata	▲
LaserDEM Shiny Colour Drape Images	■
Constraints to Urbanisation	▼

ArcExplorer Projects:

View data	▼
-----------	---

Documents on CD:

All Documents	▼
---------------	---

Quick Links

Documents - Listing of documents
on CD-ROM.

Metadata - Information on data
supplied on CD-ROM.

Premade projects - View the data
using the supplied projects.

Contents of CD-ROMs - Listing of
what can be found on CD1 and CD2.

Getting Started/Installations -
Software that is needed to use all
features of this CD.

Copyrights/Licensing - Please refer
to these as a discussion for usage.

CIGIS Web Map - (opens in a new
window)



What's new in 2003

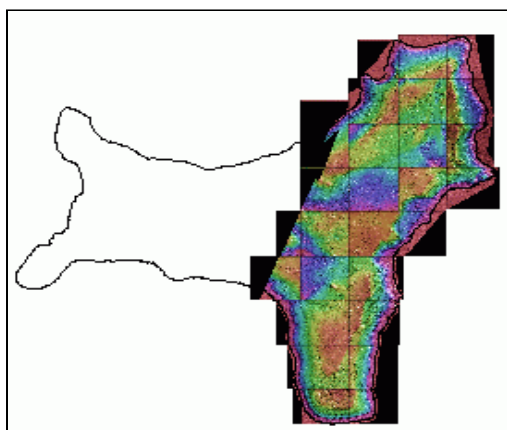
The 2003 Christmas Island GIS site has been updated to include several new features and layers. Data within the GIS has been re-projected from the CIG85 projection used in previous versions of the CIGIS into the Map Grid of Australia (GDA94) system. The MGA(GDA94) coordinate system is, for the purpose of the CIGIS, equivalent to the Universal Transverse Mercator (UTM) projection using the WGS84 datum. This means that the 2003 CIGIS uses a coordinate system compatible with standard GPS coordinates and with the most common mapping system used in Australia (MGA).

The 2003 CIGIS includes a digital elevation model generated from airborne laser scanning data. This laser DEM has the advantage over previous DEMs in that the laser scanner was able to penetrate vegetation cover. A greater degree of ground surface detail is therefore visible in the 2003 Laser DEM. Shiny colour drape images of the laser DEM have been included, as have shapefiles containing the original laser scanner ground surface heights. Grids interpolated from these laser scanner heights are also present in the 2003 CIGIS.

A plan of Christmas Island, with all of the Island classified as either mildly, moderately, or severely constrained to urbanisation or unconstrained to urbanisation is also present on the 2003 version of the CIGIS.

- [LaserDEM Images](#)
- [Airborne Laser Scanning](#)
- [Laser DEM Grids](#)
- [Laser DEM Comparison](#)
- [Constraints to urbanisation](#)
- [1997 Orthophotography](#)

LaserDEM Images:



LaserDEM Shiny Colour Drape Images

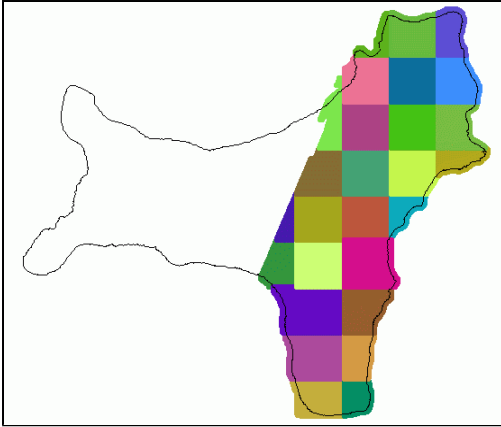
The Laser DEM is represented by ECW, 8 bit TIFF, and 24 bit TIFF images spanning the eastern half of Christmas Islands. The images have a 1m pixel size.

[LaserDEM Shiny Drape Imagery metadata sheet](#)

Airborne Laser Scanning:

Airborne Laser Scanning

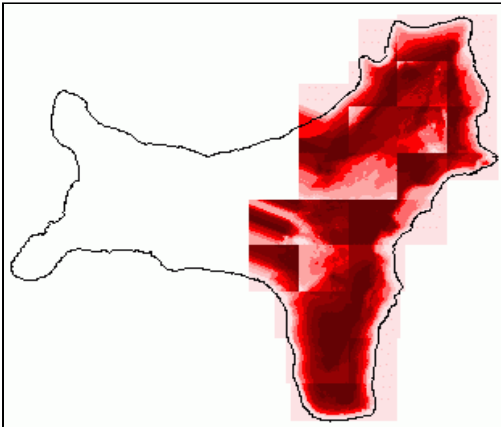
In 2000 an airborne laser scanner survey of the eastern half of



Christmas Island was conducted by AAM Surveys. The ground heights obtained in this survey were converted to shapefiles for the 2003 CIGIS.

[Airborne Laser Scanning metadata sheet](#)

LaserDEM Grids:



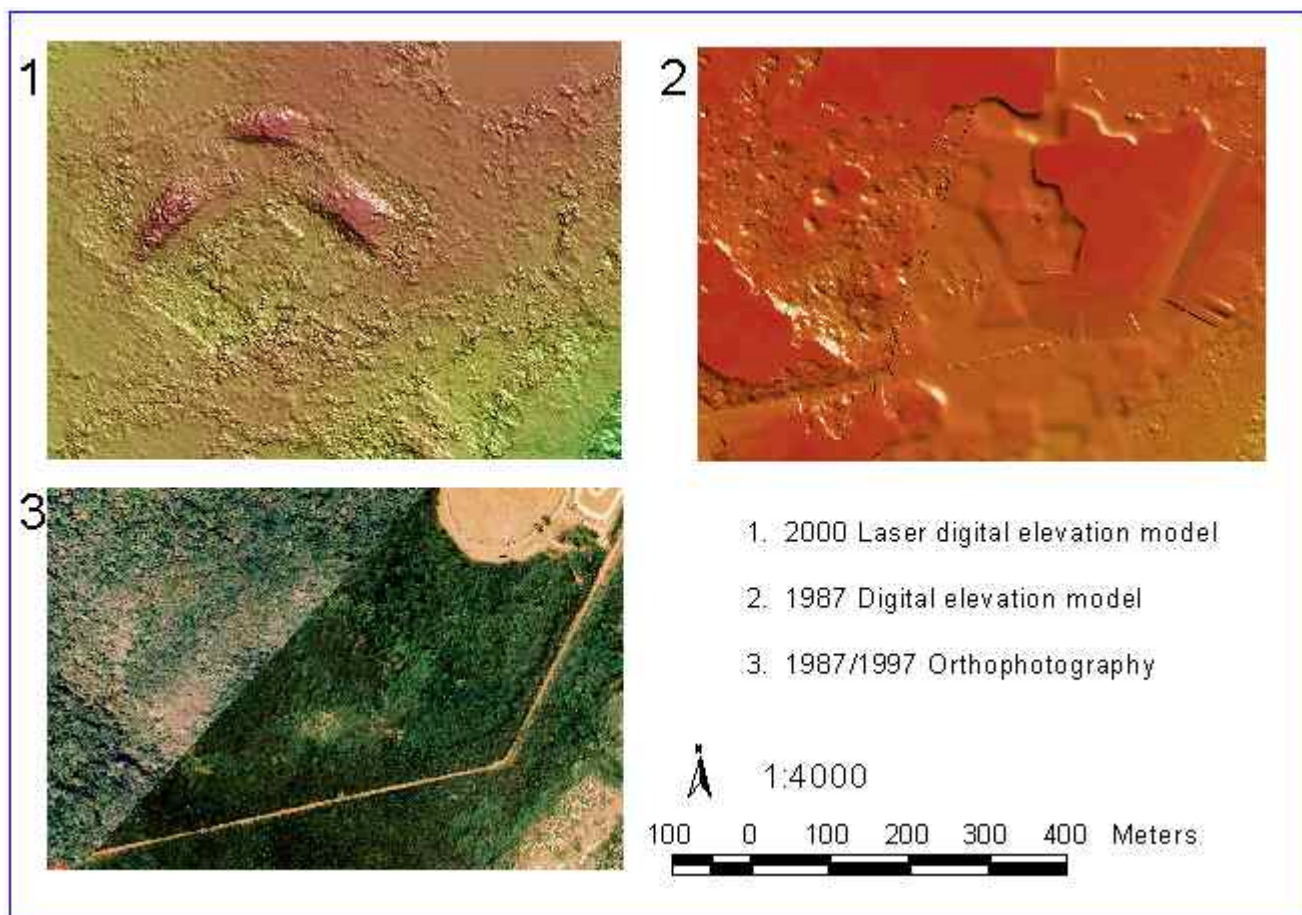
LaserDEM Grids

Arcview grids interpolated from the Airborne Laser Scanner Heights are also included in the 2003 CIGIS.

[LaserDEM Grids metadata sheet](#)

LaserDEM Comparison:

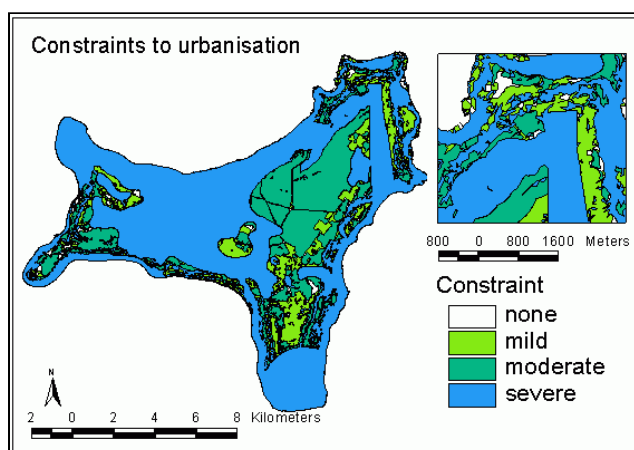
Topographic features obscured by vegetation are now readily discernable by viewing the Laser DEM images, which was not the case for DEMs available in previous versions of the CI GIS.



LaserDEM Comparison

This figure shows the high level of detail present in the Laser DEM (1). Stockpiles obscured beneath vegetation (3) are clearly apparent in the Laser DEM (1) but not in the previous version of the DEM which includes the heights of trees in the elevation surface (2). Notes; (3) has a 1997-1987 photo join. (2) has the tree canopy height truncated at a fixed value.

Constraints to Urbanisation:



Constraints to urbanisation

Classification of Christmas Island as either unconstrained for urbanisation or mildly, moderately, or severely constrained for urbanisation.

[Constraints to urbanisation metadata sheet](#)

1997 Orthophotography:

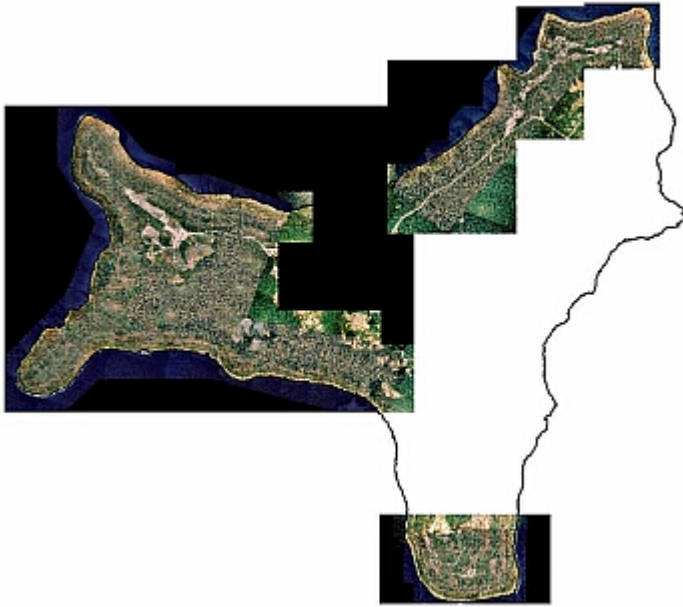
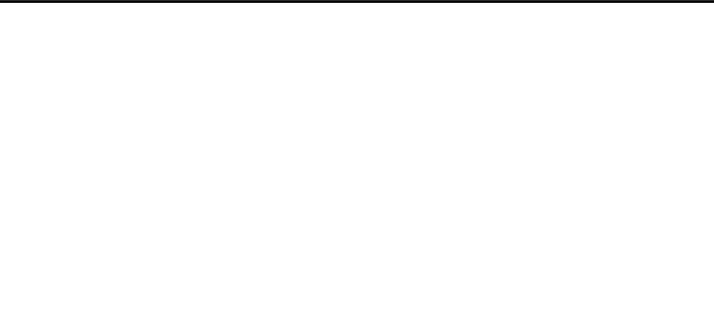
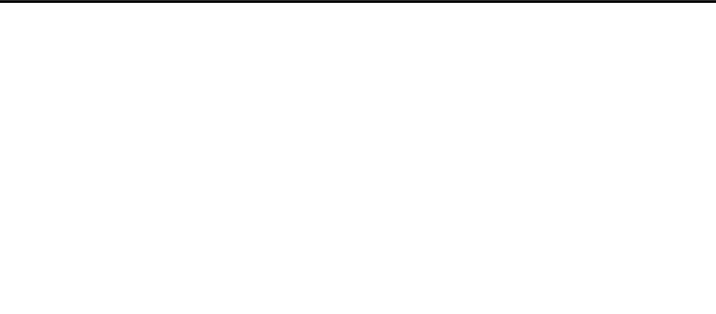
A key addition to last years CIGIS release was the [1997 orthophotography](#).

[Index](#)



1997 Orthophotography Snap Shots

The following 14 images are screen captures of the 1997 orthophotography. A zoomed photo can be viewed by clicking on each individual image or on the magnify icon.

Overview 	Silver City West 
	
Power Plant 	School 
	
Poon Saan 	Hospital 
	

**Wharf****Rocky Point****Nursery****Jetty****Golf Course****South Point Wash Screen Plant**



IRPC Site



Drumsite



 Australian Government Department of Transport and Regional Services	Christmas Island 2003 GIS GETTING STARTED
Home Getting Started View Data Metadata Documentation CD Contents Acknowledgements Copyright Disclaimer Contacts	In order to have the CIGIS 2003 product fully functional, you will need to run a Microsoft Windows Operating System (Windows 95 or greater). After you have the appropriate software installed you can run the CIGIS using either CD1 or CD2. However, it is advisable to load the data onto your hard drive if you want to manipulate any of the spatial data provided on the CD's. This can be done by following the links below.  Getting Started Guide 
Data Dictionary AE Manual	A step by step pictorial guide walks you through the process of loading the CD's and the freeware programs onto your hard drive.
	NOTE: Installation of software may require administrative privileges for Windows NT, 2000 or XP. Users of Windows NT 4.0 may need to contact their system administrator for installation. NT, 2000, and XP users will also require Service Pack 3 or greater.



Quick start option:

Most PCs only need to have ArcExplorer installed.

Install ArcExplorer by clicking on this link: [\[Install ArcExplorer here\]](#)

- Choose "Run the program from its current location".
- Follow the Windows prompts to complete the installation.
- ArcExplorer will advise you if it is already on your PC.
- **Select the defaults for all the installation options.**
- Viewing the data using the ArcExplorer [premade projects](#) should now be possible.



Clicking on the logo to the right will also start the ArcExplorer installation.

Alternatively use windows explorer to navigate to the

...cigis/tools/freeware/aexplorer directory and double click on file **ae2setup.exe**.

Guide to Loading the CD's onto your PC - detailed option:

Past editions of the CI GIS tried other ways of documenting the process of loading the data from the CI GIS CD's onto your PC. This release incorporates a step by step guide that aims to direct you through the process and have you using the CI GIS system in minutes.

The key steps or functions are displayed in [blue underlined text](#). Clicking on the text will give you an example. You should close each of the example screens once you have finished looking at them to avoid cluttering up the screen. Manouvering through the guide is as easy as pressing the up or down arrows on the right hand side of the main page.



Step 1:

The first step involves you finding out whether your computer has had previous releases of the CI GIS loaded onto it. You do this by navigating through [Windows Explorer](#) on your hard-drive (usually "C") and doing a [search](#) on "CIGIS".

Does your computer have the CIGIS loaded?

[YES](#) | [NO](#)





Christmas Island 2003 GIS GIS - ArcExplorer Projects

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Premade ArcExplorer Projects

To view the ArcExplorer projects click on the respective title. To view a screen shot of the ArcExplorer project click on the **preview** link

AE project name	Preview	Description of project
Laser DEM	none	This project contains all Laser DEM tiles as well as cadastre, infrastructure, utilities, minelease and orthophotography layers.
Drumsite	preview	Drumsite suburban area.
Kampong	preview	Kampong suburban area.
Incline Top	preview	Incline Top suburban area.
Rocky Point	preview	Rocky point suburban area.
Seaview	preview	Seaview suburban area.
Silver City	preview	Silver City suburban area.
Silver City West	preview	Silver City West suburban area.
Taman	preview	Taman suburban area.
Wharf	preview	Wharf.
Water supply	none	Water supply lines and points in a style Water Corp use.
Waste water	none	Waste water lines and points in a style Water Corp use.
Water drainage	none	Water drainage lines and points in a style Water Corp use.
Electricity supply	none	Electricity supply lines and points in a style Water Corp use.
Telecommunications	none	Telecommunications lines and points in a style Water Corp use.
Booby nests	preview	This project is shows a zoomed in section of some of the Abbots Booby bird area.
Utilities all	preview	Contains most utilities of Christmas Island all in one project.
Space Centre	preview	This project shows a suggested area of Christmas Island that could be used for the proposed space centre.
IRPC site	preview	Suggested location of the Immigration Reception and Processing Centre.
	preview	This project is an example of digitising, it shows a

	● Digitising		stockpile area that was manually digitised using ArcView.
	● Cadastre 2004	preview	This project shows the Christmas Island 2004 cadastre which contains ground audit information.
	● Irvine Hill	preview	This project is focused on Irvine Hill.
	● Town Plan	preview	This project highlights the proposed Christmas Island town plan.
	● Master	none	This project contains all the layers that can be used to create other projects by removing the themes not required. Warning - because all the GIS layers turned are turned on, it will be slow to load.



Christmas Island 2003 GIS METADATA LIST

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Important! For most of the layers in the CIGIS, metadata was not supplied or was incomplete or informal. In GA's efforts to supply metadata according to the ANZLIC Core Metadata standards, many elements were filled according to GA's understanding. Metadata should therefore be considered as a preliminary version only. GA encourages data providers to supply any updated, corrected or missing metadata elements. This can be done by contacting Keith Porritt at Keith.Porritt@ga.gov.au

Imagery:

Orthographic Photography	1997 Orthophotography Data
	1987 Orthophotography Data
Laser Digital Elevation Model	Laser Digital Elevation Model Shiny Colour Draped Images
Digital Elevation Model	1997 Digital Elevation Model Tiles
	1987 Digital Elevation Model Tiles

Vector:

1:1000 Data	1:1000 Topography and Culture
1:25000 Data	1:25000 Topography and Culture
Cadastre 2004 Data	Cadastre 2004 Dataset
Planning	Constraints to Urbanisation
	Mine Lease Boundaries
	Pinnacle Land Boundaries
	Town Plan
	Utilities
	Field Rehabilitation Survey
Environmental	Old Maps of Christmas Island
	Abbot's Booby Bird Dataset
	Water Resources
	Geology
	Vegetation
	Valley Networks
	Crazy Ant Survey

	Other Datasets Available	Irvine Hill Forest Boundary
		Digital Elevation Model Contours Dataset
		Register of National Estate
		Site Pictures Dataset
	Control Data	Line/Peg Grid Dataset
		Department of Land Administration (DOLA) Survey Control Dataset
		1987 Aerial Photography Control Points
	Laser DEM Data	1987 Flight Lines and Photocentres Dataset
		1987 Aerial Photograph Circles Dataset
		Airborne Laser Scanner Height Data
		Laser Digital Elevation Model Grids



Christmas Island 2003 GIS Data Dictionary

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A spatial data dictionary is a table of descriptions of data or items in a spatial model for the benefit of GIS officers, GIS programmers and others who need to refer to them.

There are two methods in which you can search the Data Dictionary for information regarding a specific shapefile table structure:

- [Sorted by directory format](#)

or

- [Sorted alphabetically](#)

You can also view the Data Dictionary in .pdf format:

- [.pdf version](#)

To view a detailed explanation of the data dictionaries structure click below

- [Sample](#)

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Documents found in the CIGIS 2003 release

● **2003 CIGIS System Documentation (New Release)**

This manual provides documentation to the 2003 release of the CIGIS. It includes documentation of all the new data acquired.

● **2003 CIGIS Data Dictionary**

Data Dictionary of all spatial components found in the CIGIS 2003 edition.

● **CIGIS ArcExplorer Manual**

The 2003 CIGIS includes a basic ArcExplorer (AE) manual for those users who are less familiar with the GIS system. After downloading the full AE manual from the ESRI website GA edited it to better suit the end users of the CIGIS. In addition to walking the user through the setup procedure of Arc Explorer, it also explains the basics of the GIS system in an easy to understand manner.

● **Draft Local Planning Strategy for CI. - Phase One - Planning Assessment.**

This report was distributed June 2002. The essential objective of the Local Planning Strategy is to provide a shared, comprehensive strategic vision for the long term planning and development of Christmas Island.

● **AAM Surveys Airborne Laser Scanning Survey Documentation.**

This report was produced in November 2000 and contains metadata details of the Airborne Laser Scanner Survey of the eastern half of Christmas Island. The survey was flown by AAM Surveys Pty Ltd

● **Ecowise Water Resources Data Report**

This report was produced by Ecowise and documents the Water Resources CD-ROM produced. It describes data uses, accuracy, field structure and other aspects of the Water Resources CD-ROM.

● **Ecowise Report: Water Management Plan**

This document has been produced by Ecowise and describes aspects of water management on Christmas Island.

● **Ecowise Report: Groundwater Investigations and Monitoring Report**

This document has been produced by Ecowise and describes aspects of the groundwater investigations and monitoring processes on Christmas Island.

● **Christmas Island Regional Analysis 1998**

This Report presents the results of the BTE's regional analysis of Christmas Island published December 1998. It covers key social and economic features, factors affecting economic development, the outlook for individual areas of economic activity, and economic sustainability.

● **Notification of Satellite Launching Facility**

This document was taken from the Environment Australia website and covers environmental impact assessment issues.

● **ANZLIC Metadata Guidelines (Version 2)**

This document outlines how the ANZLIC standards are to be applied to data. Definitions are given to assist in metadata construction.

● **Links to some useful websites are listed below (internet connection required):**

- Northern Forum 2nd Christmas Island Consultation
 - Christmas Island Shire
 - Christmas Island Tourism
 - Christmas Island National Park
 - APSC
 - Australian Spatial Data Directory (ASDD)
-

Past CIGIS Documentation

● **2002 CIGIS System Documentation (Previous Release)**

This manual was produced in 2002 as documentation to the CIGIS. It describes the uses and features that can be found in the former CIGIS.

● **2001 CIGIS System Documentation (Previous Release)**

This manual was produced in 2001 as documentation to the CIGIS. It describes the uses and features that can be found in the former CIGIS.

● **1996 CIGIS System Documentation**

This manual was produced in 1997 as documentation to the CIGIS. It describes the uses and features that can be found in the former CIGIS.

● **1997 CIGIS Cadastre Documentation**

This document describes cadastral features found in the CIGIS, it also makes note as to usage and source.

Christmas Island 2003 GIS CD-ROM CONTENT

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● **Directory Structure of the 2003 CD 1.**



CD 1 is an autorun CD that utilises a freeware GIS system known as ArcExplorer. This CD can be used as a stand alone CD to view and query the data and make rudimentary maps.

NB. In prior releases, all feature data directories, where applicable, contained a source folder. This folder contained the feature data "as recieved" by Geoscience Australia. Please refer to the 2001 CI GIS CD 1 for source data for most datasets. Due to lack of space these files have not been duplicated again this year.

● **Directory Structure of the 2003 CD 2.**



This CD-ROM contains high resolution, low file size, ECW images of the Laser DEM Shiny Colour Drape Images and Christmas Island orthophotography. ArcView software is required to use these images with the GIS. Pre-made projects have been included that contain the ECW images in a 'ready to run' form. For more details regarding the ECW creation please refer to the 2003 CIGIS System Documentation.

● **Directory Structure of the 2003 CD 3.**



This CD-ROM contains the Arcview shapefiles used to generate the Laser DEM Shiny Colour Drape Images. The Arcinfo grids interpolated from these shapefiles are also stored on CD-ROM3. The shapefiles can be viewed using Arcexplorer. ArcView or Arcinfo is required to view the grids. For more details regarding the creation of the grids and shapefiles please refer to the 2003 CIGIS System Documentation.

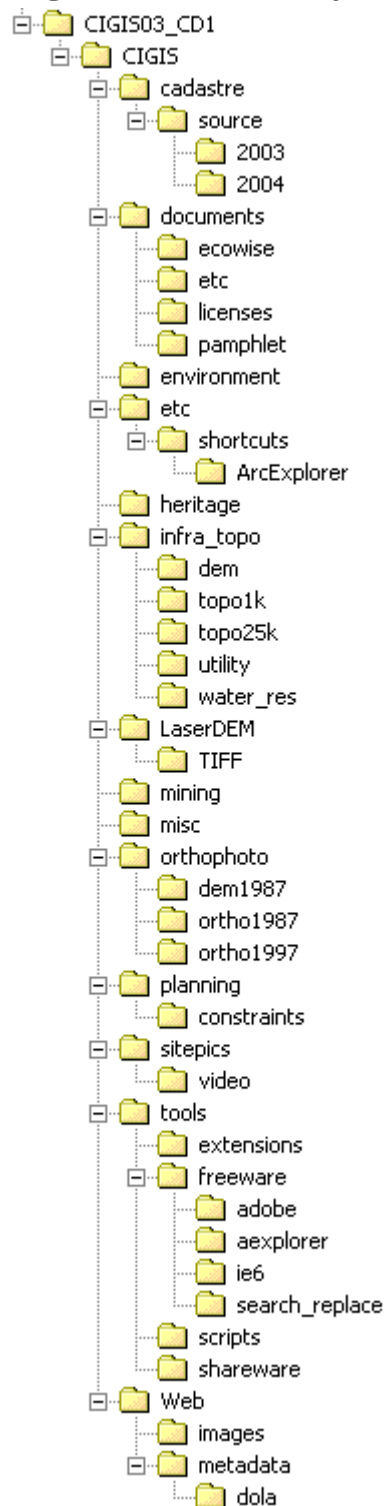
● **Directory Structure of the 2003 CD 4.**



This CD-ROM contains the 1987 DEM for the eastern half of Christmas Island. The Laser DEM Shiny Colour Drape Images in 24 bit format are also stored on this CD-ROM. The original component CAD files used to create the Constraints to Urbanisation dataset are stored on CD-ROM#4. These component files in shapefile format are also stored on this CD-ROM. Details regarding the creation of the Laser DEM images, the 1987 DEM, and the Constraints to Urbanisation dataset can be found in the 2003 CIGIS System Documentation.

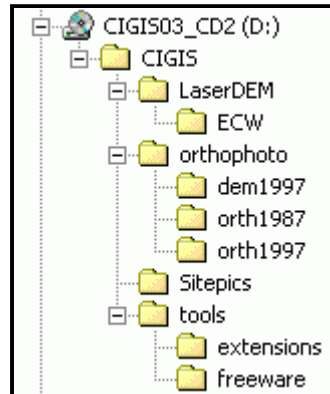
Christmas Island 2003 GIS CD-ROM 1 Directory Structure

The following image mirrors the directory structure of CD1.



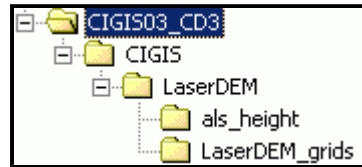
Christmas Island 2003 GIS CD-ROM 2 Directory Structure

The following image mirrors the directory structure of CD2.



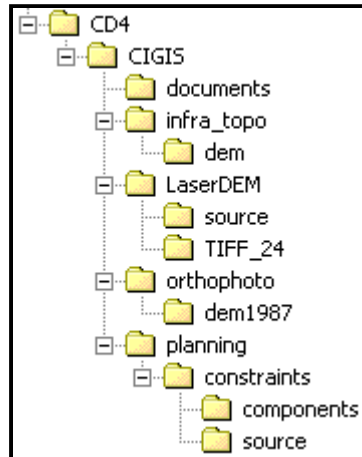
Christmas Island 2003 GIS CD-ROM 3 Directory Structure

The following image mirrors the directory structure of CD3.



Christmas Island 2003 GIS CD-ROM 4 Directory Structure

The following image mirrors the directory structure of CD4.



 Australian Government Department of Transport and Regional Services	Christmas Island 2003 GIS ACKNOWLEDGMENTS
Home Getting Started View Data Metadata Documentation CD Contents Acknowledgements Copyright Disclaimer Contacts Data Dictionary	The Mineral Resources and Advice Group of Geoscience Australia would like to acknowledge the support of various Territories Office staff over the last five years, including Ms Sema Varova (the Executive Director at the time of inception of the project), Ms Debra Blaskett, Mr. Hugh Moore, Mr. Peter Lawler and Ms Sharon Leigh, whose efforts made the undertaking and continuation of this work possible. The original digital capture of cultural and topographic themes at 1:1000 scale was commissioned by Territories Office in a variety of projects over the last decade and largely undertaken by the Australian Land Information Group (AUSLIG) Western Region. Responsibility for cadastral information component passed from AUSLIG to the Western Australian Department of Lands Administration (DOLA) in 1992. Data underpinning the 1996 ground audit of Christmas Island was developed jointly by AUSLIG, DOLA and the Australian Valuation Office (AVO) through Australian Estate Management (AEM) as consultants to Territories Office. The contributions and assistance provided by staff at Phosphate Resources Limited both on the Island and in Perth helped significantly in the retrieval and packaging of one hundred years of mining information into the CIGIS. Staff at Parks Australia North also assisted with the access to old computing equipment storing ten years of data from the Abbott's Booby study. Through these people's assistance valuable spatial and attribute data, that in many cases would have certainly soon been lost, is now readily accessible. The metadata sheets regarding the themes used in the CD-ROM are available under the metadata tag. The data has been assembled by the Mineral Resources and Advice Group within GA. For further information, Keith Porritt regarding the data integration.



Australian Government
Department of Transport and
Regional Services

Christmas Island 2003 GIS COPYRIGHT

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© Commonwealth of Australia 1987-2003.

This work is copyright. Data displayed in this system are copyright of the Commonwealth of Australia. The cadastral boundaries displayed in the ground audit layer are maintained by the Western Australian Department of Lands Administration (DOLA) under a 'Service Delivery Arrangement' to the Commonwealth.

The collection of other data displayed in this CIGIS CD-ROM was contracted out by Territories Office to various Commonwealth and State government agencies at various times during the last ten years via several independent consultancy agreements.

The CIGIS manuals and CD ROMs should remain with your employer if you leave your present position to work for another organisation.

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Email: deb.blaskett@dotars.gov.au

The GIS datasets were recast and assembled by the Mineral Resources and Advice Group of Geoscience Australia as part of a project assessing opportunities for further mining of the phosphate resources on Christmas Island in balance with nature conservation and related land use management and planning issues (Christmas Island GIS technical paper of 1997).

A description of each dataset including lineage, positional accuracy and data formats can be viewed in the metadata pages; for example:

- 1:1000 Topographic data based on 1987 aerial photography.
- Orthophotography created from the 1997 aerial photography.
- 2004 Ground Audit from Department of Land Administration with attributes added from Australian Land Information Group(AUSLIG) and Territories Office.

For further information, contact Keith Porritt regarding the data integration.



Australian Government
Department of Transport and
Regional Services

Christmas Island 2003 GIS DISCLAIMER

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The data were assembled by the Mineral Resources and Advice Group of the Geoscience Australia (GA). In compiling this product GA has translated and integrated data as received from other sources. GA has not undertaken any comprehensive check as to the accuracy or completeness of these externally supplied datasets. Consequently GA cannot guarantee that the information is totally accurate or complete. Therefore you should not rely solely on this information when making a commercial decision.

For further information, contact Keith Porritt regarding the data integration.



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Symonston

ACT 2609

149° 9' 30" East by 35 ° 20 ' 38" South (GDA94)

Christmas Island Geographic Information System

SYSTEM DOCUMENTATION

December 2003 Release

Chapter 4.

Appendix 2: Metadata



Australian Government
Department of Transport
and Regional Services
Geoscience Australia

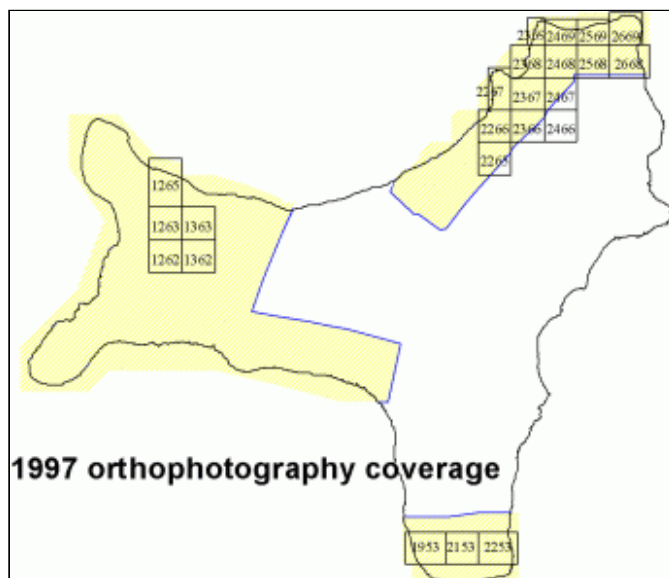
Chapter

4

Appendix 2: Metadata

On the following pages is a printout of all the metadata sheets. These metadata sheets were created to comply with ANZLIC core metadata standards. To aid with understanding the nature of each dataset, a picture has been added to the top of each metadata sheet.

As this is the first year of support for the CIGIS, metadata should be considered as a preliminary version only. Agencies who have involvement with the data for a particular metadata sheet are welcome to contribute back metadata element revisions or additions (by e-mail please) to improve that particular metadata sheet.



[1997 Orthophotography Snap Shots!](#)

[Metadata Home](#)



Dataset

Title	1997 Orthophotography of Christmas Island
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	An orthophotograph is a computer image of an aerial photograph in which various distortions due to the landscape and camera lens have been removed. The data are based on the aerial photography of Christmas Island taken in November 1997. Parks Australia North commissioned the aerial photography in 1997 to be flown over a two week period. However, due to cloudy weather only one day of photography was achieved. The data have been converted to detailed colour orthophotography (at a 15cm ground resolution) and presented as three blocks of photography that encompassed the settlement area in the north-east, the southern most extent of the south-eastern corner of the island and the western block. The pale redness associated with the image is a result of Geoscience Australia coloring the image so as to highlight variances in the vegetation over mining fields. In addition, the warping associated with this orthophotography is a result of the image being 'pinned down' by a broader DEM. Where there was a diagonal boundary to a 1997 orthophoto, the tile has been filled with 1987 orthophotography. Most orthophotography of the disturbed areas (mining or township) which were covered by the 1997 aerial photography is on CD1 as twenty three '.tif' tiles (see diagram above). Due to space limitations on CD1 all the 1997 orthophotography has not been converted to '.tif' tiles. CD2 has the full 1997 orthophotography coverage as eight .ecw tiles.
Search Word (s)	PHOTOGRAPHY AND IMAGERY Aerial PHOTOGRAPHY AND IMAGERY Orthophotography PHOTOGRAPHY AND IMAGERY Raster PHOTOGRAPHY AND IMAGERY Grid
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	02 NOV 1997
Ending Date	02 NOV 1997

Dataset Status

Progress	Complete
Maintenance and Update Frequency	Not planned

Access

Stored Data Format	DIGITAL - TIFF/ECW
Available Format Type	DIGITAL - TIFF/ECW [View extents of .ecw tiles] [View extents of .tif tiles]
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	Colour orthophotography for Christmas Island, with 15cm ground resolution, was achieved by scanning fullsize colour transparencies of aerial photography. Original negatives were scanned at 15um (1700dpi) on a Helava Digital Photogrammetric Scanner DSW 200. This scanner provides geometric accuracy of better than 2um. Digital images were then imported into a Helava Digital Photogrammetric workstation using Socet Set software version 4.3. Images were interior orientated then triangulated. Initial approximations of the camera obtained from airborne DGPS was logged during the flight. Ground control was derived from existing supplied data (Geosciences Australia). Vertical control was extracted from a supplied DEM and horizontal control from a supplied orthoimage. An array of automatically generated tie points were also used in the triangulation. Separate aerotriangulations were conducted on the three independent blocks of photography these being; 1. The Settlement area in the north-east of the island, 2. The Southern block at the south-east corner of the island, and 3. The Western block. Ortho images were then generated in sheets as per the supplied sheet layout. Prior to ortho generation, all individual images were dodged to remove tonal changes across each photo and after mosaicing, a final batch colour balance was achieved in Photoshop. A number of the supplied sheets are only partially covered, limited by the extents of photography. Ortho images were produced as Tif images and reformatted to ECW. The quality of the orthophotographs is impressive, with acceptable resolution down to 1:500 scale. The following table shows the dates of the flights and their corresponding flight run numbers: <table border="1"> <thead> <tr> <th>Date</th><th>Run Number</th></tr> </thead> <tbody> <tr> <td>02-11-1997</td><td>1-9</td></tr> </tbody> </table> In September 2003 this dataset was then converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection. View the associated images:	Date	Run Number	02-11-1997	1-9
Date	Run Number				
02-11-1997	1-9				

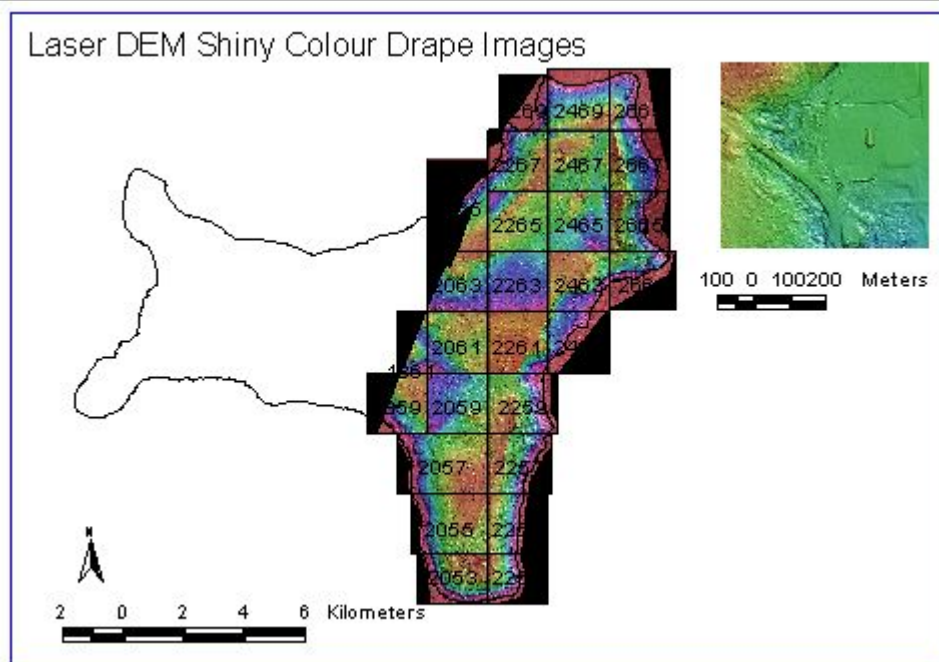
	• 1997 flight lines, photocentres and coverage extent
Positional Accuracy	The 1997 orthophotography was georeferenced directly from the 1987 orthophotography. Therefore it is expected that the positional accuracy will be the same as the 1987 orthophotography (see 1987 orthophotography metadata sheet). Geoscience Australia has noticed, in using the data, that the 1997 orthophotography has more warping of buildings. This is because a broader DEM may have been used to pin down the orthophoto. The orthophotography shows approximately 6m of irregularity within the urban and NE of districts of the island.
Attribute Accuracy	Not Relevant.
Logical Consistency	Not Relevant.
Completeness	Orthophotos are complete and form a full set of tiles of which only a few may fit onto a CD-ROM. They are based on the aerial photography taken in November of 1997.

Contact Information

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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



[Data Directory](#)

[Data Dictionary Home](#)

[Metadata Home](#)



Dataset

Title	Laser DEM Shiny Colour Drape Images
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	Laser DEM Shiny Colour Drape Images contains Digital Elevation Model (DEM) tiles covering the eastern half of Christmas Island as 8 bit TIFF, 24 bit TIFF, and ECW images.
Search Word (s)	DEM Digital Elevation Model IMAGES Tiff IMAGES ecw
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	11SEP2000
Ending Date	16SEP2000

Dataset Status

Progress	Grid tiles have been made for the eastern part of the island only (this can be seen above).
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - TIFF/TFW, ECW/ERS
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Available Format Type	DIGITAL - TIFF/TFW, ECW/ERS
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	In 2000 AAM surveys Pty Ltd. was commissioned by the commonwealth to fly an airborne laser scanning survey of Christmas Island (AAM LaserDEM readme). Raw data was tiled to shapefiles then converted to grids from which the LaserDEM shiny colour drape images were made. A wet look shiny colour drape algorithm was applied to each of the 27 '2000 LaserDEM Grid' tiles using ERMapper®, and the results saved as Tagged Image File Format (TIFF) images in both 8 bit (256 colour) and 24 bit (16 million colour) formats. Each wet look shiny colour drape DEM tile was also saved as an Enhanced Compressed Wavelet (ECW) image. The colour range has been optimized for each individual tile to provide maximum information. A consequence of this is that colours may not match at adjoining edges. Each image tile has a 1m pixel size. Most inland tiles and several coastal tiles are 2km x 2km in area. The inland tiles located at the edge of the flight path extent, and most coastal tiles, deviate from the 2km x 2km standard tile size as adjacent tiles have been merged to minimize areas of no data and ocean. An example of a 2000 LaserDEM shiny colour drape image can be viewed here . The advantage of the 2000 Laser DEM over previous DEMs is that the laser scanner used to produce the DEM was able to penetrate vegetation. Previous DEMs included the height of tree tops rather than the ground elevation obscured by vegetation. The 2000 Laser DEM therefore provides a more accurate and detailed picture of the ground surface of Christmas Island. Topographic features overgrown with vegetation are apparent on the 2000 Laser DEM shiny colour drape images, where in previous versions of CIGIS DEMs they were not (2000 Laser DEM views).
Positional Accuracy	The positional accuracy mimics the accuracy of the 2000 LaserDEM Grid tiles.
Attribute Accuracy	-
Logical Consistency	All items within this dataset are Digital Elevation Models that describe Christmas Island's topography with elevation being replaced by a colour scale from a colour lookup table.
Completeness	LaserDEM shiny colour drape image tiles have been produced for the eastern half of the island only, as only the eastern half of the island has been surveyed with the laser scanner. More DEM tiles can be generated by GA upon request on a cost recovery basis.

Contact Information

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Metadata	9-12-2003

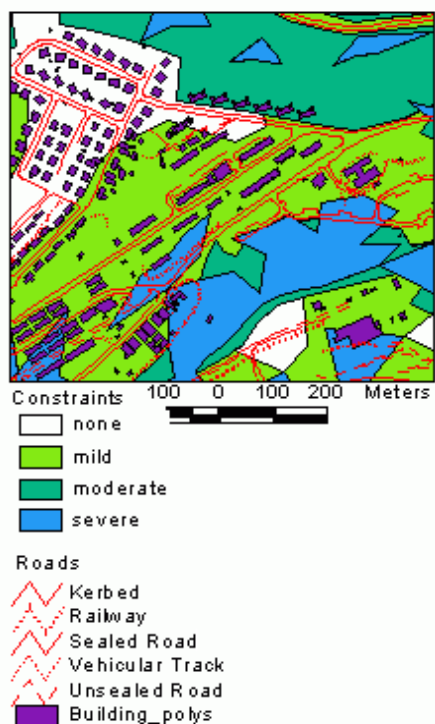
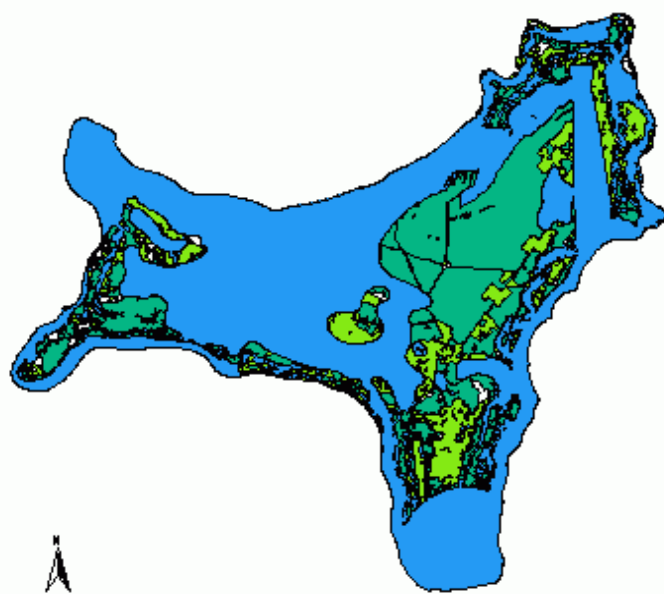
Date	
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Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



Constraints to urbanisation



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[Data Dictionary Home](#)

[Metadata Home](#)



Dataset

Title	Constraints to urbanisation
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	The 'Constraints to urbanisation' dataset contains the whole of Christmas Island classified as either severely constrained, mildly constrained, moderately constrained or unconstrained for urbanisation or development. Koltasz Smith Development Consultants (KS) provided GA with the CAD files from which this dataset was created.
Search Word (s)	BOUNDARIES Administrative HUMAN ENVIRONMENT Planning HUMAN ENVIRONMENT Structures and Facilities HUMAN ENVIRONMENT Urban Design LAND Use
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	FEB2002
Ending Date	JAN2004

Dataset Status

Progress	Constraints to urbanisation are present for the entire island.
Maintenance and Update	As Required

Frequency	
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Access

Stored Data Format	DIGITAL - CAD drawing file (DGN), ESRI shapefile
Available Format Type	DIGITAL - ESRI shapefile
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	In January 2004, Koltasz Smith (KS) supplied GA with CAD files, which when overlaid produced a map showing the appropriateness of urbanisation and development on Christmas Island (see Plan 5 in Draft Local Planning Strategy). Areas where urbanisation is mildly, moderately, and severely constrained, as well as unconstrained areas appear on this map. GA was not supplied with the map in its entirety in digital form, and a considerable amount of effort has gone into converting the eleven CAD files that make up this map into one ESRI shapefile. KS used the following components in CAD file format to produce areas of mild, moderate and severe constraint: Mildly constrained: Slope 10–20 degrees, Active mining leases, Crabs (routes, movement, nesting) Moderately constrained: Vegetation1, Vegetation2, Buffers around radio transmitters Severely constrained: Slope 20-30 degrees, Slope 30–40 degrees, Slope > 40 degrees, Bird nesting sites, APSC satellite centre Firstly, GA converted the above eleven separate CAD files into 2D shapefiles. A "mild" constraint shapefile was then created by joining the 'slope 10-20', 'active mining leases', and 'crabs' shapefiles using the union option in the Arcview Geoprocessing Wizard. Both "severe" and "moderate" constraint shapefiles were created using the same method. The "moderate" shapefile was created by joining the "vegetation1", "vegetation2" and "buffers around radio transmitters" shapefiles. The "severe" shapefile was created by joining the "slope 20-30", "slope 30-40", "slope>40", "bird nesting sites" and "APSC satellite centre" shapefiles. A 'constraint' field was added to the table of each of the mild, moderate, and severe shapefiles. This field listed all polygons in the mild shapefile as "mild", the severe shapefile as "severe", and the moderate shapefile as "moderate". The “dissolve” option in the Arcview Geoprocessing Wizard was then used to remove overlapping polygons and produce contiguous areas of mild, moderate, and severe constraint in each of the mild, moderate and severe shapefiles respectively. The mild, moderate and severe shapefiles were then joined to form one shapefile using the union option in the Arcview Geoprocessing Wizard. The "constraint" field in this shapefile was edited so that where polygons overlapped, the classification was always the most severe category. The dissolve option in Arcview Geoprocessing Wizard was then used to produce contiguous areas classified as either mildly, moderately or severely constrained. KS did not produce a CAD file containing unconstrained areas, but considered unconstrained areas to be places on Christmas Island not covered by any of the eleven component CAD files. GA produced a set of polygons corresponding to these unconstrained areas. This was done by creating a shapefile with one polygon covering the whole island. The "intersect" option in Arcview was then used to intersect this whole island shapefile with the shapefile created by GA containing the mild, moderate and severe constraints. This produced a set of polygons at the locations in the mild, moderate and severe constraints shapefile where there were no
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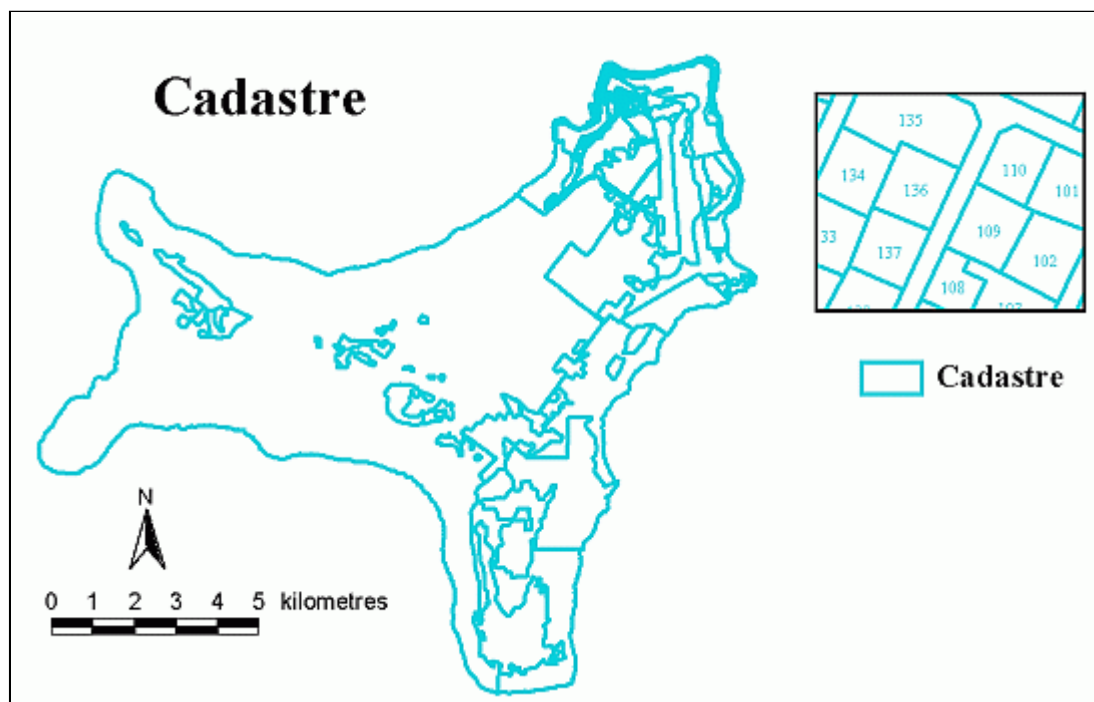
	constraints. These polygons were then converted to a shapefile. This shapefile then contained the unconstrained areas of Christmas Island. Unconstrained areas in Christmas Island were then joined to the shapefile containing the mild, moderate and severe constraints, using the union option in the Arcview Geoprocessing Wizard. This produced a shapefile containing the whole of Christmas Island classified as either mildly, moderately, severely constrained or unconstrained. This shapefile is called "constraints.shp" and is located in the 'cigis/planning/constraints.shp' directory. KS supplied the CAD files in CIG85. GA projected the final "constraints.shp" to MGA (UTM Zone 48) using an x y shift (x shift = 550015, y shift = 8780001).
Positional Accuracy	KS did not supply any accuracy statements. Use of the data indicates that the positional accuracy is generally good. However accuracy was difficult to assess due to the lack of natural features corresponding to the constraint categories. Caution should therefore be used with this dataset.
Attribute Accuracy	-
Logical Consistency	Logical
Completeness	Complete

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Metadata Date	29-1-2004

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	January 2004



[Data Directory](#)

[Data Dictionary Home](#)

[Metadata Home](#)



Dataset

Title	2002 Cadastre
Custodian	Department Of Land Administration (DOLA)
Jurisdiction	Western Australia

Description

Abstract	The cadastre shapefile is largely derived from a file source from the Department Of Land Administration, Western Australia (DOLA) dated 1 August 2002. Cadastral information for Christmas Island is maintained by DOLA on behalf of the Commonwealth under a Memorandum of Arrangement with Territories Office. Time and effort has been spent reworking the data for use in the CIGIS (see Lineage) to yield more usable information. A link to the DOLA source metadata can be found here
Search Word(s)	BOUNDARIES Administrative LAND Cadastre
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	1 August 2002
Ending Date	1 August 2002

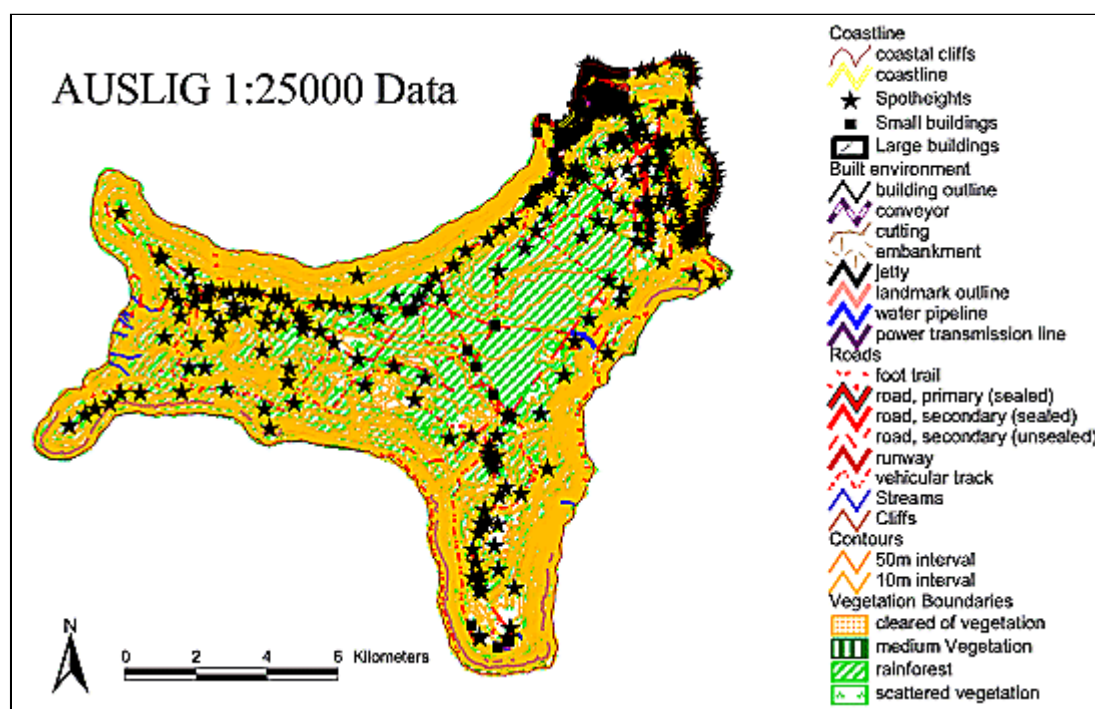
Dataset Status

Progress	On going
Maintenance and Update Frequency	Cadastre boundaries are continuously maintained by DOLA - this is an extract as at 1 August 2002.

Access

Stored Data Format	DIGITAL - ESRI shapefile, polygon
Available Format Type	DIGITAL - ESRI shapefile, polygon
Access Constraint	See contact details below for a more up-to-date extract.
Data Quality	
Lineage	The 2002 Cadastre was supplied by DOLA as an extract from their database to Christmas Island Administration (ESRI shapefile dated 1 August 2002). This shapefile was then passed onto Geoscience Australia soon after. GA adjusted the cadastre shapefile in the following ways: 1. Polygon outlines rather than solid-fill polygons were set to be the default display by including an .avl file. 2. The data was projected to CIG85 so the cadastre now plots with the other layers in the CIGIS. 3. Duplicate polygons were deleted. 4. The location numbers were extracted from the last few characters of the 'piparcel' field, both as a string for sorting, and as a number for numerical queries. 5. Field headings from the attribute table were updated to conform to suggestions received from Christmas Island Administration in August 2002. Requested attributes that were not present in the cadastre but were present in the ground audit were then copied from the ground audit attribute table to the cadastre attribute table. This was achieved by joining the tables using the "Pin" fields in both shapefiles. Attributes that displayed information such as property gross income, house value, etc were removed from the CIGIS public release in view of government guidelines relating to privacy. In September 2003 this dataset was then converted into the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	-
Attribute Accuracy	Examination of the attributes fields will show that not all have complete records. A list of fields were given to Geoscience Australia in August 2002 by Christmas Island Administration. The list included field names for which Geoscience Australia has no data, therefore, many fields remain blank.
Logical Consistency	The data is concerned with the north east portion of Christmas Island and is mostly complete for that area. A few location numbers have been found to be incorrect. This is because a global method of attaching the location numbers was used. GA recognises that further work could be undertaken to yield a more up to date and error free data set.
Completeness	GA recognises that there is considerable work to be done to yield an up to date and error free data set with all fields proposed by CIA filled with values.
Contact Information	
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Metadata Date	9-12-2003
Additional Metadata	
Projection	MGA(UTM Zone 48)
Printed	December 2003



[Roads](#) | [Natural Features](#) | [Built Environment](#) | [Contours and Spot Heights](#)

[Data Directory](#)

[Data Dictionary Home](#)

[Metadata Home](#)



Dataset

Title	Auslig - 1:25000 Topography and Culture
Custodian	Australian Surveying and Land information Group, Dept. of Administrative Services, Canberra, ACT, Australia.
Jurisdiction	Australia

Description

Abstract	AUSLIG data covers the whole island at a scale of 1:25000, and includes polygons, lines and points describing both natural and built environment. The AUSLIG data includes the following 1:25000 layers: roads, 10 metre contours, spot heights, buildings and other structures, hydrology, boundaries for the national park, boundaries for the mining leases and boundaries for four vegetation types. Licence / royalty arrangement pro forma were submitted by MREB for Territories Office and PRL in January 1996.
Search Word (s)	BOUNDARIES Administrative BOUNDARIES Cultural BOUNDARIES Mining BOUNDARIES National Parks CONTOURS Topographic HUMAN ENVIRONMENT Structures and Facilities VEGETATION Boundaries WATER Hydrology
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	01JAN1988
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Ending Date	20AUG2002
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Dataset Status

Progress	Complete
Maintenance and Update Frequency	Not Planned

Access

Stored Data Format	DIGITAL - Arc/Info format in the Christmas Island Grid projection. ArcView3.1 shapefiles
Available Format Type	DIGITAL - Arc/Info format in the Christmas Island Grid projection. ArcView3.1 shapefiles
Access Constraint	Restricted. Maps produced and distributed beyond the licensee that include the AUSLIG data are required to carry the following acknowledgment (contact at AUSLIG is Ian Miller (02) 6201 4311):- Topographic data reproduced with permission of the General Manager, Australian Surveying and Land Information Group, Department of Administrative Services, Canberra, ACT.

Data Quality

Lineage	The 1995 release of the AUSLIG digital data for Christmas Island was published at the 1:25000 scale. For this release the existing 1988 map was updated. The data was provided in Arc/Info format in the Christmas Island Grid projection. Only 'feature coded' data was available as AUSLIG do not see there being many sales of this dataset. Feature coded data are the lowest level of release for Arc/Info data by AUSLIG. There was basically no documentation with the data - only a list of feature codes and their frequency. MREB have had to re-work the data into its present form. The original data was obtained as two Arc/Info export files (xmas.e00 and xmasrel.e00), containing general data and contour/spot-height data respectively. Considerable work was necessary to make this useful for the GIS. A series of Arc/Info macros similar to those applied to the CIA data were used to strip out different feature classes and build them as separate point, line or polygon coverages as appropriate. In generating polygon coverages cleaning was required. To suit use in Surpac mining software a version of the contours as polygons was created. The AUSLIG data are subject to copyright and MREB hold a licence. The road layer (.\\data\\infra_topo\\topo25k\\roads_25k.shp) was updated in June 2002 from a shapefile sent to GA from the Christmas Island Shire Council to include new and/or inaccurate road files. Street names within the Christmas Island Shire Council's shapefile were also added to the existing road_25k database. The updated version of the Christmas Island coastline spatially aligns the coastline around the North-eastern side of the island with a higher degree of accuracy. The "coast" shapefile found in the "environment" directory was built using a union of Dola's Cadastre and the original 1:25000 coastline. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	Publication at the 1:25000 scale has important implications for the use of the AUSLIG topographic data. Some of the plots MREB have produced include enlargements to scales of 1:2000. This means the AUSLIG data are being displayed at over ten times its published scale. Users should view AUSLIG lines on such enlargements as representing a line around ten times as thick, the true line occurring somewhere within that much thicker line. It is far more expensive to capture data at small scales. As the data was originally intended to be used at 1:25000 scale, zooming in past this will show visible offset from the orthophotographs, potentially by as much as 25 metres. On zooming, the orthophotography will be more accurate, having error of at most 6 metres. A special case is the mining lease boundaries, which is

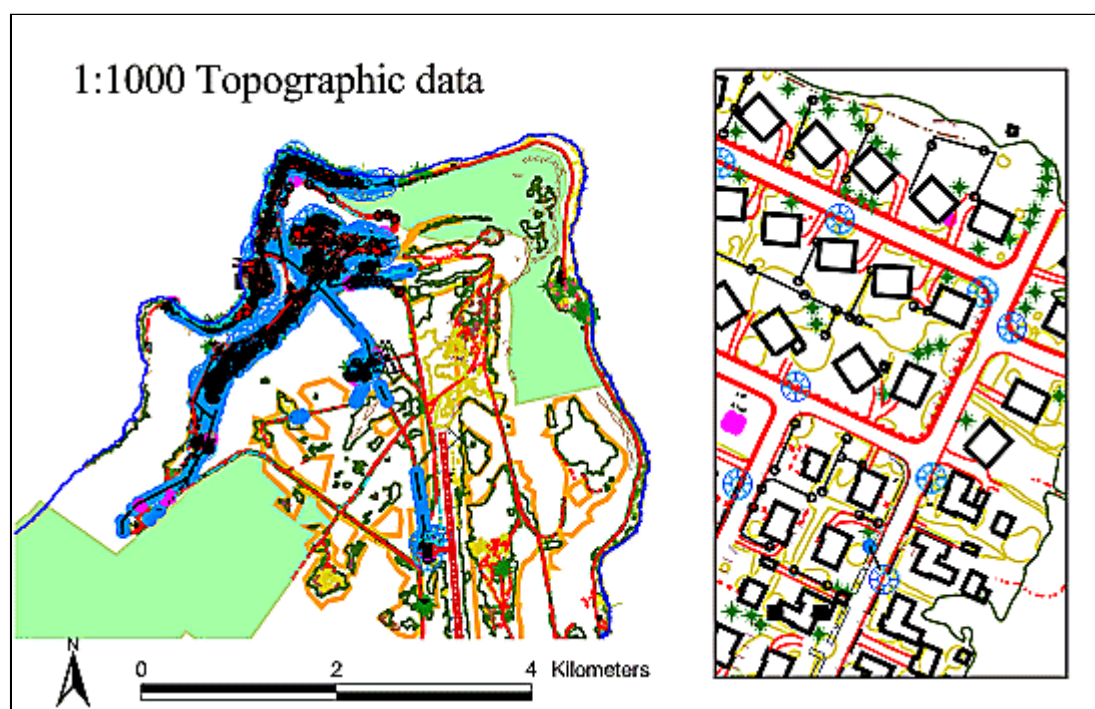
	superseded by the CIA mining lease data. The AUSLIG mining lease data should not be used. This superseded data is stored in the "defunct" subdirectory. It is provide to assist with verification and cross comparison with other mining lease boundary information users may acquire.
Attribute Accuracy	Not documented.
Logical Consistency	AUSLIG data covers the whole island, and includes polygons, lines and points describing both natural and built environment.
Completeness	The AUSLIG data set was complete and up to date at the time of publication. GA recognises that further work could be done to update and fine tune the dataset to yield a more error free and precise data set.

Contact Information

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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	Christmas Island 1:1000 Topographic Data
Custodian	Christmas Island Administration
Jurisdiction	Australia

Description

Abstract	This data was obtained from AUSLIG (Western Region) and commissioned from Territories Office. This is the data used to produce the 1:1000 scale dyeline mapsheet series A1-2262 to A12284 from the 1987 aerial photography. The data only covers the north-east portion of the island and contains similar features to the AUSLIG 1:25000 data but has more detail and is more precisely located.
Search Word (s)	BOUNDARIES Administrative BOUNDARIES Cultural BOUNDARIES Mining BOUNDARIES National Parks CONTOURS Topographic HUMAN ENVIRONMENT Structures and Facilities VEGETATION Boundaries WATER Hydrology
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	16AUG1987
Ending Date	01JUL1992

Dataset Status

Progress	Complete
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - Arc/Info files: Point, Line, Polygon DIGITAL - ArcView Shapefiles: Point, Line, Polygon DIGITAL - MapInfo files: Point, Line, Polygon NON DIGITAL - Dyeline paper maps
Available Format Type	DIGITAL - ArcView Shapefiles: Point, Line, Polygon DIGITAL - MapInfo files: Point, Line, Polygon
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	Detail of manipulation of the data for use in CIGIS is presented below. Separate data themes were split out of the provided export files via Arc/Info routines. The following is an example and description of the Arc/Info macro series that were used to do this. The steps involved are: 1. Import the cover; 2. Join the xcode and acode tables (containing the relevant information about the features on the coverage) to the point/polygon and arc tables respectively; 3. Alter the tables as required; 4. Build the Arc/Info coverages (points, lines and annotation -- polygons do not build in any of the AUSLIG WA coverages); 5. Unsplit the line work (in larger datasets where appropriate -- to speed up drawing); and 6. Create a spacial index for display speed. For all datasets, except annotation, shapefiles were created both for consistency and loading speed. Checks done by GA comparing shapefiles and coverages found that shapefiles were not significantly faster in drawing or calculation (and were in some cases slower), but were significantly quicker when loading. Since annotation does not convert to a shapefile, it was therefore left as an Arc coverage. In September 2003 this dataset was converted to the MGA (GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	This data should be correct to approximately one metre. For most of the north east portion of the island, this data and the orthophotography have a very good correlation usually well under one metre in difference. Around tall buildings and cliffs there may be discrepancies between the data and the orthophotographs. This is a factor of aerial photography angles and interpretation. In these cases, the 1:1000 vectors should be more reliable than the orthophotography. In the western most extremity of the data set the accuracy has been called into question by the orthophotography contractor. They observed, after checking the orthophotography against results from analytical stereo plotters, that "it appears that in the vicinity of the market garden, the mapping data supplied... may be in error by approximately 5 m in east". The data was provided as six Arc/Info export files which are stored on the core data CD in the directory 'cigis/cia/source'. The dataset includes contours where the ground could be estimated using a stereo plotter. These contours do not have a height value attached as the source CAD file did not include this. However, Geoscience Australia has observed 1m contours in the urban and industrial areas and 2m contours elsewhere. The accuracy of these contour lines was confirmed by looking at the 1:1000 and 1:2000 AUSLIG 1987 maps. The national park boundaries in this directory cover the whole of Christmas Island and are the best MREB could obtain. They originate from AUSLIG Perth as part of the 1987 cadastre data set and are accurate to 1:1000 scale. The cadastral data did not include internal boundaries of

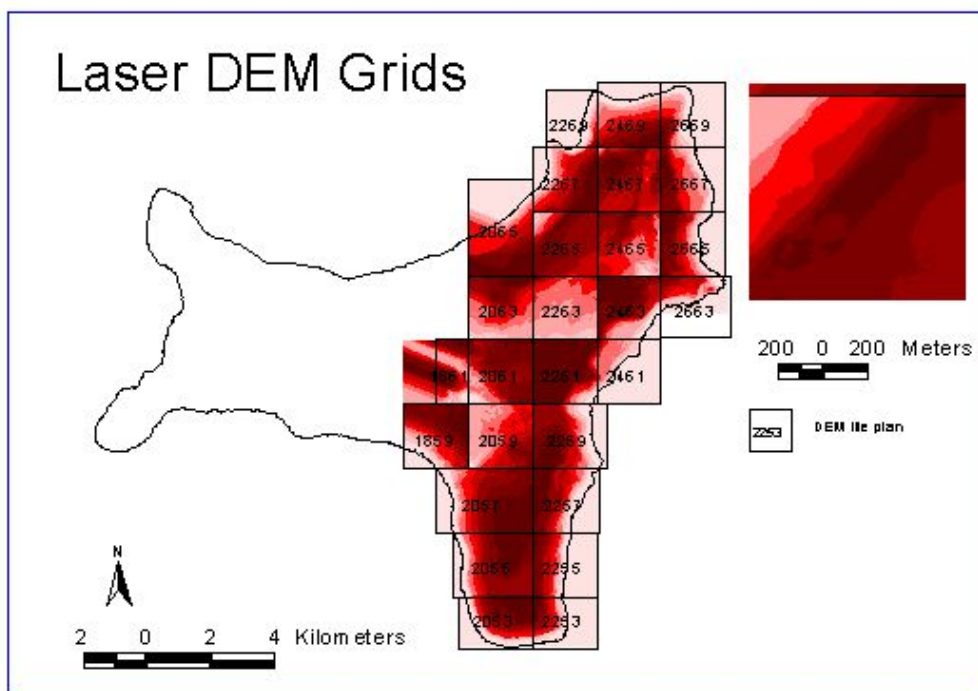
	the park. Thus it was necessary for MREB to add the mining lease boundaries (supplied as part of the cadastral data) to the data national park boundaries to create the full national park boundaries.
Attribute Accuracy	Not documented from source, however through general use of the data the quality of attributes appears reliable.
Logical Consistency	CIA data covers the north-east portion of the island and includes polygons, lines and points describing both natural and built environment.
Completeness	This dataset only covers the north-east portion of Christmas Island and is mostly complete for that area. Contours in this dataset were only captured for a small but scattered portion of the area. GA recognises that further work could be undertaken to yield a more up to date and error free data set.

Contact Information

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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003


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Dataset

Title	Laser DEM Grids
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	Laser DEM Grids consists of 27 digital elevation model grids. The Arcview grid files were constructed from the 'Airborne Laser Scanning' shapefiles. The Laser DEM grid tiles cover the eastern portion of the Christmas Island. Each grid contains the height in metres of the ground surface with a value every one metre on the ground.
Search Word (s)	DEM Digital Elevation Model PHOTOGRAPHY AND IMAGERY Digital Elevation Model PHOTOGRAPHY AND IMAGERY Raster PHOTOGRAPHY AND IMAGERY Grid
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	11SEP2000
Ending Date	16SEP2000

Dataset Status

Progress	Grid tiles have been made for the eastern part of the island only (this can be seen above).
Maintenance and Update Frequency	As Required

Access

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Stored Data Format	DIGITAL - Arcview grid file
Available Format Type	DIGITAL - Arcview grid file
Access Constraint	Restricted, see contact details below.

Data Quality

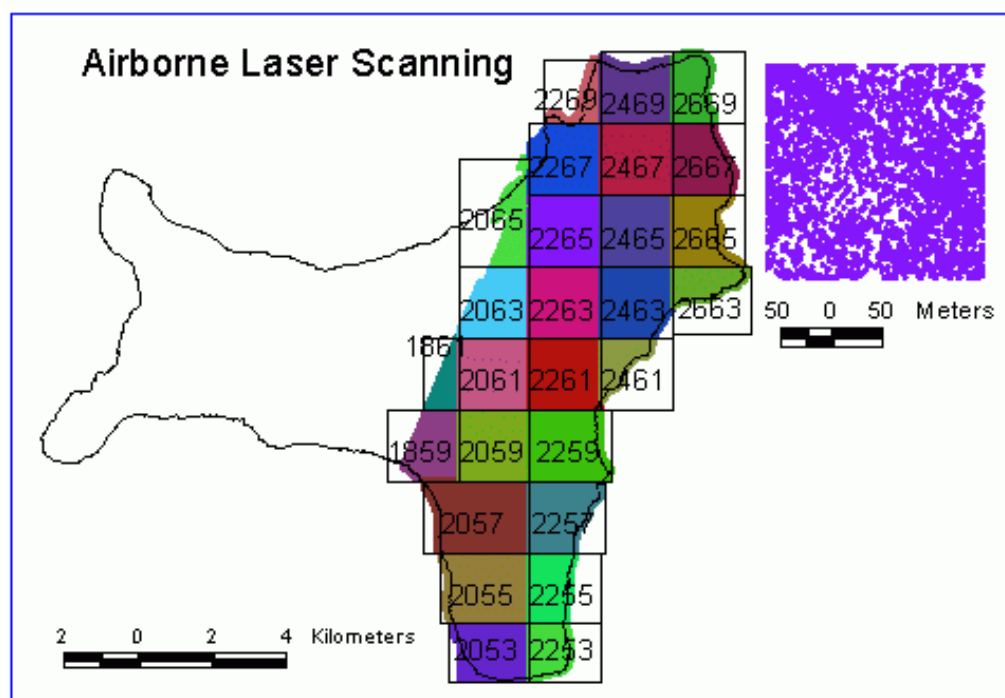
Lineage	In 2000 AAM Surveys Pty Ltd. was commissioned by the Commonwealth to fly an airborne laser scanning survey of Christmas Island (AAM Laserdem readme). Raw data was tiled to shapefiles from which DEM tiles were interpolated. Each DEM grid was interpolated from the corresponding '2000 Airborne Laser Height' shapefile in Arcview, and contains the height in metres of the ground surface. This was done by firstly interpolating a surface from each shapefile using Arcview. The inverse distance weighted (IDW) method of interpolation was chosen to construct the surfaces. IDW interpolation method was chosen because this method minimized noise in the data associated with joins in the laser scanner flight paths. Another advantage of using the IDW method was that it did not produce spikes in the data which were present when the spline method of interpolation was used (LaserDEM grids 1). The number of nearest neighbours used in the IDW method was set at 7, and power at 3. This combination was found to provide maximum detail in the images produced using the DEM grids, whilst still minimizing image noise due to flight path joins (LaserDEM grids 2). The output and cell size was set to one metre square. Each surface interpolated from the 27 shapefiles was then converted to a grid in Arcview. The result was 27 DEM grid files containing ground surface heights in metres.
Positional Accuracy	The positional accuracy mimics the accuracy of the Airborne Laser Scanning dataset.
Attribute Accuracy	-
Logical Consistency	All items within this dataset are Digital Elevation Models constructed from ESRI shapefiles that describe Christmas Island's topography with elevation recorded in metres.
Completeness	DEM tiles have been produced for the eastern half of the island only, as only the eastern half of the island has been surveyed with the laser scanner. More DEM tiles can be generated by GA upon request on a cost recovery basis.

Contact Information

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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
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Dataset

Title	Airborne Laser Scanning
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	Airborne Laser Scanning contains ESRI shapefiles constructed from ground height data points. The heights were obtained from an airborne laser scanning survey conducted by AAM Surveys Pty Ltd. The shapefiles contain surface heights in metres for the eastern half of Christmas Island.
Search Word (s)	DEM Digital Elevation Model IMAGES Tiff PHOTOGRAPHY AND IMAGERY Digital Elevation Model PHOTOGRAPHY AND IMAGERY Raster PHOTOGRAPHY AND IMAGERY Grid
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	11SEP2000
Ending Date	16SEP2000

Dataset Status

Progress	Shapefiles have been made for the eastern part of the island only (this can be seen above).
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - ESRI shapefile
Available Format Type	DIGITAL - ESRI shapefile
Access Constraint	Restricted, see contact details below.

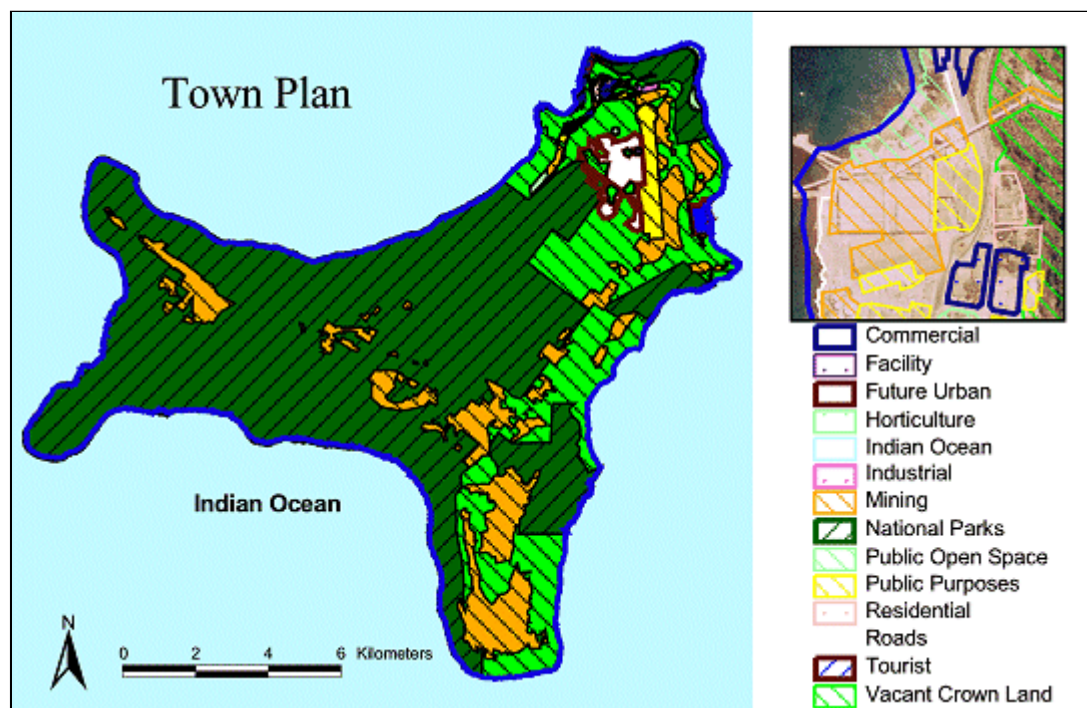
Data Quality

Lineage	In 2000 AAM surveys conducted an airborne laser scanner survey of the eastern portion of Christmas Island. AAM surveys divided the eastern part of the island into 36 2km x 2km grid squares. Geoscience Australia was provided with a set of ground heights in metres, and the GPS location in MGA (GDA94) units of each height, for each of the 36 grids. Geoscience Australia converted each height dataset into a text file and imported each file into Microsoft Access. This height dataset was then exported in dbf format, and imported into Arcview. The databases were then added as event themes into Arcview and converted into shapefiles corresponding to each of the 36 2km x 2km grid squares. Previous versions of CIGIS had produced DEM tiles based on a different grid tile system. The 36 shapefiles were adjusted to align with this previous tile system. This was done by merging shapefiles adjacent in the north-south direction and clipping them according to the extent of the previously used tile. In order to minimize areas of ocean or no data, shapefiles containing less than 30% land within the new 2km x 2km grid were merged with adjacent shapefiles, and then clipped to remove excess areas of ocean or no data. As a result, coastal shapefiles, and inland tiles located at the extent of the airborne laser scanner flight path deviate from the standard 2km x 2km grid tile size. The end result consisted of 27 shapefiles, 17 of which were 2km x 2km.
Positional Accuracy	AAM Surveys Pty Ltd Indicate that the horizontal accuracy of the airborne laser scanner is between 0.3 and 0.5 metres (airborne laser scanner positional accuracy). The Airborne Laser Scanning shapefiles mimic this accuracy.
Attribute Accuracy	AAM Surveys advise that the heights recorded for 105 test points were within 0.23 m at the 68% confidence level. The author interprets this as meaning the accuracy of the heights will nearly always be better than half a meter (airborne laser scanner height accuracy).
Logical Consistency	All items within this dataset are ESRI shapefiles that consist of a series of land surface heights.
Completeness	Shapefiles have been produced for the eastern half of the island only, as only the eastern half of the island has been surveyed with the laser scanner. More Airborne Laser Scanning shapefiles can be generated by GA upon request (eg using first returns) on a cost recovery basis.

Contact Information

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Electronic	

Mail Address	Keith.Porritt@ga.gov.au
Metadata Date	9-12-2003
Additional Metadata	
Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	Town Plan
Custodian	Christmas Island Administration
Jurisdiction	Australia

Description

Abstract	CAD files and Arc/Info files were converted into ESRI shapefiles and form the basis of this dataset. The town plan shapefile is "lazone.shp". A listing of the fields follow: <table><tr><th>Field</th><th>Type</th><th>Width</th><th>Decimal</th></tr><tr><td>Shape</td><td>FIELD_SHAPEPOLY</td><td>8</td><td>0</td></tr><tr><td>Zone</td><td>FIELD_CHAR</td><td>2</td><td>40</td></tr><tr><td>Lucode</td><td>FIELD_DECIMAL</td><td>4</td><td>0</td></tr><tr><td>Key</td><td>FIELD_CHAR</td><td>14</td><td>0</td></tr><tr><td>Area</td><td>FIELD_DECIMAL</td><td>18</td><td>5</td></tr><tr><td>Perimeter</td><td>FIELD_DECIMAL</td><td>18</td><td>5</td></tr><tr><td>Lga_num</td><td>FIELD_DECIMAL</td><td>4</td><td>0</td></tr><tr><td>Scheme_typ</td><td>FIELD_CHAR</td><td>2</td><td>0</td></tr><tr><td>Scheme_no</td><td>FIELD_CHAR</td><td>4</td><td>0</td></tr><tr><td>Addcode</td><td>FIELD_CHAR</td><td>4</td><td>0</td></tr><tr><td>Restcode</td><td>FIELD_CHAR</td><td>4</td><td>0</td></tr><tr><td>Alabel</td><td>FIELD_CHAR</td><td>1</td><td>0</td></tr><tr><td>Rlabel</td><td>FIELD_CHAR</td><td>1</td><td>0</td></tr><tr><td>Lazcig85_</td><td>FIELD_DECIMAL</td><td>11</td><td>0</td></tr><tr><td>Lazcig85_i</td><td>FIELD_DECIMAL</td><td>11</td><td>0</td></tr></table> The field "zone" is used as the legend and shows areas of: Commercial, Facility, Future Urban, Horticulture, Indian Ocean, Industrial, Mining, National Parks, Public Open Space, Public Purposes, Residential, Roads, Tourist and Vacant Crown Land.	Field	Type	Width	Decimal	Shape	FIELD_SHAPEPOLY	8	0	Zone	FIELD_CHAR	2	40	Lucode	FIELD_DECIMAL	4	0	Key	FIELD_CHAR	14	0	Area	FIELD_DECIMAL	18	5	Perimeter	FIELD_DECIMAL	18	5	Lga_num	FIELD_DECIMAL	4	0	Scheme_typ	FIELD_CHAR	2	0	Scheme_no	FIELD_CHAR	4	0	Addcode	FIELD_CHAR	4	0	Restcode	FIELD_CHAR	4	0	Alabel	FIELD_CHAR	1	0	Rlabel	FIELD_CHAR	1	0	Lazcig85_	FIELD_DECIMAL	11	0	Lazcig85_i	FIELD_DECIMAL	11	0
Field	Type	Width	Decimal																																																														
Shape	FIELD_SHAPEPOLY	8	0																																																														
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Lucode	FIELD_DECIMAL	4	0																																																														
Key	FIELD_CHAR	14	0																																																														
Area	FIELD_DECIMAL	18	5																																																														
Perimeter	FIELD_DECIMAL	18	5																																																														
Lga_num	FIELD_DECIMAL	4	0																																																														
Scheme_typ	FIELD_CHAR	2	0																																																														
Scheme_no	FIELD_CHAR	4	0																																																														
Addcode	FIELD_CHAR	4	0																																																														
Restcode	FIELD_CHAR	4	0																																																														
Alabel	FIELD_CHAR	1	0																																																														
Rlabel	FIELD_CHAR	1	0																																																														
Lazcig85_	FIELD_DECIMAL	11	0																																																														
Lazcig85_i	FIELD_DECIMAL	11	0																																																														
Search Word (s)	BOUNDARIES Administrative HUMAN ENVIRONMENT Planning HUMAN ENVIRONMENT Structures and Facilities																																																																

	HUMAN ENVIRONMENT Urban Design LAND Use
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	1994-06-23
Ending Date	1997-03

Dataset Status

Progress	Complete
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - Arc/Info files: Point, Line, Polygon DIGITAL - ESRI Shapefiles: Point, Line, Polygon
Available Format Type	DIGITAL - ESRI Shapefiles: Point, Line, Polygon
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	In September 2003 this dataset was converted by GA to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection
Positional Accuracy	Positional accuracy is directly related to the scale of the source maps. For a 1:10000 scale map, the position of streets should be within +/-5m of their actual location, for a 1:25000 map they should be within +/-12m During digitizing every point created was within 0.5mm of the map object ensuring that the above accuracy was maintained.
Attribute Accuracy	Not documented from source, however through general use of the data the value and quality of attributes appear reliable.
Logical Consistency	Some of the country boundaries have been taken from the index covers for the TPS capture. These are considered to be more reliable than the supplied data. {Matt Devlin 26/9/96}.
Completeness	This data set has not been fully validated and compared with the maps and plans compiled from gazetted technical descriptions by the Statutory Drafting Section, Land Parcel Services Branch, Land Titles Division, DOLA, nor compared and fitted on a boundary by boundary basis with the current SCDB cadastral boundaries. Some preliminary investigation and comparisons were completed during 1992, but a full validation project was not undertaken. To improve currency of the boundaries, but not necessarily spatial positioning in relation to the SCDB, DOLA has amended these boundaries to reflect all gazetted boundary changes that have occurred between January 1986 and June 1994 which were not picked up during initial capture or have occurred since. Some of these have included substantial exchanges of territory between adjacent shires. The Shire of Ngaanyatjaraku, formerly part of the Shire of Wiluna, is now defined in this updated data set. GA recognises that further work could be undertaken to yield a more up to date and error free data set.

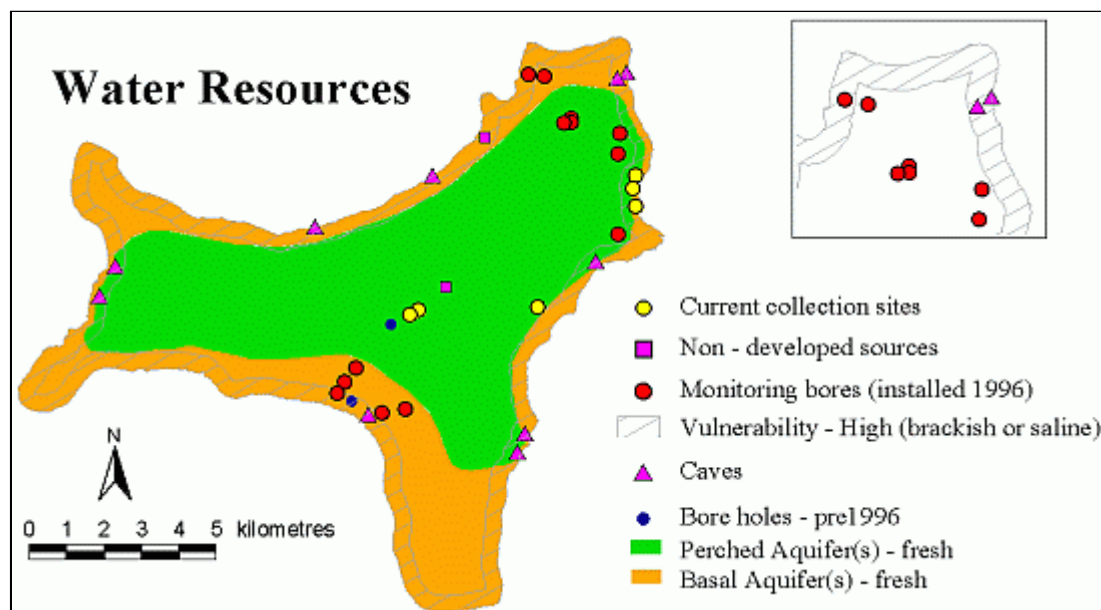
Contact Information

--	--

Contact Organisation	Geoscience Australia
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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003


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Dataset

Title	Water Resources
Custodian	Ecowise
Jurisdiction	Australia

Description

Abstract

This dataset are related to all facets of water on Christmas Island. This document seeks to provide a description of the Water Resources GIS data layers that have been compiled by ECOWISE Environmental as part of the Christmas Island Groundwater investigations and monitoring report (EHYD 99/17). This report was prepared for GHD Pty Ltd and Christmas Island Administration by Tony Falkland, ACTEW Corporation Ltd 1999. The GIS data and mapping developed for this report was complied by Vince Hazell and Steve Grey from ECOWISE Environmental Pty Ltd. The following data layers have been collated on a CD in ArcView shapefile format:

- Locations of freshwater Aquifers showing boundaries as best current information will allow.
- Assessment of freshwater Aquifer vulnerability.
- The location of monitoring bores, current water collection locations, caves, non-developed (possible) water collection sites and section data.

Additional data and information on the CD includes:

- Graphical data (. jpeg files) showing section profiles.
- Image files of maps included in the original report.

As required, outputs of this project include:

- Water resources layers with spatial data and attribute data on a CD (entitled Christmas Water Resources CD). This CD will be made available to Geoscience Australia for incorporation into the overall Christmas Island GIS and for subsequent distribution to the Christmas Island Administration, the Department of Transport and Regional Services and other authorised users. Separate copies of the CD can be made available, on request, to the Christmas Island Administration and the Department of

	Transport and Regional Services. This report summarising the data layers on the accompanying CD.
Search Word(s)	CLIMATE AND WEATHER Resources GEOSCIENCES Hydrogeology WATER WATER Groundwater WATER Hydrology WATER Lakes WATER Rivers WATER Quality
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	Not Known
Ending Date	1999

Dataset Status

Progress	Complete
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - ESRI Shapefiles: Point, Line, Polygon
Available Format Type	DIGITAL - ESRI Shapefiles: Point, Line, Polygon
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	Metadata element still in progress
Positional Accuracy	Metadata element still in progress.
Attribute Accuracy	Metadata element still in progress.
Logical Consistency	Metadata element still in progress
Completeness	Metadata element still in progress.

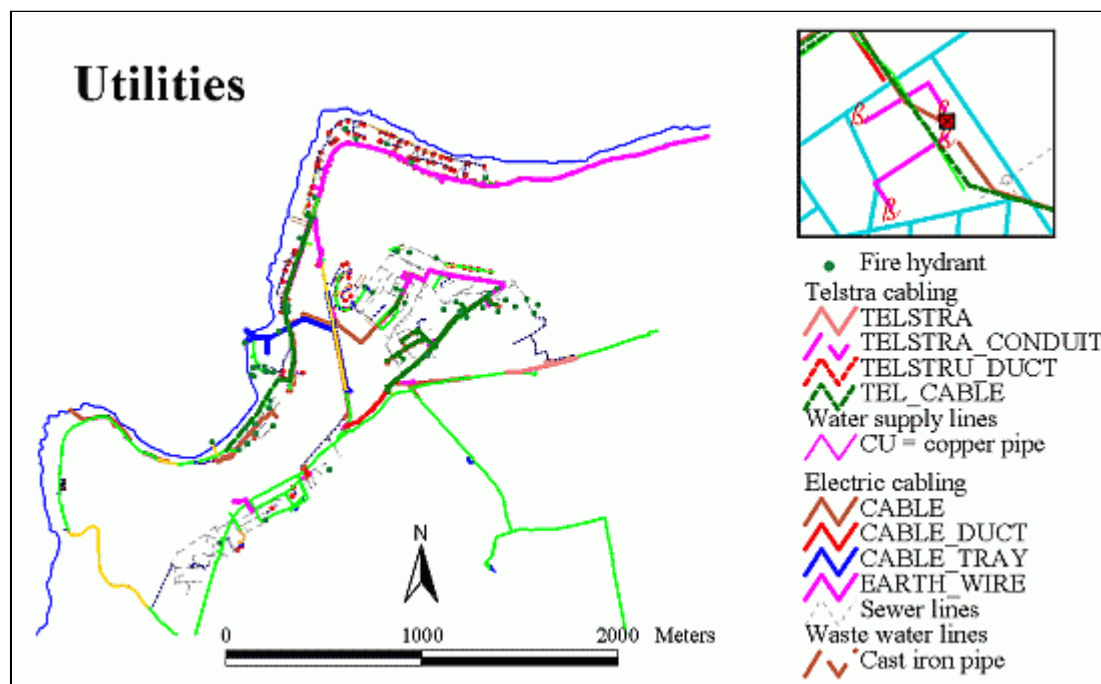
Contact Information

Contact Organisation	Geoscience Australia
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Metadata Date	9-12-2003

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Dataset

Title	Utilities
Custodian	GHD (Gutteridge Haskins & Davey Pty Ltd)
Jurisdiction	Australia

Description

Abstract	These data as supplied by GHD contain the utilities of North-east Christmas Island. Data were collected and compiled by GHD from various CAD layers. The majority of these files are quite recent (1999 - 2000) however some CAD drawings date back to 1994 - 1995. There exists no documentation describing processes or methods used to compile data into its current form (as supplied to GA). Utility data that were supplied by GHD can be split into the following categories; electricity, stormwater, Telstra telecommunications, Wastewater, Water sources, Water supply.
Search Word(s)	HUMAN ENVIRONMENT HUMAN ENVIRONMENT Planning HUMAN ENVIRONMENT Structures and Facilities HUMAN ENVIRONMENT Urban Design UTILITIES WASTE Water WATER Waste
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	1994-04-20
Ending Date	2000-10-06

Dataset Status

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Progress	Complete
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - ESRI Shapefiles: Point, Line, Polygon DIGITAL - CAD generated files (DWG,DXF,DGN): Point, Line, Polygon
Available Format Type	DIGITAL - ESRI Shapefiles: Point, Line, Polygon
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	Utility data were supplied to GA via a GHD Utilities CD-ROM on 25 May 2001. Data were sourced by GHD and supplied to GHD as CAD data types. Edits and adjustments of data had been undertaken by GHD to produce the useable shapefiles found on their CD-ROM, details of these have not been documented however some metadata does exist in MS Access 2000 database format. GA has converted this Access 2000 database into a Access '97 database to allow greater usage. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y (550015 = x, 8780001 = y) shift on the CIG85 projection.
Positional Accuracy	Though use of the GHD data accuracy has been noted to be very good. Spatially the data coincides very closely with the orthophotography and the GA datasets.
Attribute Accuracy	Not documented from source, however through general use of the data the quality of attributes appears reliable and make logical sense.
Logical Consistency	The data is concerned with the north east portion of Christmas Island and is mostly complete for that area. GA recognises that further work could be undertaken to yield a more up to date and error free data set.
Completeness	The data is concerned with the north east portion of Christmas Island and is mostly complete for that area. GA recognises that further work could be undertaken to yield a more up to date and error free data set.

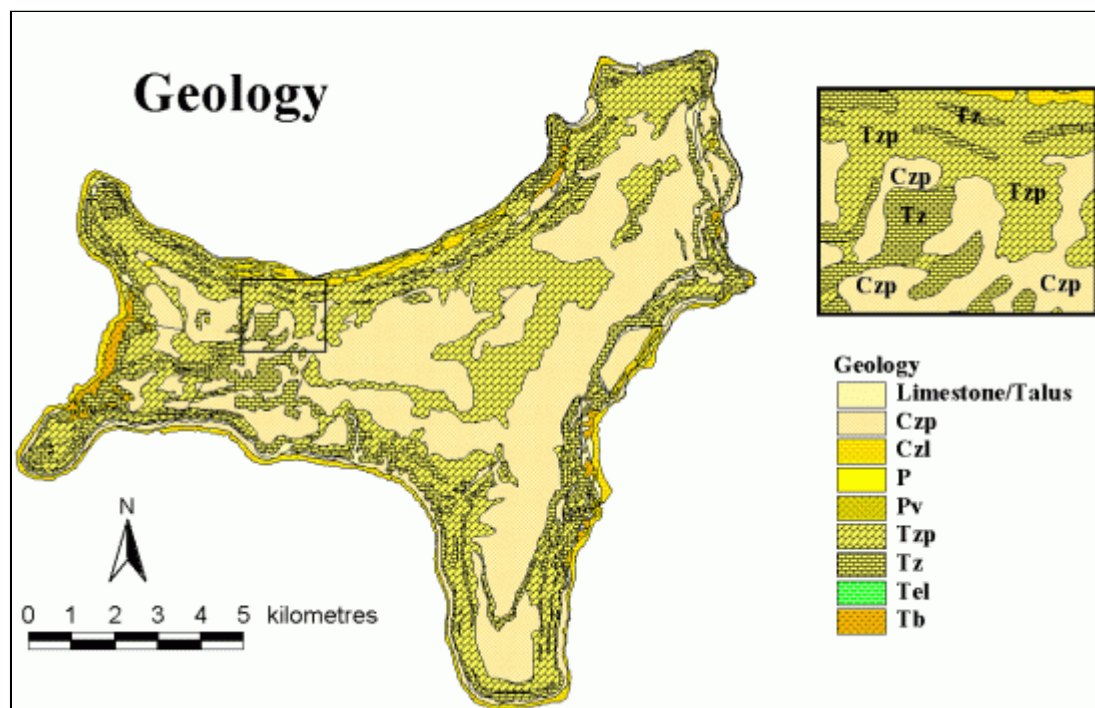
Contact Information

Contact Organisation	Geoscience Australia
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Metadata Date	9-12-2003

Additional Metadata

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Projection	MGA(UTM Zone 48)
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Dataset

Title	Geology map
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	This dataset has been digitised from the 1:27400 1966 Geology map of Christmas Island. Geoscience Australia used ArcInfo to digitise a scanned version of the map. Once digitised the map was attributed according to the Geoscience Australia data dictionary guidelines. All information relating to geological boundaries and lineations/faults were extracted from the map and incorporated in the table.
Search Word(s)	GEOLOGY Boundaries GEOLOGICAL Features VEGETATION Boundaries
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	2001-10-26
Ending Date	2001-11-14

Dataset Status

Progress	Complete
Maintenance and Update Frequency	As Required

Access

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Stored Data Format	DIGITAL - ESRI Arc coverage
Available Format Type	DIGITAL - ESRI Shapefile DIGITAL - ESRI Arc coverage
Access Constraint	Restricted, see contact details below.

Data Quality

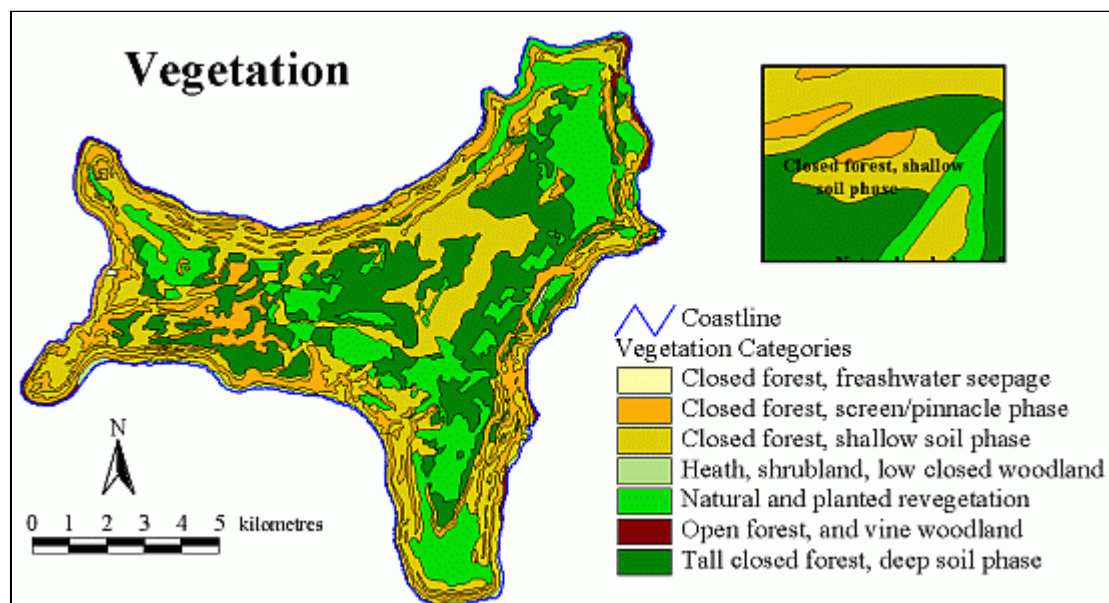
Lineage	The map was originally created by J.Barrie in 1966 and later scanned and translated to the CIGIS projection. The map was digitised by Geoscience Australia in late October 2001. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The positional accuracy of the scanned map is greater than the original it was digitised from. The "headsup" digitising process ensures that the original lines being digitised are many times larger than that of the printed map.
Attribute Accuracy	The attributes capture all information that is provided on the original map. By going through the Geoscience Australia QA & QC process ensures the fields are full and contain fields that further describe the map that were not on the hardcopy map itself.
Logical Consistency	The geology coverage is complete both spatially and non-spatially. The tables are well populated and describe all attributes and labels of the map. Spatially, all the geological linework present on the hardcopy map has been captured.
Completeness	This coverage is complete based on the nature of the original data. All spatial linework and non-spatial attribute data has been extracted from the original hardcopy map. All fields are populated to meet with Geoscience Australia's data standards.

Contact Information

Contact Organisation	Geoscience Australia
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Country	Australia
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Telephone	(02) 6249 9479
Facsimile	(02) 6249 9983
Electronic Mail Address	Keith.Porritt@ga.gov.au
Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003


[Data Directory](#)
[Data Dictionary Home](#)
[Metadata Home](#)


Dataset

Title	Vegetation
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	This dataset has been digitised from the 1:25000 vegetation map of Christmas Island (accompanying Mitchell's 1985 report). The vector version was completed on behalf of Parks Australia Christmas Island. Geoscience Australia used ArcInfo to 'heads-up' digitise a scanned version of the map. Once digitised the arcs were built into polygons and the map was attributed based on the Geoscience Australia data dictionary guidelines. All information relating to vegetation boundaries was extracted from the map and incorporated in the table. The fields that were used follow: <table><thead><tr><th>Alias</th><th>Type</th><th>Width</th><th>Decimal</th></tr></thead><tbody><tr><td>Shape</td><td>FIELD_SHAPEPOLY</td><td>80</td><td></td></tr><tr><td>Ufi</td><td>FIELD_DECIMAL</td><td>6</td><td>0 - unique number</td></tr><tr><td>Area</td><td>FIELD_DECIMAL</td><td>18</td><td>5</td></tr><tr><td>Perimeter</td><td>FIELD_DECIMAL</td><td>18</td><td>5</td></tr><tr><td>Code</td><td>FIELD_CHAR</td><td>80</td><td>0 - Vegetation unit (map symbol)</td></tr><tr><td>Descript</td><td>FIELD_CHAR</td><td>64</td><td>0 - Description of unit</td></tr><tr><td>Categories</td><td>FIELD_CHAR</td><td>50</td><td>0 - vegetation categories</td></tr><tr><td>Feature</td><td>FIELD_CHAR</td><td>12</td><td>0 - (GA field)</td></tr><tr><td>Plotrank</td><td>FIELD_DECIMAL</td><td>1</td><td>0 - (GA field)</td></tr></tbody></table>	Alias	Type	Width	Decimal	Shape	FIELD_SHAPEPOLY	80		Ufi	FIELD_DECIMAL	6	0 - unique number	Area	FIELD_DECIMAL	18	5	Perimeter	FIELD_DECIMAL	18	5	Code	FIELD_CHAR	80	0 - Vegetation unit (map symbol)	Descript	FIELD_CHAR	64	0 - Description of unit	Categories	FIELD_CHAR	50	0 - vegetation categories	Feature	FIELD_CHAR	12	0 - (GA field)	Plotrank	FIELD_DECIMAL	1	0 - (GA field)
Alias	Type	Width	Decimal																																						
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Categories	FIELD_CHAR	50	0 - vegetation categories																																						
Feature	FIELD_CHAR	12	0 - (GA field)																																						
Plotrank	FIELD_DECIMAL	1	0 - (GA field)																																						
Search Word(s)	BOUNDARIES Administrative BOUNDARIES National Parks FORESTS Natural VEGETATION Boundaries																																								
Geographic Extent Name(s)	Christmas Island																																								

Data Currency

Beginning Date	2001-10-10
Ending Date	2002-02-20

Dataset Status

Progress	Complete
Maintenance and Update Frequency	Not planned

Access

Stored Data Format	DIGITAL - ESRI Arc coverage
Available Format Type	DIGITAL - ESRI Shapefiles DIGITAL - ESRI Arc coverage
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	The map originally accompanied Mitchell's 1985 report, and was based on the geology and topography map of Christmas Island by J. Barrie in 1966. This map was scanned and translated to the CIG85 projection. The scanned map was included in the Christmas Island GIS. It was digitised by Geoscience Australia in mid October 2001 on behalf of Parks Australia North Christmas Island. Newveg.shp is the revised version of Vegetation.shp. Dr. Pete Green a Research Fellow from EA created this .shp file by taking the original vegetation file, making all the vegetation types semi-transparent, and superimposing this theme over a composite aerial photograph of the island (Christmas.ers, generated from the 1987 aerial photos). Dr. Green then adjusted the position of the clearing boundaries (category SV) around all previously mined fields, expanded these polygons to include all major roads, and added and subtracted polygons as required. In all cases Dr. Green tried to pick the original boundary of the clearing - there has been substantial regrowth around the borders of some mined fields, but this regrowth can be distinguished from the adjacent forest by its more regular canopy. Dr. Green made a concerted effort to ONLY adjust the position of forest/clearing boundaries, and NOT forest/forest boundaries. The aerial photos are excellent for judging the position of the former, but we have no prior evidence for adjusting the latter - as far as Dr. Green knows, the positions of forest/forest boundaries have never been ground-truthed. Where boundaries were indistinct on Christmas.ers, Dr. Green occasionally made reference to two sets of black and white aerial photographs of the island taken in 1976 and 1981. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The positional accuracy of the scanned map is greater than the Mitchell's 1985 map it was digitised from. The "headsup" digitising process ensures that the original lines being digitised are many times larger than that of the printed map. Mitchell's (1985) hand-drafted vegetation map for Christmas Island has several inaccuracies; 1. Major roads were not considered - forest is often drawn as continuous across roads. 2. The boundaries of clearings are inaccurate, sometimes up to one or two hundred meters. 3. Some small, isolated forest blocks have been omitted.

	In addition, the accuracy of the forest/clearing boundaries of the newveg.shp will depend on how closely Dr. Green zoomed in on Christmas.ers. Dr. Green adjusted most boundaries when working at a scale of 1:1000 to 1:1500, but occasionally had to work at greater scales than this. In some areas (e.g. Field 25, and the area around the sports ground) the 1987 aerial photos are of particularly poor quality (shadows, distortion etc) and it was sometimes difficult to distinguish boundaries.
Attribute Accuracy	The attributes capture all information that is provided on the original map.
Logical Consistency	The geology coverage is complete both spatially and non-spatially. The tables are well populated and describe all attributes and labels of the map. Spatially, all the vegetation linework present on the hardcopy map has been captured.
Completeness	This coverage is complete based on the nature of the original data. All spatial linework and non-spatial attribute data has been extracted off the original hardcopy map. All fields are populated to meet with Geoscience Australia's data standards.

Contact Information

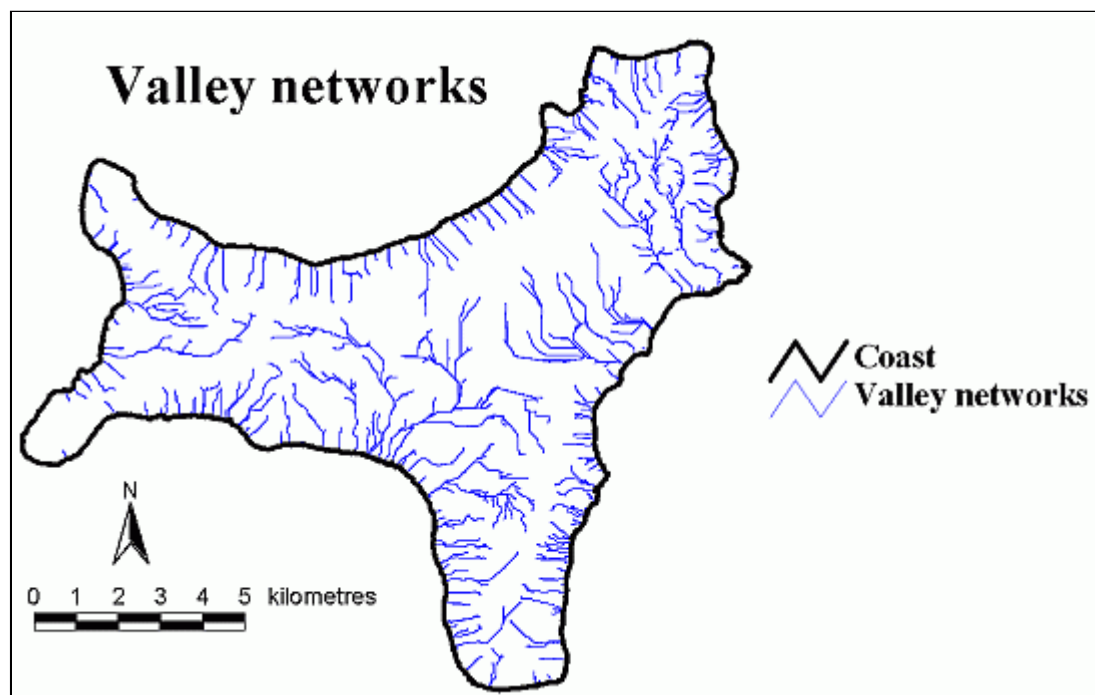
Contact Organisation	Geoscience Australia
Contact Position	-
Mail Address	Cnr Jerrabomberra Ave and Hindmarsh Drive
Locality	SYMONSTON
State	ACT
Country	Australia
Postcode	2609
Telephone	(02) 6249 9479
Facsimile	(02) 6249 9983
Electronic Mail Address	Keith.Porritt@ga.gov.au

Additional Contact Information

Contact Organisation	Parks Australia North
Contact Position	Research Fellow - Peter Green
Mail Address	PO Box 867
Locality	Christmas Island
State	Indian Ocean
Country	Australia
Postcode	6798
Telephone	-
Facsimile	-
Electronic Mail Address	Peter.Green@ea.gov.au
Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003


[Data Directory](#)
[Data Dictionary Home](#)
[Metadata Home](#)


Dataset

Title	Valley Networks
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	The Valley Networks dataset covers the whole of Christmas Island. It contains low elevation lines that were constructed from the 25K Digital elevation map. The lines were obtained by running a series of ArcView grid commands using the Hydrologic Modeling v1.1 extension. The "valley_net.shp" contains the following fields: <table><tr><td>Field</td><td>Type</td><td>Precision</td><td>Decimal</td></tr><tr><td>-----</td><td>-----</td><td>-----</td><td>-----</td></tr><tr><td>Shape</td><td>FIELD_SHAPELINE</td><td>0</td><td>9</td></tr><tr><td>Id</td><td>FIELD_DECIMAL</td><td>0</td><td>11</td></tr><tr><td>Gridcode</td><td>FIELD_DECIMAL</td><td>0</td><td>10</td></tr><tr><td>Length</td><td>FIELD_DECIMAL</td><td>3</td><td>16</td></tr></table>	Field	Type	Precision	Decimal	-----	-----	-----	-----	Shape	FIELD_SHAPELINE	0	9	Id	FIELD_DECIMAL	0	11	Gridcode	FIELD_DECIMAL	0	10	Length	FIELD_DECIMAL	3	16
Field	Type	Precision	Decimal																						
-----	-----	-----	-----																						
Shape	FIELD_SHAPELINE	0	9																						
Id	FIELD_DECIMAL	0	11																						
Gridcode	FIELD_DECIMAL	0	10																						
Length	FIELD_DECIMAL	3	16																						
Search Word(s)	BOUNDARIES Hydrology BOUNDARIES Valleys FORESTS Water VEGETATION Streams																								
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068																								

Data Currency

Beginning Date	9-12-2003
Ending Date	2002-08-21

Dataset Status

Progress	Complete
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Maintenance and Update Frequency	As Required
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Access

Stored Data Format	DIGITAL - ESRI Arc coverage DIGITAL - ESRI Shapefiles
Available Format Type	DIGITAL - ESRI Arc coverage DIGITAL - ESRI Shapefiles
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	The 1987 DEM was used with the hydrologic modelling v1.1 (stored on CD1) extension was used to derive the 'valleys_net' shape file. The following ArcView spatial operations were performed upon the ascii grid to create that shapefile: • The Spatial Analyses/Map Calculator was used to assign null values to attributes in the DEM that had the values of 0. The following command was used upon that grid: ([Dem25k].isnull).con(0,asgrid, [Dem25k]) to give an output grid suitable for the hydrological grid functions • Sinks [command] were filled using the grid derived from the DEM • Flow direction [command] was calculated by using the grid created by filling the sinks • Flow accumulation [command] was calculated from the flow direction grid • Watersheds were created by: ○ Selecting 'Flow accumulation' and then selecting 'Flow accumulation' from the menu. ○ The minimum number of cells for the watershed = 9000 • Flow accumulation was used to calculate stream networks grid • The Stream networks grid was then converted to a shapefile in ArcView • For simplicity, the stream networks were then edited to show only 5th order streams and above. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The accuracy of the low point valley networks are directly related to the accuracy of the DEM.
Attribute Accuracy	The accuracy of the low point valley networks is restricted by: • The accuracy of the DEM • Christmas Island exhibits a permeable rock base. Therefore, water very rarely flows over the island's surface. The majority of the hydrological network is subsurface.
Logical Consistency	The valleys shapefile is complete. The tables are well populated and describe the attributes.
Completeness	This dataset covers the whole of Christmas Island. GA recognises that further work could be undertaken to yield a more accurate and up to date data set by using a more comprehensive DEM.

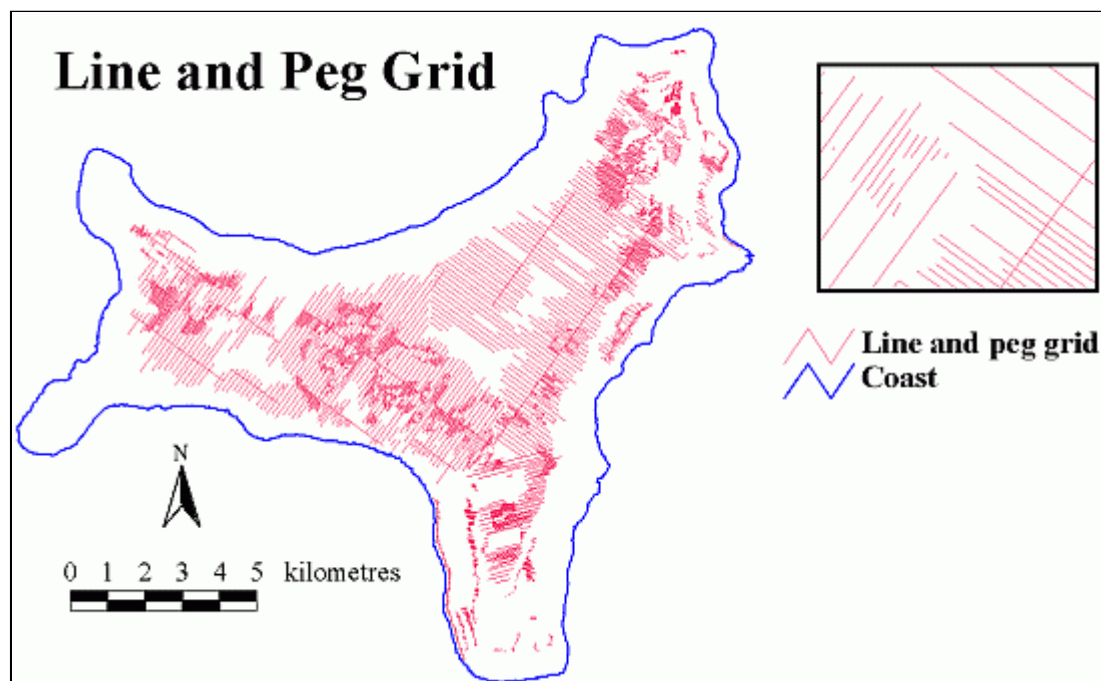
Contact Information

Contact Organisation	Geoscience Australia
Contact Position	-
Mail Address	Cnr Jerrabomberra Ave and Hindmarsh Drive
Locality	SYMONSTON
State	ACT

Country	Australia
Postcode	2609
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Electronic Mail Address	Keith.Porritt@ga.gov.au
Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



[Data Directory](#)

[Data Dictionary Home](#)

[Metadata Home](#)



Dataset

Title	Line and Peg Grid
Custodian	Parks Australia North Christmas Island (PANCI)

Description

Abstract	This line and peg grid was used by ANCA in its Abbott's Booby Bird surveys. The source of this data was an AutoCad map (abbsite.dwg) on ANCA's Christmas Island PC. The grid probably, in reality, runs along the bulldozed lines of an earlier mining grid (visible on the orthophotographs), but does not plot there when overlaid on the orthophotography. Transformation was based on Autocad® Release 7 maps, also existent on the PC.
Search Word (s)	GRID Line GRID Point
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	Not Known
Ending Date	11 NOV 1992 or Current

Dataset Status

Progress	Not Known
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - ArcView3.1 Line data shapefile. DIGITAL - Autocad® Release 7 DWG files.
Available	DIGITAL - ArcView3.1 Line data shapefile.

Format Type	
Access Constraint	Restricted, see contact details below.
Data Quality	
Lineage	The original data was retrieved from a hard drive on the ANCA PC in the Abbott's Booby Bird Office on Christmas Island. All raw data was in a local line and peg grid based on one of the island's mine grids, and was not referenced to a known projection. However, the disk did contain a number of maps created in Autocad® Release 7. Some of these had been rotated into a Universal Transverse Mercator (UTM, Zone 48) map projection (though in different units). Using these it was possible to derive a shift to Christmas Island Grid 1985 (CIG85). In addition to the Autocad® maps, a dBase® file (history.dbf) was retrieved from the PC. Spatial reference in this database was the line and peg coordinates which was projected to a Christmas Island Grid using the shift derived using the Autocad® maps. In 2002 GA was given an updated version of the line and peg grids from Parks Australia North Christmas Island. The new shapefile depicted approximately 2000 additional line and peg grids. The new line and peg grid shapefile was not spatially aligned to the original line and peg grid. Therefore, a shape warp was performed upon the new file in order to geographically align it with the old line and peg shapefile. The following steps were used to shapewarp the new line and peg grid shapefile to spatially conform with the old shapefile: 1. Copy ShapeWarp.avx into EXT32 directory 2. Start Arcview 3. Load the ShapeWarp extension [File/extensions] 4. Click on the ShapeWarp button (will only operate with Views and Layouts closed) 5. Load the 'FROM' file - "drill_lines.shp" (the file you want to warp) 6. Load the 'TO' file - "linepeg_grid.shp" (the file you want to warp to) 7. Choose the snapping [intersections] 8. Choose the tolerance [approx 10m on the ground] 9. Select Ground Control Points (GCP). The best results (RMS = 0.325 at the 3rd order polynomial) were met when 18 GCP's were chosen. 10. View the GCP's RMS - copy was captured "line_peg_warp_aug02" 11. Delete GCP's with high RMS values to improve total RMS value 12. Press 'GO' to begin ShapeWarp 13. Assign output shapefile name "line_peg_warp_aug02.shp" In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The error in the data appears to be in the vicinity of 100 metres. As clearing boundaries and coast (though highly simplified) of the same map plot in far better position (after transformation) in relation to the orthophotographs and other GIS themes, the majority of inaccuracy in this theme is probably inherited from the original map (abbsite.dwg). That is, it appears that the clearings and coast of abbsite.dwg are reasonably accurate though very imprecise (intended to be viewed at much greater scale), while the line and peg grid appears less accurate. Thus the grid on the GIS is mainly illustrative at this time. It is also notable that, since Abbott's Booby Bird sites from the more recent history.dbf plot beyond this grid, the grid has probably been extended. It may well be that a more accurate version exists.
Attribute Accuracy	Not documented.
Logical Consistency	This dataset outlines the Line and peg grid on Christmas Island. Some fields are directly related to the grid and are unique to it. A description of these fields and their purpose can be obtained by contacting ANCA.
Completeness	This dataset was a grid system of Christmas Island that is most likely based on an earlier mining grid. The grid covers the middle portion of the island and extends a little to the west.

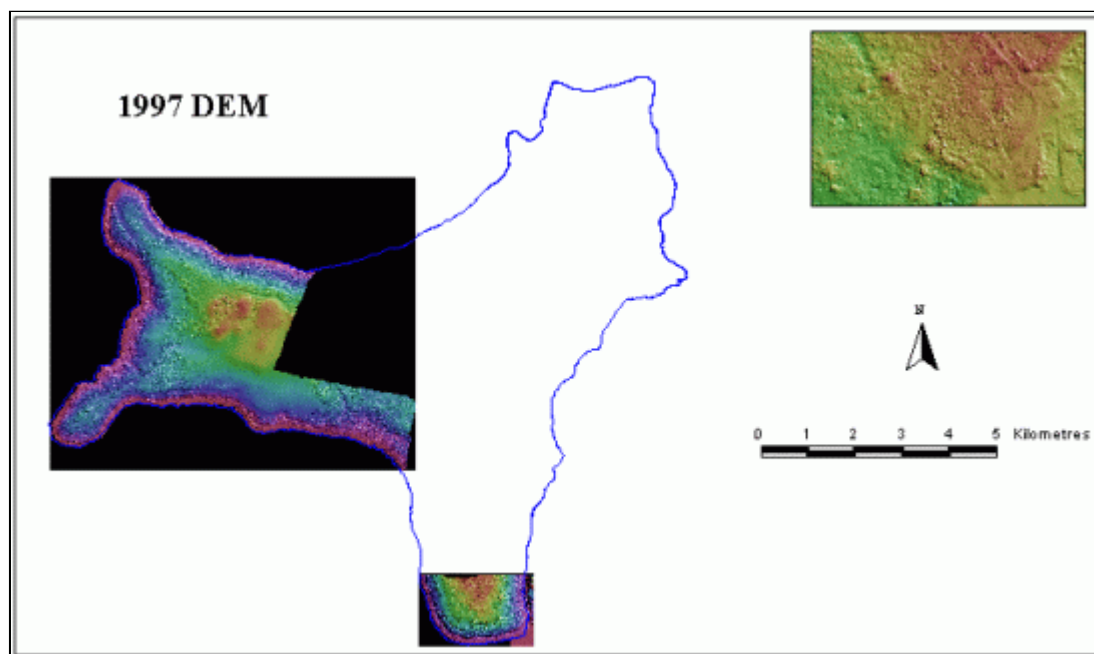
The grid (as seen above) appears to be incomplete and it is also notable that, since Abbott's Booby Bird sites from the more recent history.dbf plot beyond this grid, the grid has probably been extended. GA could undertake a correction to this data if common points with the orthophotography can be identified by ANCA.

Contact Information

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Contact Position	-
Mail Address	PO Box 837
Locality	Christmas Island
State	-
Country	Australia
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Facsimile	(08) 9164 8755
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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003


[Metadata Home](#)


Dataset

Title	1997 DEM Tiles
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	1997 DEMtiles (a concatenation of "97DEM tiles") contains some samples of a representation of the Digital Elevation Model as TIFF and ECW images.
Search Word(s)	1997 DEM Digital Elevation Model IMAGES Tiff IMAGES Ecw PHOTOGRAPHY AND IMAGERY Digital Elevation Model PHOTOGRAPHY AND IMAGERY Raster PHOTOGRAPHY AND IMAGERY Grid
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	2002/11/02
Ending Date	2002/11/02

Dataset Status

Progress	ECW and TIFF Tiles have been made on an as needed basis that cover only certain parts of island (this can be seen above).
Maintenance and Update Frequency	As Required

Access

Stored Data	
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Format	DIGITAL - TIFF/TFW, ECW
Available Format Type	DIGITAL - TIFF/TFW, ECW
Access Constraint	Restricted, see contact details below.

Data Quality

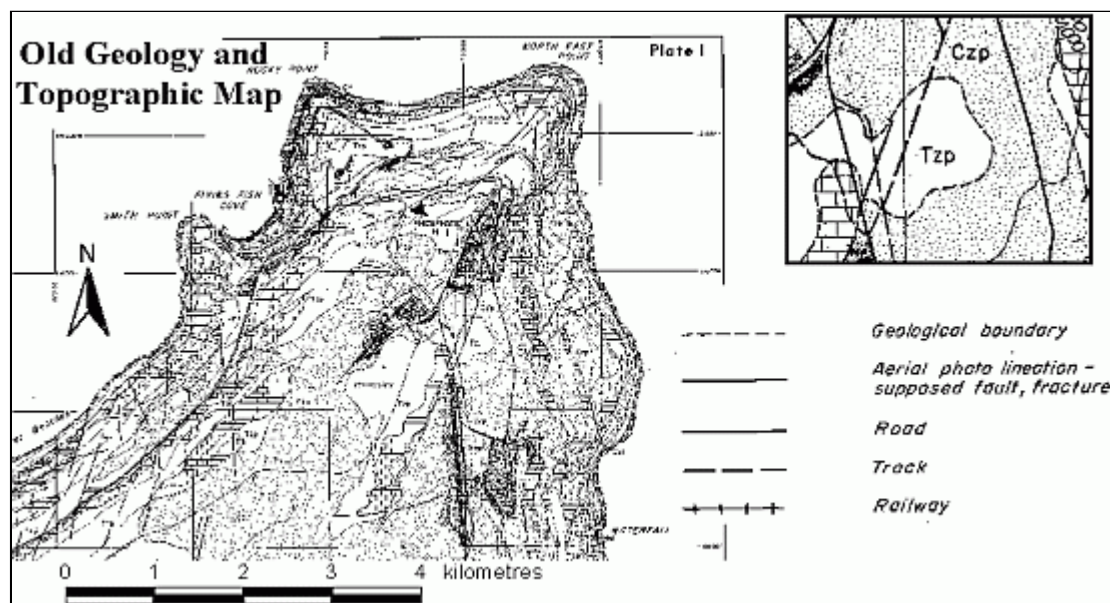
Lineage	The DEM has had a shiny colour drape algorithm applied in ERMMapper® to produce a TIFF image of South Point that has then been reduced to 256 colours, while the ECW image of the West was left at 16 million colour to minimise storage on the CD's. Both images were originally created with a 1m cell size in areas of interest and 5m cell size elsewhere (the South Point image is represented by 1m cell sizes while the West image is a combination of both 1 and 5 metre cell sizes). The final images have been produced at 1m cell sizes. In September 2003 this dataset was then converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The positional accuracy mimics the accuracy of the 1997 orthophoto tiles.
Attribute Accuracy	Not Applicable.
Logical Consistency	All items within this dataset are Digital Elevation Models that describe Christmas Islands topography with elevation being replaced by a colour scale from a colour lookup table.
Completeness	1997 DEM tiles have been produced to cover parts of the island that are of active interest on an as needed basis. [1987 DEM tiles]

Contact Information

Contact Organisation	Geoscience Australia
Contact Position	-
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Telephone	(02) 6249 9479
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Electronic Mail Address	Keith.Porritt@ga.gov.au
Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	November 2002


[Data Directory](#)
[Data Dictionary Home](#)
[Metadata Home](#)


Dataset

Title	Old Geology and Vegetation Maps
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	The ANCA directory contains two scanned images, "geology.tif" and "veg.tif". The geology map contains the following information: Base map compiled from topographic base sheets prepared by Australian Aerial Mapping Pty. Ltd. and supplied by The British Phosphate Commissioners. Geology and compilation by J. Barrie 1965-66 Drawn by J. Kopros Bureau of Mineral Resources, Geology and Geophysics CHRISTMAS ISLAND SURVEY 1965-66. To accompany Record 1967/37. The vegetation map contains the following message: Vegetation map - Accompanies Mitchell's 1985 Report. ONLY COPY!! See File 80/13 for Report. It is based on J Barrie's geology map.
Search Word(s)	GEOSCIENCES Map GEOSCIENCES Geology VEGETATION Map VEGETATION Location
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	Not known
Ending Date	11NOV1966

Dataset Status

Progress	Complete
Maintenance and Update Frequency	Not Planned

Access

Stored Data Format	NONDIGITAL - Paper map
Available Format Type	DIGITAL - Raster TIF format from scanning of the paper map NONDIGITAL - Paper map obtained from ANCA
Access Constraint	Restricted, see contact details below.

Data Quality

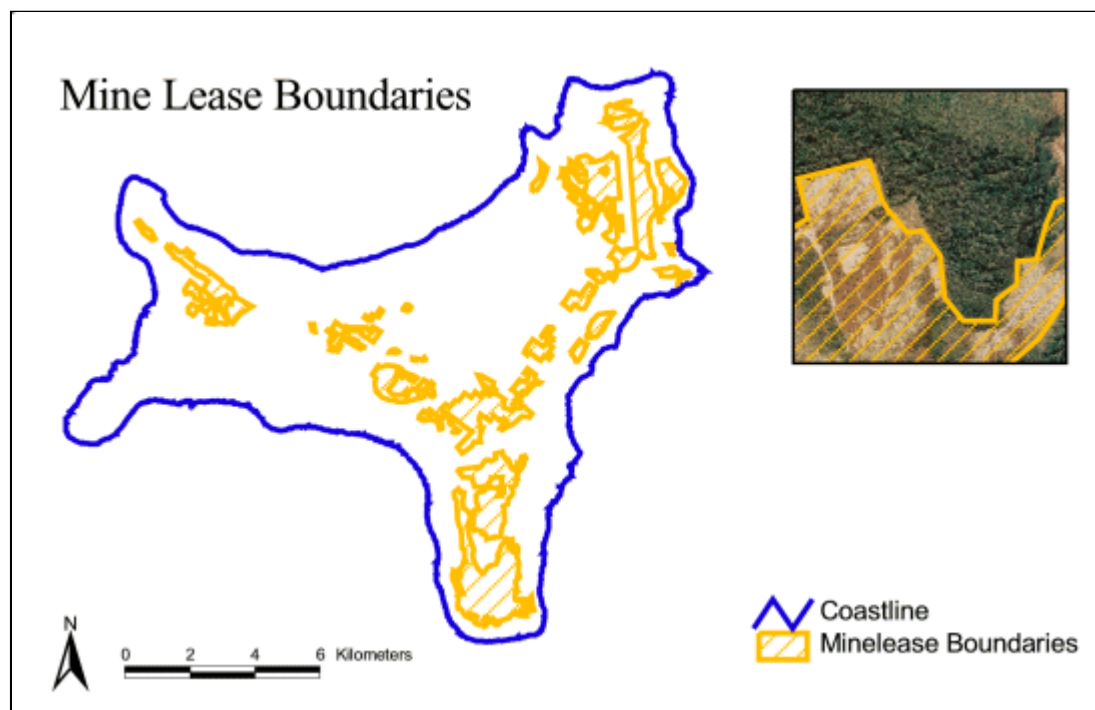
Lineage	These two maps were obtained as dyelines from ANCA, scanned then registered and rectified for inclusion with the GIS. Registration of the geology map was accomplished using a formula derived empirically on the island, extended for conversion from Imperial Island Grid (lines visible on scan) to CIG85. As the vegetation map did not contain visible grid lines, the formula could not be used, so registration was dependant on scarce and imprecise common points between the vegetation map and the AUSLIG 1:25000 data in the GIS. In September 2003 the TIFF images were converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	Errors in the location of these scanned maps result from: 1. Error due to original intended accuracy and scale (1:25000). This could result in errors of up to 25 metres. 2. Error introduced in the scanning process (probably minimal) 3. Error introduced in registration. This will be significant in the vegetation map, but is probably minimal in the geology map. No statistical analysis performed but we intuitively estimate that 95% of the features are within 1 metre of their true location. This data was originally produced as 1:1000 Map Series CAD data and allowing for errors due to digitising and translation we deduce an error of 1m.
Attribute Accuracy	Not Relevant.
Logical Consistency	Not Relevant
Completeness	As these maps were originally produced as paper maps it lacks the rigour expected of a high quality digital maps. They were complete at time of printing and AGSO found that no changes or ammendments had taken place.

Contact Information

Contact Organisation	Geoscience Australia
Contact Position	-
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State	ACT
Country	Australia
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Facsimile	(02) 6249 9983
Electronic Mail Address	Keith.Porritt@ga.gov.au
Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



[Data Directory](#)

[Data Dictionary Home](#)

[Metadata Home](#)



Dataset

Title	Mine Lease Boundaries
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	Mining lease boudaries were supplied to Geoscience Australia as many small polygons. Geoscience Australia merged all these polygons to form one theme of mine lease boundaries. This data shows areas where mining of phosphate has been approved. The mine lease theme is "mineleases.shp" and contains the following fields: <table><tr><td>Field</td><td>Type</td><td>Width</td><td>Decimal</td></tr><tr><td colspan="4">-----</td></tr><tr><td>Shape</td><td>FIELD_SHAPEPOLY</td><td>8</td><td>0</td></tr><tr><td>Id_lease</td><td>FIELD_CHAR</td><td>8</td><td>0</td></tr><tr><td>Leasnum</td><td>FIELD_DECIMAL</td><td>5</td><td>1</td></tr><tr><td>Leasrdcd</td><td>FIELD_DECIMAL</td><td>2</td><td>0</td></tr><tr><td>Area</td><td>FIELD_DECIMAL</td><td>8</td><td>1</td></tr><tr><td>Perimeter</td><td>FIELD_DECIMAL</td><td>7</td><td>2</td></tr><tr><td>Hectares</td><td>FIELD_DECIMAL</td><td>16</td><td>3</td></tr></table>	Field	Type	Width	Decimal	-----				Shape	FIELD_SHAPEPOLY	8	0	Id_lease	FIELD_CHAR	8	0	Leasnum	FIELD_DECIMAL	5	1	Leasrdcd	FIELD_DECIMAL	2	0	Area	FIELD_DECIMAL	8	1	Perimeter	FIELD_DECIMAL	7	2	Hectares	FIELD_DECIMAL	16	3
Field	Type	Width	Decimal																																		

Shape	FIELD_SHAPEPOLY	8	0																																		
Id_lease	FIELD_CHAR	8	0																																		
Leasnum	FIELD_DECIMAL	5	1																																		
Leasrdcd	FIELD_DECIMAL	2	0																																		
Area	FIELD_DECIMAL	8	1																																		
Perimeter	FIELD_DECIMAL	7	2																																		
Hectares	FIELD_DECIMAL	16	3																																		
Search Word (s)	BOUNDARIES Administrative BOUNDARIES Cultural BOUNDARIES Mining HUMAN ENVIRONMENT Resources INDUSTRY Mining																																				
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068																																				

Data Currency

Beginning Date	1991
Ending Date	1998-12

Dataset Status

Progress	Complete
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - ESRI Shapefiles: Point, Line, Polygon
Available Format Type	DIGITAL - ESRI Shapefiles: Point, Line, Polygon
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	In November 2002 the minelease boundaries were checked against the 2002 cadastral boundaries for discrepancies. Minelease ML133A was updated from the 2002 cadastre - changes relate to airport land and a communications tower in the north. In October 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	Commissioning of the mine lease boundaries was originally undertaken by AUSLIG. The Department of Minerals and Energy W.A. (DOMEWA) is the designated authority for mine leases on Christmas Island on behalf of the Commonwealth. In 1998 the Commonwealth allowed an increase in the mine lease area up to the forest edge where the mine lease abuts Crown land, but not where it abuts National Park. The mine lease boundaries supplied in the 1996 CIGIS were captured by AUSLIG W.A. from field visits in conjunction with the use of the 1987 aerial photography. These boundaries were set back from the forest edge. Subsequent changes to the mine lease data were supplied to AGSO in 1998 by the surveyor to PRL at the time (Russell Payne). This data came to AGSO as a series of ESRI shapefiles, each containing a mine lease polygon. These boundaries were produced by digitising off the orthophotography in conjunction with site visits. Geoscience Australia merged all individual polygons that were supplied into the one ESRI shapefile, so as to allow easier access to the data.
Attribute Accuracy	This metadata element is in progress.
Logical Consistency	This metadata element is in progress.
Completeness	This metadata element is in progress.

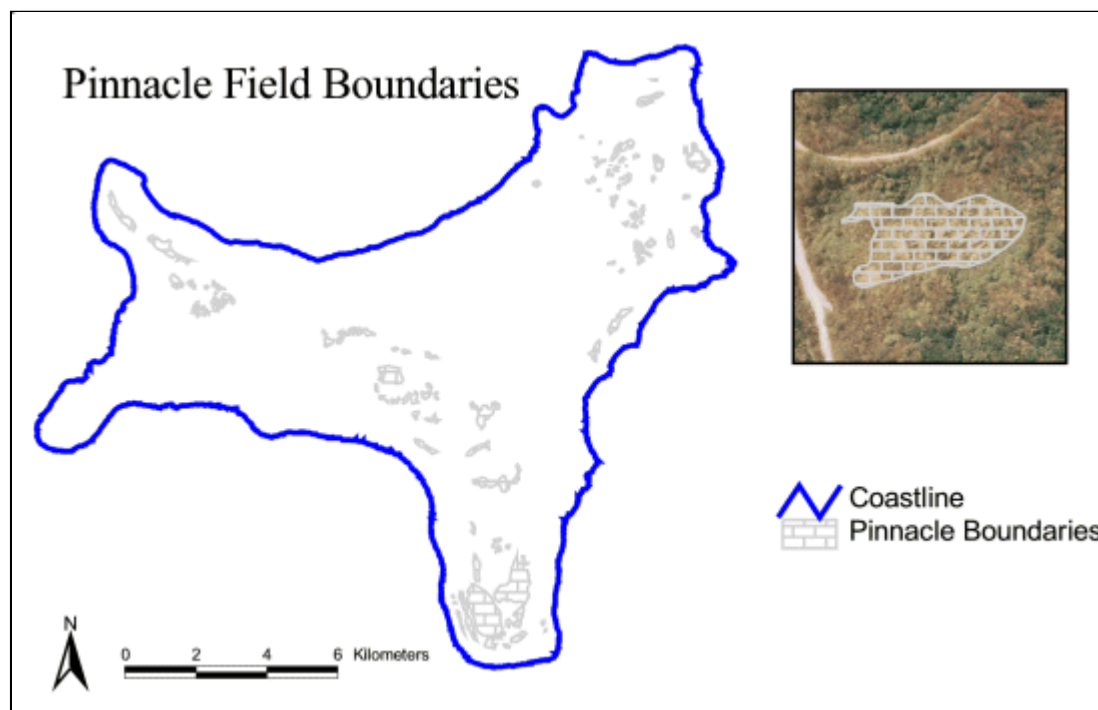
Contact Information

Contact Organisation	Geoscience Australia
Contact Position	-
Mail Address	Cnr Jerrabomberra Ave and Hindmarsh Drive
Locality	SYMONSTON

State	ACT
Country	Australia
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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	Pinnacle Field Boundaries
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract

The pinnacle field boundaries dataset covers the whole of Christmas Island. It contains polygons that have been digitised around areas or fields of pinnacles. The polygons were digitised in two goes. The first was a animated process initiated by Geoscience Australia using Erdas software, this resulted in high resolution polygons located over the north east portion of Christmas Island. This turned out to be a slow process so the task was then taken up by manual digitising off the screen using orthphotography as a back drop. This method was used in digitising the rest of the island. The lack resolution for these polygons can be seen by their blocky appearance, these are visible at scales of 1:10,000.

The pinnacle boundaries shapefile is "pinclbnd.shp" and contains the following fields:

Field	Type	Width	Decimal

Shape	FIELD_SHAPEPOLY	8	0
Area	FIELD_DECIMAL	12	3
Perimeter	FIELD_DECIMAL	12	3
Altpinn_cn	FIELD_DECIMAL	11	0
Altpinn_cn	FIELD_DECIMAL	11	0
Single_tre	FIELD_CHAR	16	0
Dxf_color	FIELD_DECIMAL	2	0
Dxf_thickn	FIELD_DECIMAL	12	3
Dxf_type	FIELD_CHAR	10	0
Dxf_elevat	FIELD_DECIMAL	12	3
Dxf_angle	FIELD_DECIMAL	12	3
Dxf_size	FIELD_DECIMAL	12	3
Dxf_text	FIELD_CHAR	80	0
Dxf_attrib	FIELD_CHAR	16	0
Dxf_iid	FIELD_DECIMAL	11	0

	Hectares FIELD_DECIMAL 16 3
Search Word(s)	BOUNDARIES Administrative BOUNDARIES Cultural BOUNDARIES Mining BOUNDARIES National Parks HAZARDS Manmade HUMAN ENVIRONMENT Structures and Facilities
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	metadata element in progress
Ending Date	metadata element in progress

Dataset Status

Progress	Complete
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - ESRI Shapefiles: Polygon.
Available Format Type	DIGITAL - ESRI Shapefiles: Polygon.
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	The production of pinnacle boundaries was first initiated by AGSO in 1996. These boundaries were constructed around the pinnacle fields by use of an automated classification utility associated with the Erdas program. The process of classifying regions of pinnacles was very time consuming and so was taken over by the mines surveyors assistant (James Keogh). GA completed digitising the NE part of Christmas Island using Erdas software. The resolution obtained by this method allows polygon outlines to appear "smooth" to a scale of at least 1:500. The rest of the Island was completed by way of "headsup" digitising (on screen digitising) using the orthophotography as the background. James Keogh completed the task of digitising around the pinnacle fields. The typical scale that provides a "smooth" outline is no better than 1:10,000. As part of the Christmas Island airport extention project in November 2002, GA added eight previously undigitised pinnacle fields to the original shapefile. Six fields north and two to the south of the airport. Upon reviewing the field closest to the southern section of the runway with the 2000 Airborne Laser Scanning, it was expanded by 17,000m squared. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The positional accuracy is of two standards. In the north-east of the island the areas were digitised using classification methods, so the positional accuracy is the same as in the orthophotography. For the rest of the island the accuracy of the outlines has been determined by the digitising methods. Here the method used was "headsup" digitising at a screen scale. By zooming in to a scale of 1:10,000 it is clear to see the blocky texture of the polygons. Once

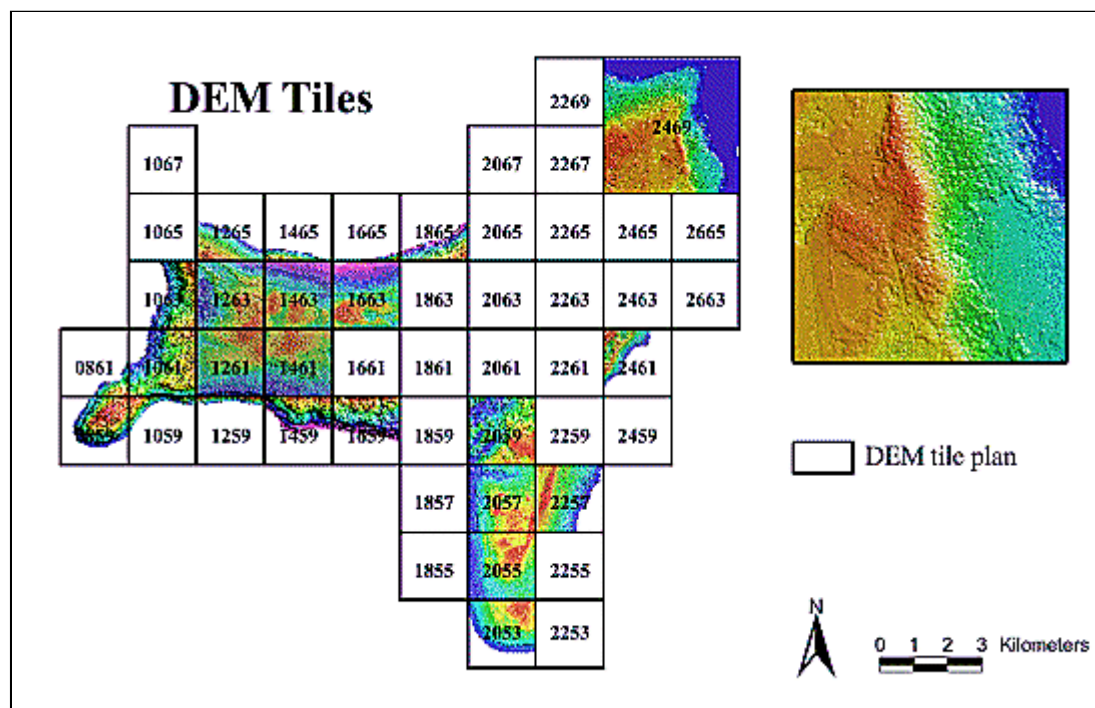
	again it has been digitised from the orthophotography and spatially it is quite accurate.
Attribute Accuracy	This metadata element is in progress.
Logical Consistency	This metadata element is in progress
Completeness	This dataset covers the whole of Christmas Island and at the time of digitising was complete. GA recognises that further work could be undertaken to yield a more up to date and error free data set.

Contact Information

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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	1987 DEM Tiles
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	Demtiles (a concatenation of "DEM tiles") contains some samples of a representation of the Digital Elevation Model as TIFF images.
Search Word(s)	DEM Digital Elevation Model IMAGES Tiff PHOTOGRAPHY AND IMAGERY Digital Elevation Model PHOTOGRAPHY AND IMAGERY Raster PHOTOGRAPHY AND IMAGERY Grid
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	31JUN1996
Ending Date	24APR1997

Dataset Status

Progress	Tiles have been made on an as needed basis that cover only certain parts of island (this can be seen above).
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - TIFF/TFW
Available Format Type	DIGITAL - TIFF/TFW
Access Constraint	Restricted, see contact details below.

Data Quality

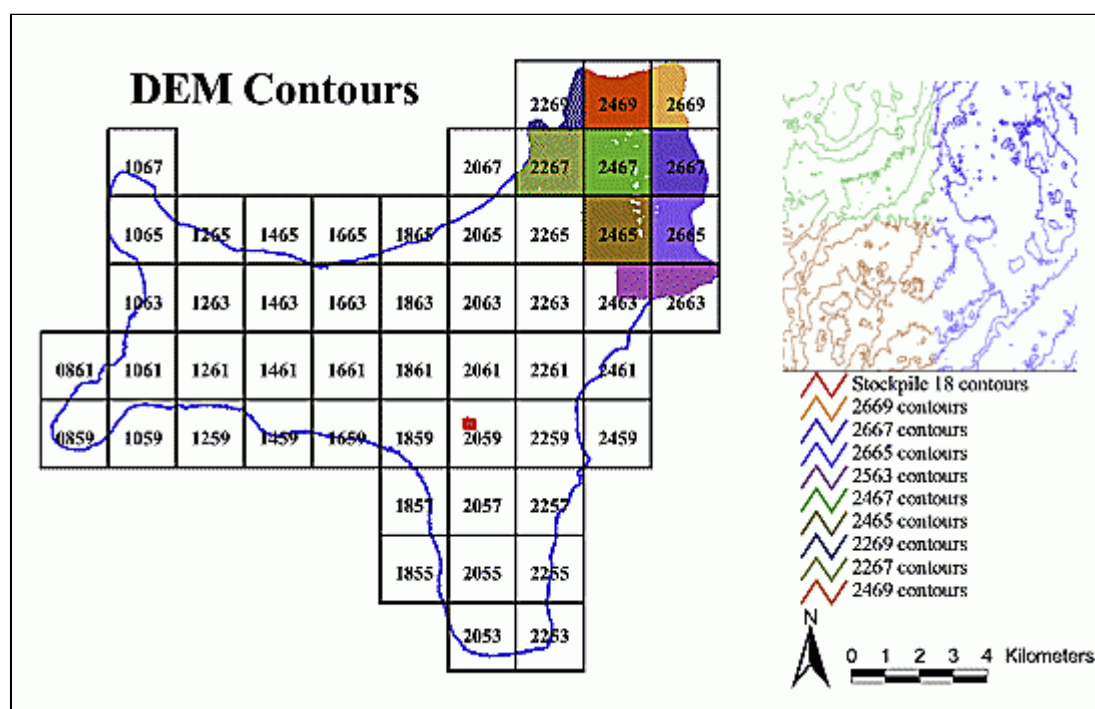
Lineage	The DEM has had a shiny colour drape algorithm applied in ERMapper® to produce an image that has then been reduced to 256 colours to minimise storage on disk. Tiles over disturbed areas have a one metre cell size, those over primary rainforest have a five metre cell size. There is one 4 kilometres by 4 kilometres tile number 2469 for the north eastern quarter of the Island, with the rest being 2 km x 2 km except for some partial tiles along the coast. The colour range for each individual tile has been optimised so as to give a maximum of information a consequence of this is that colours may not match at adjoining edges. Further TIFF images like these can be prepared on a cost recovered basis. In October 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The positional accuracy mimics the accuracy of the orthophoto tiles.
Attribute Accuracy	Not Applicable.
Logical Consistency	All items within this dataset are Digital Elevation Models that describe Christmas Islands topography with elevation being replaced by a colour scale from a colour lookup table.
Completeness	DEM tiles have been produced to cover parts of the island that are of active interest on an as needed basis. More 1987 DEM tiles can be generated by GA upon request on a cost recovery basis. [1997 DEM tiles]

Contact Information

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Contact Position	-
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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003


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Dataset

Title	DEM Contours
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	A useful spin off of the soft photogrammetry is the opportunity to get one metre contours over the disturbed areas of the Island. For the north-east area of the Island 2km X 2km DEM contour tiles have been trialed in the CIGIS. Most are at a contour interval of 5 metres but tiles 2269 and 2469 have been done at a one metre contour interval. The DEM contours are surface contours. They pick up the reflective surface beneath the aircraft. The reflective surface may be the ground or it may be a dense vegetation canopy or rooftops etc. Further one metre contour coverage can be prepared on a cost recovered basis.
Search Word(s)	DEM Contours DEM Digital Elevation Model PHOTOGRAPHY AND IMAGERY Digital Elevation Model
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	01JUL1983
Ending Date	11NOV1992

Dataset Status

Progress	Complete
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - ArcView3.1 line shapefile
Available Format Type	DIGITAL - ArcView3.1 line shapefile
Access Constraint	Restricted, see contact details below.

Data Quality

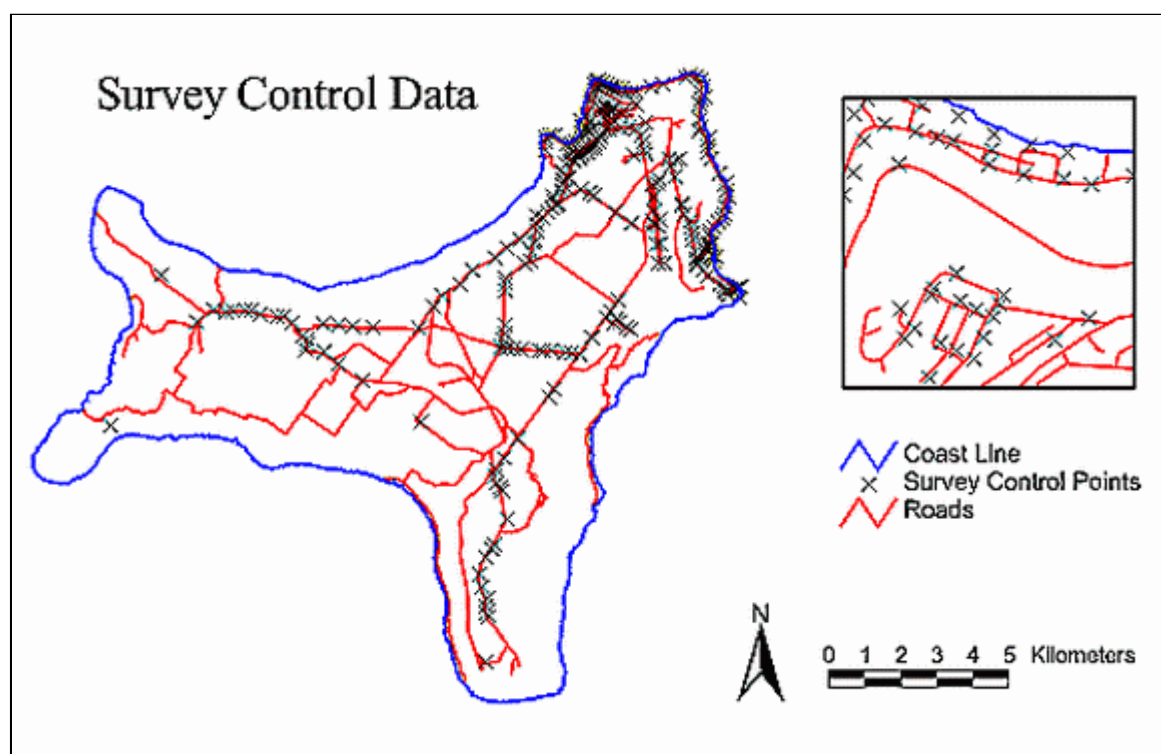
Lineage	Contours were generated from the DEM in only a few parts of the island using.....
Positional Accuracy	The contours generated from the DEM replicate all the inaccuracies of the DEM. A very small rounding error is introduced into the spatial positioning of the contours.
Attribute Accuracy	Contour elevations will be a result of the DEM accuracy, where the DEM is accurate the contours will match. Total error would be in the tens of meters.
Logical Consistency	All items are associated with contours generated from the DEM.
Completeness	Only a small portion of the island has been generated only to display the capabilities and benefits of the DEM. GA could, if requested, generate contours for other parts of Christmas Island

Contact Information

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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	DOLA survey control dataset
Custodian	Department of Land Administration (DOLA)
Jurisdiction	Western Australia

Description

Abstract	The DOLA survey control shapefile is based on GESMAR AGD84 data supplied by the Department of Land Administration (DOLA), Western Australia. It contains 260 surveyed points, with UTM, WGS84 (latitude and longitude), CIG92 and CIG85 coordinates. Many points also have attributed height data.
Search Word (s)	LAND Administration LAND Survey
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	date
Ending Date	date

Dataset Status

Progress	Complete
Maintenance and Update Frequency	Not Planned

Access

Stored Data Format	DIGITAL - ArcView3.1 point data shapefile. 260 survey points
Available Format Type	DIGITAL - ArcView3.1 point data shapefile. 260 survey points
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	The format of the data has been extensively manipulated by MREB. MREB has added CIG85 coordinates from survey control data obtained from Auslig, Perth in paper published form which has been OCR scanned and matched by MREB. These CIG85 values were then used to display the points in ArcView as an event theme prior to conversion to a shapefile. Data was supplied from DOLA as CI.DAT. In CI.DAT three rows of data relate to each survey control point. The left most columns contain data relating to different map projections used (WGS84, CIG92, and UTM) each row pertaining to a particular map projection. The right most columns are not row-dependent and contain general control point data, height data (Christmas Island Height Datum (CIHD)) and error data. Each A4 page began with a header section. Supplied data was opened on Microsoft Excel and saved as doladata.xls and the following steps were taken to form a database favourable for use in the CIGIS. The steps to data expansion were as follows: • Copying of the station codes (using a macro) so that every row had an associated station code and database number • Sorting of the data by projection • Separation by projection type into three separate worksheets • Sorting of the rows of each projection worksheet by station code • Joining these worksheets into one final with each row having a unique station code and all its associated data. • Removal of duplicate columns. Columns were added to contain the eastings and northings of CIG85. These were filled from data obtained from AUSLIG, Perth as 'CHRISTMAS ISLAND CONTROL PLAN CON-2' (W.A. Regional Office Plan A2-38I) . MREB scanned this plan using Optical Character Recognition (OCR) as an MS Excel worksheet. After checking the data for scanning errors the survey control I.D.s were matched with those in the original DOLA data (CI.DAT sourced). The file was exported using File Save As in MS Excel. It was exported in CSV format (Comma delimited). This format preserved the correct data. Attempts were made to export the data in various DBF formats, as this is a more useful format to view, but all failed to preserve significant digits. The CSV version of the data was, for ease of use in ArcView, renamed doladata.txt (ArcView doesn't recognise the extension .csv). The table was added to an ArcView project and 'Add Event Theme' used to display the CIG85 coordinates of the data. The shapefile attribute table was joined by station-ID to the CIG92 data attribute table, resulting in a final shapefile containing all points with valid data for both CIG85 and CIG92. In addition to this, another shapefile ('92contrl.shp') contains all survey control points with CIG92 coordinates. This is in CIG92 projection and therefore not used in the GIS, but is stored in the 'DOLA' directory for future use / reference. Finally, the theme was then converted to a shapefile for consistency and speed of access. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection. The MGA (UTM WGS84 equivalent) coordinates produced using the x y shift could then be compared with the UTM WGS84 coordinates for an accuracy assessment. The name of the final shapefile is '85contrl.shp'.
Positional Accuracy	The accuracy of each DOLA point is contained as attributes of the shapefile (method, order and accuracy in both horizontal and vertical).

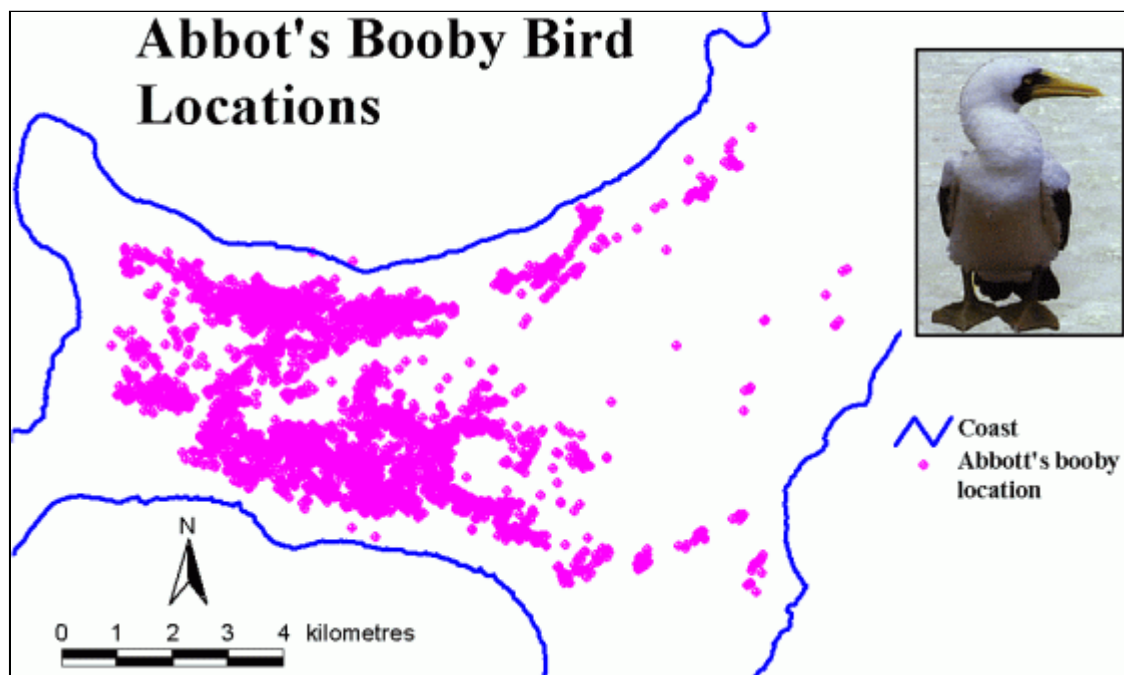
Attribute Accuracy	Not documented.
Logical Consistency	The DOLA data is a point dataset that is concerned with the land survey of Christmas Island and contain latitude, longitude and some also contain elevation.
Completeness	Although complete when supplied the majority of points lie in the north east of the island with a smaller number of points scattered through the rest of the island.

Contact Information

Contact Organisation	Department of Land Administration (DOLA)
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Country	Australia
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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	Abbot's Booby Bird Data
Custodian	Parks Australia North Christmas Island (PANCI)
Jurisdiction	Christmas Island (Australia)

Description

Abstract	Abbott's Booby Bird sites on Christmas Island are displayed as point data in the GIS. There are 6272 points. The source of this data was a dBase file from the ANCA PC on Christmas Island (file 'history.dbf' dated 11/11/1992). The shapefile's table contains all fields and data (essentially unmodified) of the original dBase file. The spatial coordinates of the original file were based on a line and peg grid, probably using the bulldozed lines of an old mining grid. Transformation was based on Autocad® Release 7 maps also existent on the PC.
Search Word (s)	FAUNA Native FAUNA Birds HERITAGE Natural HUMAN ENVIRONMENT Planning
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	01JUL1983
Ending Date	11NOV1992

Dataset Status

Progress	Complete
Maintenance and Update	As Required

Frequency	
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Access

Stored Data Format	DIGITAL - ArcView3.1 point data shapefile. 6272 records. DIGITAL - dBase file (history.dbf) based on the Line Peg Grid.
Available Format Type	DIGITAL - ArcView3.1 point data shapefile.
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	The original data was retrieved from a hard drive on the ANCA PC in the Abbott's Booby Bird Office on Christmas Island. Almost all raw data was in a local line and peg grid based on one of the island's mine grids, and was not referenced to a known projection. However, the disk did contain a number of maps created in Autocad® Release 7. Some of these had been rotated into a Universal Transverse Mercator (UTM, Zone 48) map projection (though in different units). Using these it was possible to derive a shift to Christmas Island Grid 1985 (CIG85). In addition to the Autocad® maps, a dBase® file (history.dbf) was retrieved from the PC. This contains abundant data for each Abbott's Booby Bird site. Contact ANCA for an explanation of these attributes. Spatial reference in this database was line and peg coordinates (as described above) and, thus, could be projected to Christmas Island Grid using the shift derived using the Autocad® maps. In September 2003 this dataset was converted to the MGA (GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	Since the data points projected to Christmas Island Grid 1985 plot similarly to those in the map abbsite.dwg, used in the initial CIG85 transformation, it is likely the errors are similar. The lines in this map do not appear to be accurately surveyed. The error in the data appears to be in the vicinity of 100 metres. As clearing boundaries and coast (though highly simplified) of the same map plot in far better position (after CIG85 transformation) in relation to the orthophotographs and other GIS themes, the majority of inaccuracy in this theme is probably inherited from the original map (abbsite.dwg). That is, it appears that the clearings and coast of abbsite.dwg are reasonably accurate though very imprecise (intended to be viewed at much greater scale), while the line and peg grid appears less accurate. Thus the grid on the GIS is mainly illustrative at this time. It is also notable that, since Abbott's Booby Bird sites from the more recent history.dbf plot beyond this grid, the grid has probably been extended. It may well be that a more accurate version exists. GA could undertake a correction to this data if common points with the orthophotography can be identified by ANCA.
Attribute Accuracy	Not documented.
Logical Consistency	All items in the dataset are points that describe the sighted locations of the Abbotts' Booby bird breeding areas of Christmas Island. Many fields within the dataset are unique to the data collection process and exact uses and description of these fields can be obtained from ANCA.
Completeness	As this data was originally collected for a study of the breeding habits of the Abbot's Booby bird, most of the data has been collected starting in July 1983, there is no clear end date that describes the end of the study period (and the end of data collection). AGSO undertook considerable work to translate these database points into a form suitable form for GIS use. GA also recognises that there is still more work that can be done to yield an up to date and error free data set.

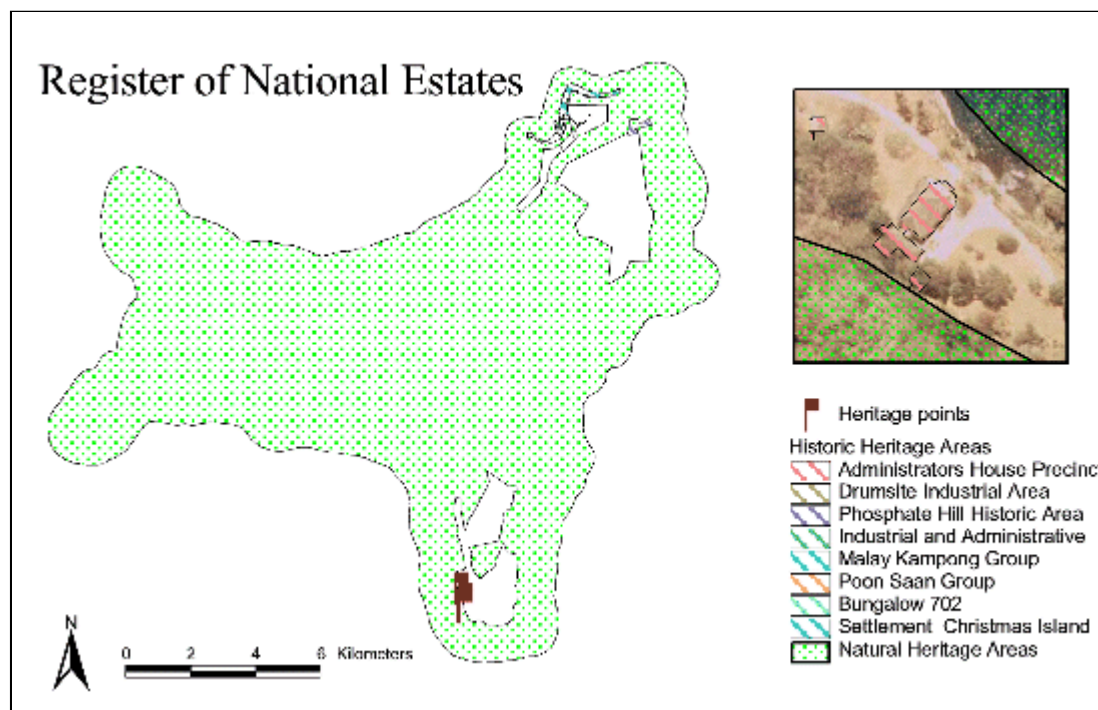
Contact Information

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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003


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Dataset

Title	Register of National Estate
Custodian	Environment Australia
Jurisdiction	Australia

Description

Abstract	Data were provided to Geoscience Australia by Environment Australia - Register of the National Estate and contain natural and historical heritage data (point and polygon) for Christmas Island. Heritage data are in both points and polygon form. There are currently 4 records in the heritage points theme and 61 records in the natural and heritage themes. Geoscience Australia noted that in a previous version of the heritage points theme there are 38 registered points in comparison to the 4 in the new dataset. These two polygon datasets that were supplied have been separated into two shapefiles, 'natural heritage' and 'historic heritage' respectively. Natural data encompasses natural features including some areas of pinnalce fields and extends offshore. Historic heritage data is comprised of features that are of manmade origin and that are of historic significance. These features include the cantilevers, the Christmas Island Administrators house, and some others.
Search Word(s)	HUMAN ENVIRONMENT Structures and Facilities HUMAN ENVIRONMENT Urban Design LAND Use
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	Not Known
Ending Date	2001-05-07

Dataset Status

Progress	Complete
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - ArcView Shapefiles: Point, Polygon
Available Format Type	DIGITAL - ArcView Shapefiles: Point, Polygon
Access Constraint	Restricted, see contact details below.

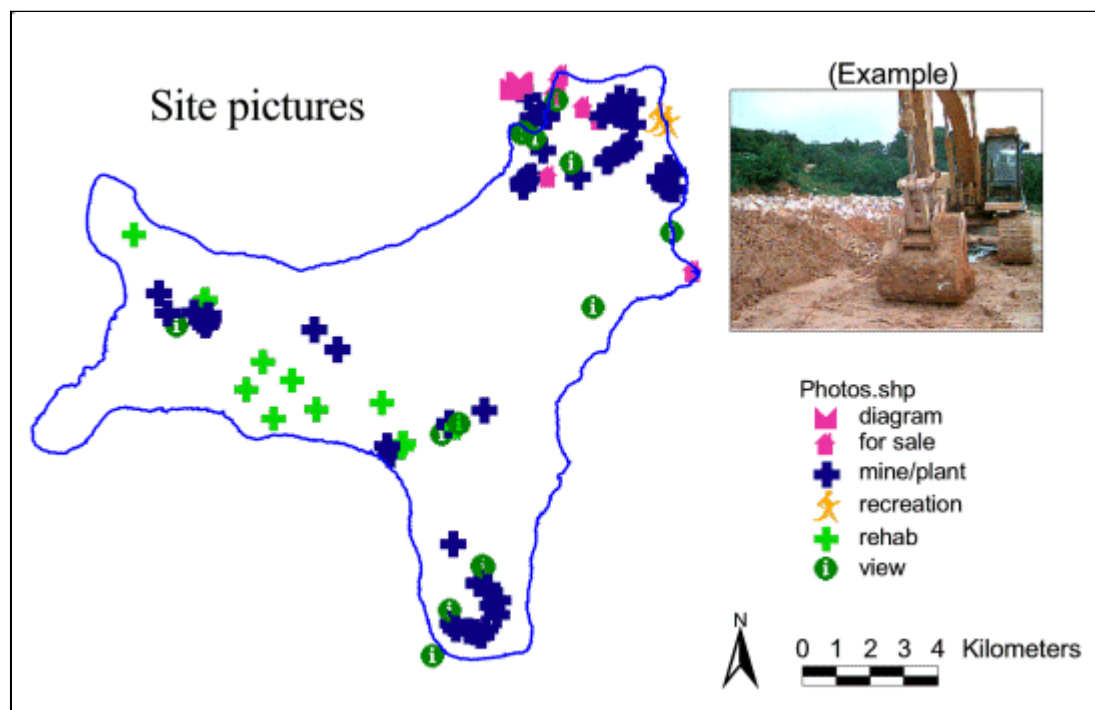
Data Quality

Lineage	Data were provided to Geoscience Australia via an email from Environment Australia. Projection of supplied data is geographic (WGS72)/decimal degrees. No other metadata was supplied by RNE. GA then projected the data to Christmas Island Grid 1985 (CIG85). With the apparent low resolution of the polygon natural heritage data, they were found to compare well to the AUSLIG 1:25000 features. The historic heritage data appears to be of higher resolution (polygon data consists of building outlines) but does not overlay with the orthophotography or cadastre. As a result of this GA shifted these data by 16.5 metres westward to match existing data. The polygon data was then all merged together, but because of polygon overlap natural heritage data was converted into its own shapefile. The heritage data is now presented as points data and polygons named historic and natural heritage data. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The overall accuracy of the merged data is correct to approximately 3 metres. In the case of the original historic data, comparisons made against orthophotography found a difference of 16.5m. The coastline of the natural heritage data closely matches the form of the AUSLIG 1:25000 data so positioned to this.
Attribute Accuracy	Not documented from source, but all fields are full and because the data is concerned with heritage items most of the fields contain names and locations. The fields name, class and status appear to be most beneficial to users as they describe the name of the heritage feature, the class they are in, and whether the feature is registered or not.
Logical Consistency	These data supplied by Environment Australia contain fields that follow logical data structure and consistency. All points and polygons have a name, class, registered number (from Register of National Estate of Environment Australia) and a location.
Completeness	These data covers the whole island, however all items of historical heritage are located in the North East of the island. The natural heritage polygon covers the entire island and extends offshore.

Contact Information

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Metadata Date	9-12-2003
Additional Metadata	
Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	Site pictures data
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	The Sitepics (abbreviated "site pictures") directory contains 71 scanned pictures (as TIFF images) from various sources (mostly Mineral Resources and Energy Branch photographs, GA ferived, some PRL and tourist brochure photographs). The images include historical pictures, diagrams, photographs of mining, mined areas and mining equipment, photographs of 1997 orthophotography, photographs of rehabilitation, and some scenic pictures. Most are referenced by a hotlink to the theme 'photos.shp' (clicking on the marker, geographically positioned, with the hotlink tool pops up the image). MREB welcome your feedback on the true site from where such photographs were taken so they can be more accurate positioned.
Search Word(s)	HUMAN ENVIRONMENT PHOTOGRAPHY AND IMAGERY
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	Unknown
Ending Date	Unknown

Dataset Status

Progress	Complete
Maintenance and Update Frequency	Not planned

Access

Stored Data Format	DIGITAL - ArcView3.1 shapefile; TIFF photography
Available Format Type	DIGITAL - ArcView3.1 shapefile; TIFF photography
Access Constraint	Restricted, see contact details below.

Data Quality

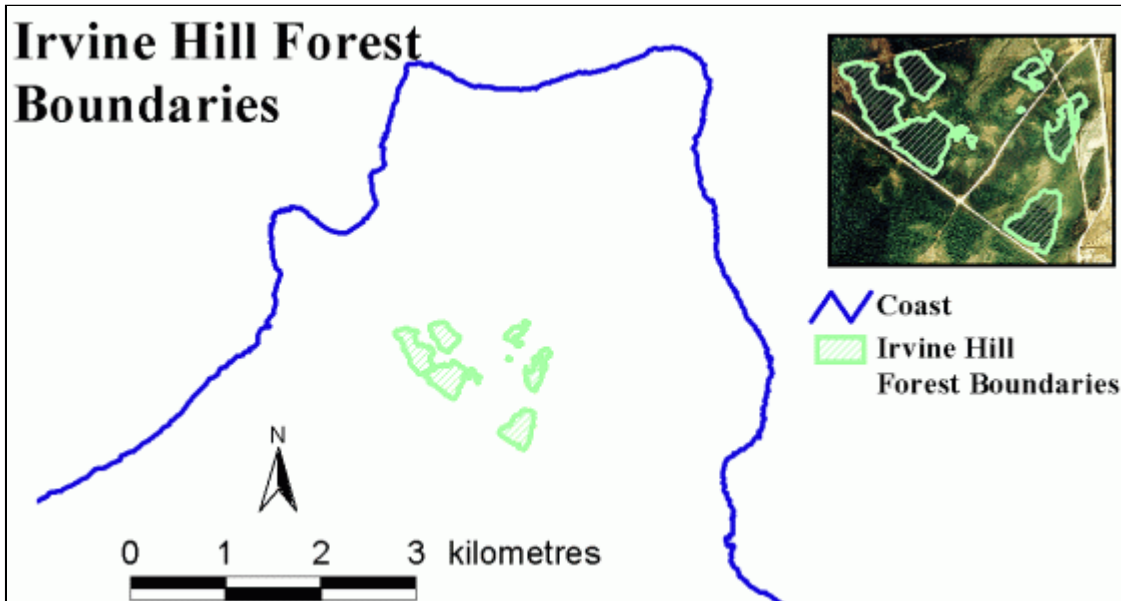
Lineage	-
Positional Accuracy	Photographs in this dataset have been positioned by eye and from memory, thus resulting in a dataset that in a number of instances the geographic positioning of the photographs is a guess or illustrative (eg the photograph of a truck being filled by a front end loader).
Attribute Accuracy	Not Relevant.
Logical Consistency	This dataset provides the user with a pictorial overview of Christmas Island. Photographs used show various aspects of Christmas Island and include historical pictures, diagrams, photographs of mining, mined areas and mining equipment, photographs of 1997 orthophotography, photographs of rehabilitation, and some scenic pictures.
Completeness	GA also recognises that there is still more work that can be done to yield an up to date and error free data set.

Contact Information

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Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	Irvine Hill Forest Boundaries
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	This dataset contains polygons that bound parts of Irvine Hill forest. The polygons were constructed by drawing lines that join points which were pegged out as being boundaries of the Irvine Hill area. The main points were supplied by Whelans. The line joins and polygon making process was done by Geoscience Australia. The shapefile containing the data is: "forestedge_irvineh.shp". Details of the fields can be seen below: <table><tr><th>Field</th><th>Type</th><th>Width</th><th>Decimal</th></tr><tr><td colspan="4">-----</td></tr><tr><td>Shape</td><td>FIELD_SHAPEPOLY</td><td>8</td><td>0</td></tr><tr><td>Area</td><td>FIELD_DECIMAL</td><td>12</td><td>3</td></tr><tr><td>Perimeter</td><td>FIELD_DECIMAL</td><td>12</td><td>3</td></tr><tr><td>Plot3pef2_</td><td>FIELD_DECIMAL</td><td>11</td><td>0</td></tr><tr><td>Plot3pef2_</td><td>FIELD_DECIMAL</td><td>11</td><td>0</td></tr><tr><td>Entity</td><td>FIELD_CHAR</td><td>14</td><td>0</td></tr><tr><td>Layer</td><td>FIELD_CHAR</td><td>32</td><td>0</td></tr><tr><td>Elevation</td><td>FIELD_DECIMAL</td><td>18</td><td>5</td></tr><tr><td>Thickness</td><td>FIELD_DECIMAL</td><td>18</td><td>5</td></tr><tr><td>Color</td><td>FIELD_DECIMAL</td><td>11</td><td>0</td></tr><tr><td>Pointnumbe</td><td>FIELD_DECIMAL</td><td>11</td><td>0</td></tr><tr><td>Pointheigh</td><td>FIELD_DECIMAL</td><td>18</td><td>5</td></tr><tr><td>Pointcode</td><td>FIELD_CHAR</td><td>8</td><td>0</td></tr><tr><td>Sourcethm</td><td>FIELD_CHAR</td><td>16</td><td>0</td></tr><tr><td>Hectares</td><td>FIELD_DECIMAL</td><td>16</td><td>3</td></tr></table>	Field	Type	Width	Decimal	-----				Shape	FIELD_SHAPEPOLY	8	0	Area	FIELD_DECIMAL	12	3	Perimeter	FIELD_DECIMAL	12	3	Plot3pef2_	FIELD_DECIMAL	11	0	Plot3pef2_	FIELD_DECIMAL	11	0	Entity	FIELD_CHAR	14	0	Layer	FIELD_CHAR	32	0	Elevation	FIELD_DECIMAL	18	5	Thickness	FIELD_DECIMAL	18	5	Color	FIELD_DECIMAL	11	0	Pointnumbe	FIELD_DECIMAL	11	0	Pointheigh	FIELD_DECIMAL	18	5	Pointcode	FIELD_CHAR	8	0	Sourcethm	FIELD_CHAR	16	0	Hectares	FIELD_DECIMAL	16	3
Field	Type	Width	Decimal																																																																		

Shape	FIELD_SHAPEPOLY	8	0																																																																		
Area	FIELD_DECIMAL	12	3																																																																		
Perimeter	FIELD_DECIMAL	12	3																																																																		
Plot3pef2_	FIELD_DECIMAL	11	0																																																																		
Plot3pef2_	FIELD_DECIMAL	11	0																																																																		
Entity	FIELD_CHAR	14	0																																																																		
Layer	FIELD_CHAR	32	0																																																																		
Elevation	FIELD_DECIMAL	18	5																																																																		
Thickness	FIELD_DECIMAL	18	5																																																																		
Color	FIELD_DECIMAL	11	0																																																																		
Pointnumbe	FIELD_DECIMAL	11	0																																																																		
Pointheigh	FIELD_DECIMAL	18	5																																																																		
Pointcode	FIELD_CHAR	8	0																																																																		
Sourcethm	FIELD_CHAR	16	0																																																																		
Hectares	FIELD_DECIMAL	16	3																																																																		
Search Word(s)	BOUNDARIES Administrative BOUNDARIES National Parks FORESTS Natural VEGETATION Boundaries																																																																				

Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068
Data Currency	
Beginning Date	1998-04-01
Ending Date	1998-04-08
Dataset Status	
Progress	Complete
Maintenance and Update Frequency	As Required
Access	
Stored Data Format	DIGITAL - ESRI Shapefiles: Polygon
Available Format Type	DIGITAL - ESRI Shapefiles: Polygon
Access Constraint	Restricted, see contact details below.
Data Quality	
Lineage	Irvine Hill forest boundaries supplied by Whelans. AGSO then built polygons from the data provided. Details are provided below: For plot3pef.shp the following processes gave closed polygons for the points: • Arc: shapearc plot3pef plot3pef • Arc: arccedit • Arcedit: edit plot3pef arc • Arcedit: snapenvironment plot3pef arc plot3pef point add 50 • Arcedit: add A line was digitised with vertices approximately on the points. These vertices then snapped to the points automatically. Where vertex order was uncertain the "Pointnumber" order was followed. The following point numbers were not included in the polygon outlines as they appeared inconsistent with a hardcopy of the polygon outlines: • 664 • 4022 • 4781 After the polygon outlines had been digitised as arcs, the polygons were built in arccedit: • Arcedit: build • Arcedit: save In arcview the resultant coverages were merged into the shapefile forestedge_irvineh.shp using the xtools extension Merge / Themes menu choice. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	This metadata element is under construction.
Attribute Accuracy	Not documented from source, however through general use of the data the quality of attributes appears reliable.

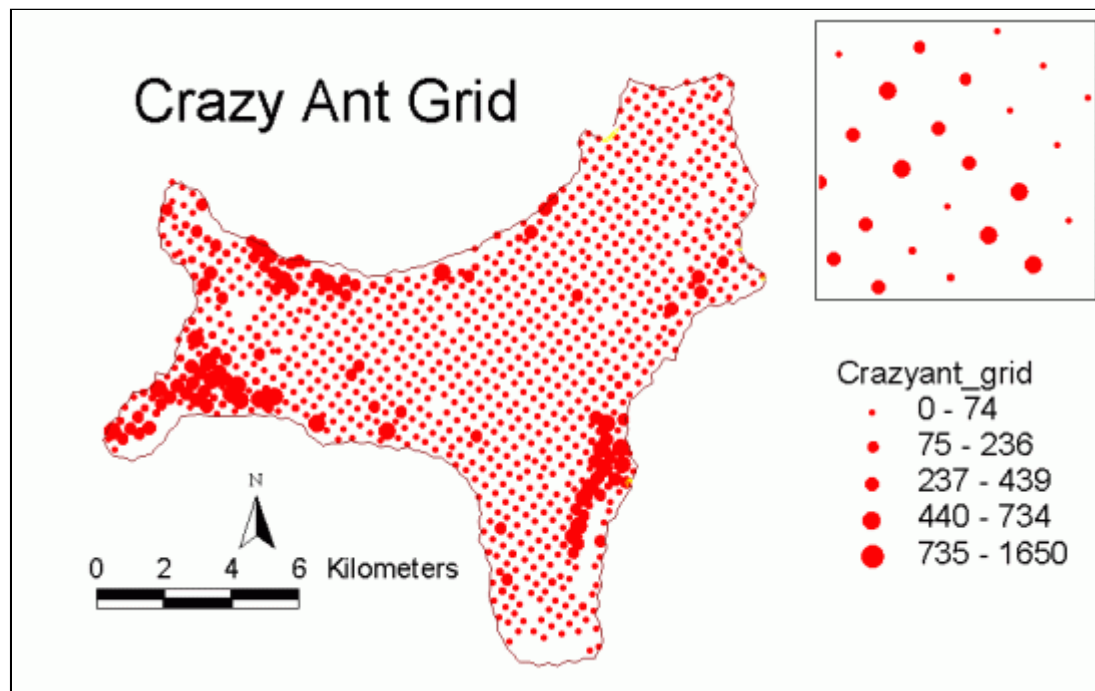
Logical Consistency	This metadata element is under construction.
Completeness	This dataset is concerned with the Irvine Hill forest boundaries and so only covers and is complete for that area. GA recognises that further work could be undertaken to yield a more up to date and error free data set.

Contact Information

Contact Organisation	Geoscience Australia
Contact Position	-
Mail Address	Cnr Jerrabomberra Ave and Hindmarsh Drive
Locality	SYMONSTON
State	ACT
Country	Australia
Postcode	2609
Telephone	(02) 6249 9479
Facsimile	(02) 6249 9983
Electronic Mail Address	Keith.Porritt@ga.gov.au
Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	Crazy Ants
Custodian	Parks Australia North Christmas Island (Panci)
Jurisdiction	Australia

Description

Abstract	The version of the Crazy Ants shapefile in the 2003 CIGIS release was built from Parks Australia North Christmas Island (Panci) working database file as at December 2001. This data contains observation data made by Panci employees during their research of Crazy Ants colonies on Christmas Island.
Search Word(s)	GEOLOGY Boundaries GEOLOGICAL Features VEGETATION Boundaries
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	-
Ending Date	-

Dataset Status

Progress	-
Maintenance and Update Frequency	-

Access

Stored Data Format	DIGITAL -
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Available Format Type	DIGITAL - ESRI Shapefile
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Access Constraint	Restricted, see contact details below.
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Data Quality

Lineage	-
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Positional Accuracy	-
----------------------------	---

Attribute Accuracy	-
---------------------------	---

Logical Consistency	-
----------------------------	---

Completeness	-
---------------------	---

Contact Information

Contact Organisation	Parks Australia North Christmas Island (PANCI)
-----------------------------	--

Contact Position	Conservator
-------------------------	-------------

Mail Address	PO Box 837
---------------------	------------

Locality	Christmas Island
-----------------	------------------

State	Indian Ocean
--------------	--------------

Country	Australia
----------------	-----------

Postcode	6798
-----------------	------

Telephone	(08) 9164 8055
------------------	----------------

Facsimile	(08) 9164 8755
------------------	----------------

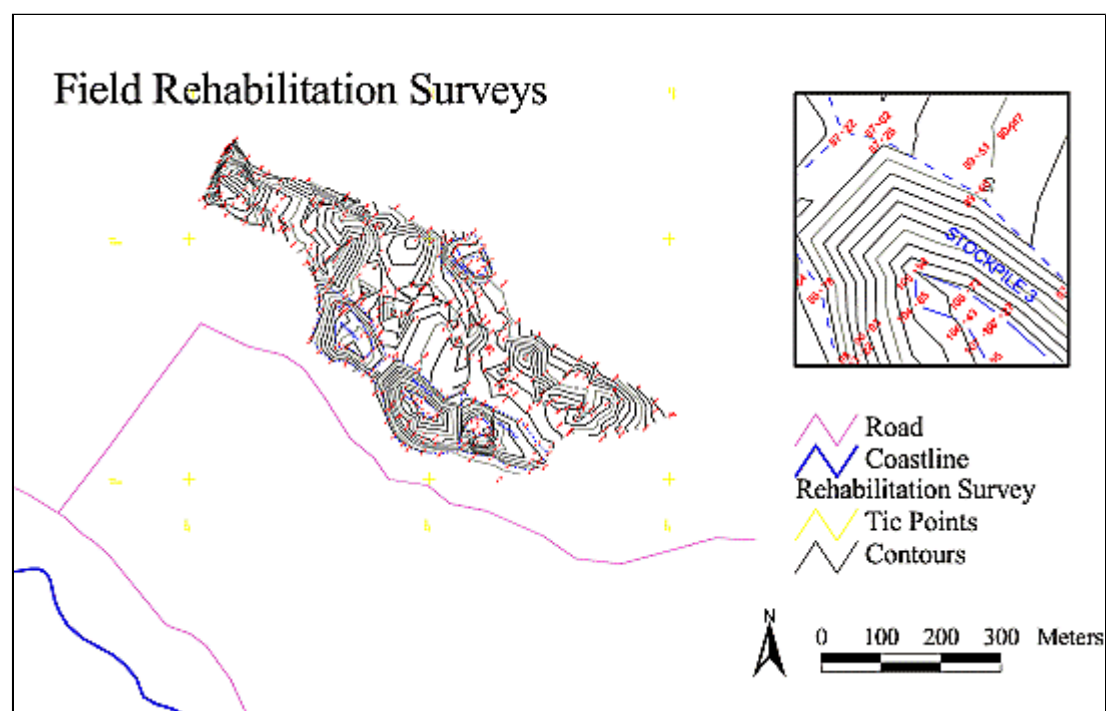
Electronic Mail Address	David.Slip@ea.gov.au
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Metadata Date	9-12-2003
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Additional Metadata

Projection	MGA(UTM Zone 48)
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Printed	December 2003
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Dataset

Title	Field Rehabilitation Surveys
Custodian	Parks Australia North Christmas Island (PANCI)
Jurisdiction	Christmas Island (Australia)

Description

Abstract	After 1985, in preparation for rehabilitation of some previously mined areas, ANCA commissioned ground surveys of those areas. Three of these, Fields 20s and 22a, and Field 19a are included in the GIS. Fields 20s and 22a were provided in CIG85, while Field 19a, the most recently completed, is probably in Christmas Island Grid 1992 (CIG92).
Search Word(s)	ENVIRONMENT Planning HERITAGE Natural REHABILITATION Fauna REHABILITATION Flora REHABILITATION Native
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	1985-07-01
Ending Date	1992-11-11

Dataset Status

Progress	Not Known
Maintenance and Update Frequency	As Required

Access

Stored Data Format	DIGITAL - Autocad® Release 7 DWG files.
Available Format Type	DIGITAL - Autocad® Release 7 DWG files.
Access Constraint	Restricted, see contact details below.

Data Quality

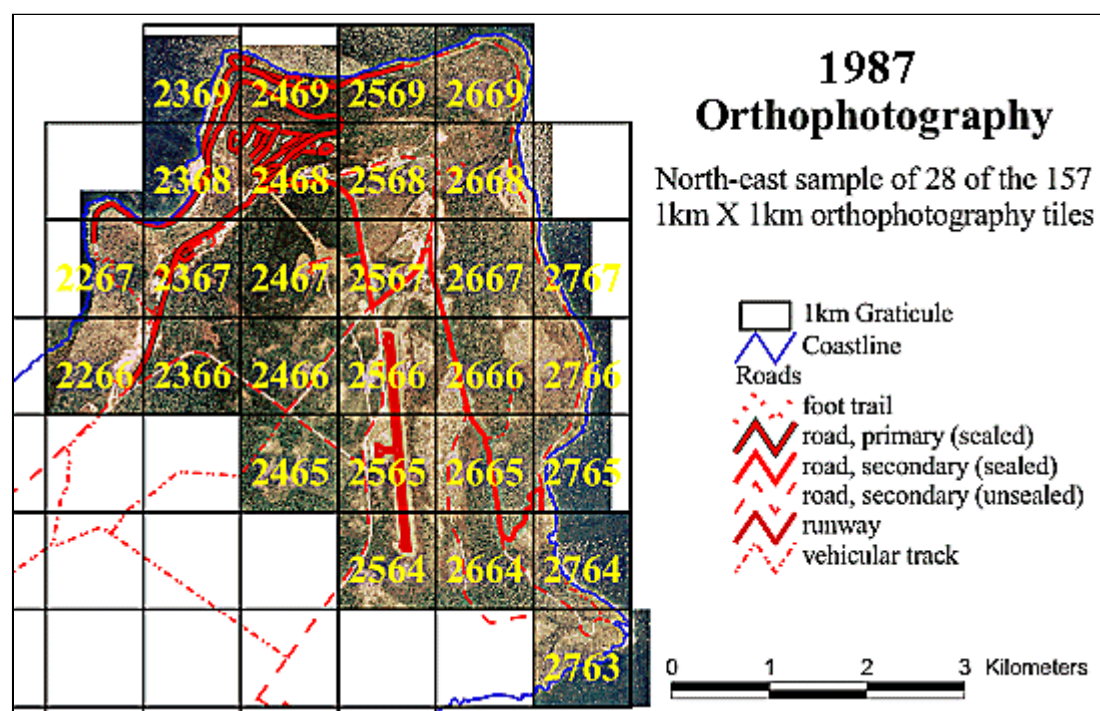
Lineage	In preparation for rehabilitation of some previously mined areas, ANCA commissioned ground surveys of those areas. Contact ANCA for an explanation of these attributes. Spatial reference in this database was line and peg coordinates (as described above) and, thus, could be projected to Christmas Island Grid using the shift derived using the Autocad® maps. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The positional accuracy of this data is not well known. GA is not yet aware of a simple conversion between CIG85 and CIG92 and vice versa, so a trial rectification of Field 19a to plot in its true position in the GIS has not been undertaken. Since the GIS provides Digital Elevation Models (DEMs) and contours of the island, this sort of survey would be largely unnecessary in future.
Attribute Accuracy	Not documented.
Logical Consistency	Items in the dataset are concerned with rehabilitation issues, in particular the preparation for rehabilitation of some previously mined areas.
Completeness	As this data was originally produced for the purpose of printing paper maps it lacks some of the rigour expected of a high quality GIS data set. AGSO undertook considerable work to translate these mapping lines into a form suitable for GIS use. However, GA recognises that still more work is necessary to yield an up to date and error free data set.

Contact Information

Contact Organisation	Parks Australia North
Contact Position	-
Mail Address	PO Box 837
Locality	Christmas Island
State	-
Country	Australia
Postcode	6798
Telephone	(08) 9164 8055
Facsimile	(08) 9164 8755
Electronic Mail Address	David.Slip@ea.gov.au
Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003


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Dataset

Title	1987 Orthophotography of Christmas Island
Custodian	Christmas Island Administration
Jurisdiction	Australia

Description

Abstract	An orthophotograph is a computer image of an aerial photograph in which various distortions due to the landscape and camera lens have been removed. This data is based on the aerial photography of Christmas Island flown in August and September 1987. This has been converted to detailed colour orthophotography (at a 30cm ground resolution) presented as one hundred and fifty-seven 1km tiles for the whole of the Island. On most systems not all the orthophotography will be in this directory, due to limitations of disk size. Most orthophotography of disturbed areas (mining or township) is on the "core" CD-ROM.
Search Word(s)	PHOTOGRAPHY AND IMAGERY Aerial PHOTOGRAPHY AND IMAGERY Orthophotography PHOTOGRAPHY AND IMAGERY Raster PHOTOGRAPHY AND IMAGERY Grid
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	16AUG1987
Ending Date	01SEP1987

Dataset Status

Progress	Complete
Maintenance and Update	Parks Australia North Christmas Island (PANCI) are endeavoring to re-fly the aerial photography. So far, over two dry seasons in the last few years half of the island has been

Frequency	reflown. Processing to orthophotography has been held off until the flying is complete. See 1997 Orthophotography metadata sheet
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Access

Stored Data Format	DIGITAL - TIFF/TFW.
Available Format Type	DIGITAL - TIFF/TFW.
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	Colour orthophotography for Christmas Island, with 30cm ground resolution, was achieved by scanning fullsize colour transparencies of aerial photography. The orthophotography was then colour balanced and cut into 1km tiles. The quality of the orthophotographs is impressive, with acceptable resolution down to 1:500 scale. The following table shows the dates of the flights and their corresponding flight run numbers: <table border="1"> <thead> <tr> <th>Date</th><th>Run Number</th></tr> </thead> <tbody> <tr> <td>21-08-1987</td><td>1, 2, 15</td></tr> <tr> <td>01-09-1987</td><td>3-7, 10, 14, 16</td></tr> <tr> <td>20-08-1987</td><td>11, 17</td></tr> <tr> <td>16-08-1987</td><td>8, 9, 12, 13</td></tr> </tbody> </table> In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection. View the associated metadata sheets: • Flight Lines and Photocentres • Aerial Photograph Circles	Date	Run Number	21-08-1987	1, 2, 15	01-09-1987	3-7, 10, 14, 16	20-08-1987	11, 17	16-08-1987	8, 9, 12, 13
Date	Run Number										
21-08-1987	1, 2, 15										
01-09-1987	3-7, 10, 14, 16										
20-08-1987	11, 17										
16-08-1987	8, 9, 12, 13										
Positional Accuracy	As a general rule the orthophotography is accurate to between 0.3 metres and 0.5 metres in the north east area of the Island. For other disturbed areas of the Island the accuracy ranges from 0.5 metres to 4 metres depending largely on the proximity of, and enclosure by, the aerial photography survey control points ('PP points'). Worst accuracy is in the distant and more inaccessible areas of primary rainforest and these accuracies range from 4 metres to 6 metres with the south west point being an area of lowest accuracy. Also in the orthphoto directory are the digitised outer boundaries of some pinnacle fields.										
Attribute Accuracy	Not Relevant.										
Logical Consistency	Not Relevant.										
Completeness	Orthophotos are complete and form a full set of tiles of which only a few may fit onto a CD-ROM. They are based on the aerial photography flown in August - September of 1987.										

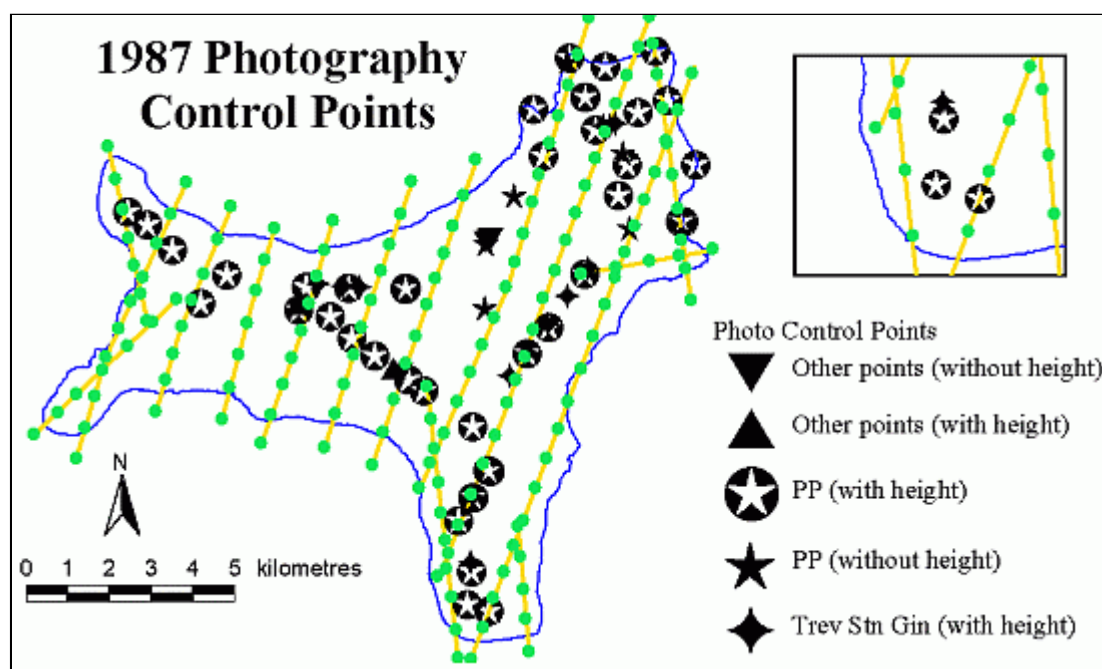
Contact Information

Contact Organisation	Geoscience Australia
Contact Position	-

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003

Mail Address	Cnr Jerrabomberra Ave and Hindmarsh Drive
Locality	SYMONSTON
State	ACT
Country	Australia
Postcode	2609
Telephone	(02) 6249 9479
Facsimile	(02) 6249 9983
Electronic Mail Address	Keith.Porritt@ga.gov.au
Metadata Date	9-12-2003
Additional Metadata	
Projection	MGA(UTM Zone 48)
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Dataset

Title	1987 Aerial Photography Survey Control Points
Custodian	AUSLIG
Jurisdiction	Australia

Description

Abstract	This dataset contains a variety of survey control points, many of which (especially the PP points) were used in the triangulation for the CIGIS orthophotography. They were obtained from copies of AUSLIG survey field books, photo-control point sketches and a coordinate listing of photo control points (copies of all items are on BRS file No. 96-001757).
Search Word (s)	LAND Geography SURVEY Control Points
Geographic Extent Name (s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	unknown
Ending Date	unknown

Dataset Status

Progress	Complete
Maintenance and Update Frequency	As Required

Access

Stored Data	DIGITAL - ArcView3.1 shapefile
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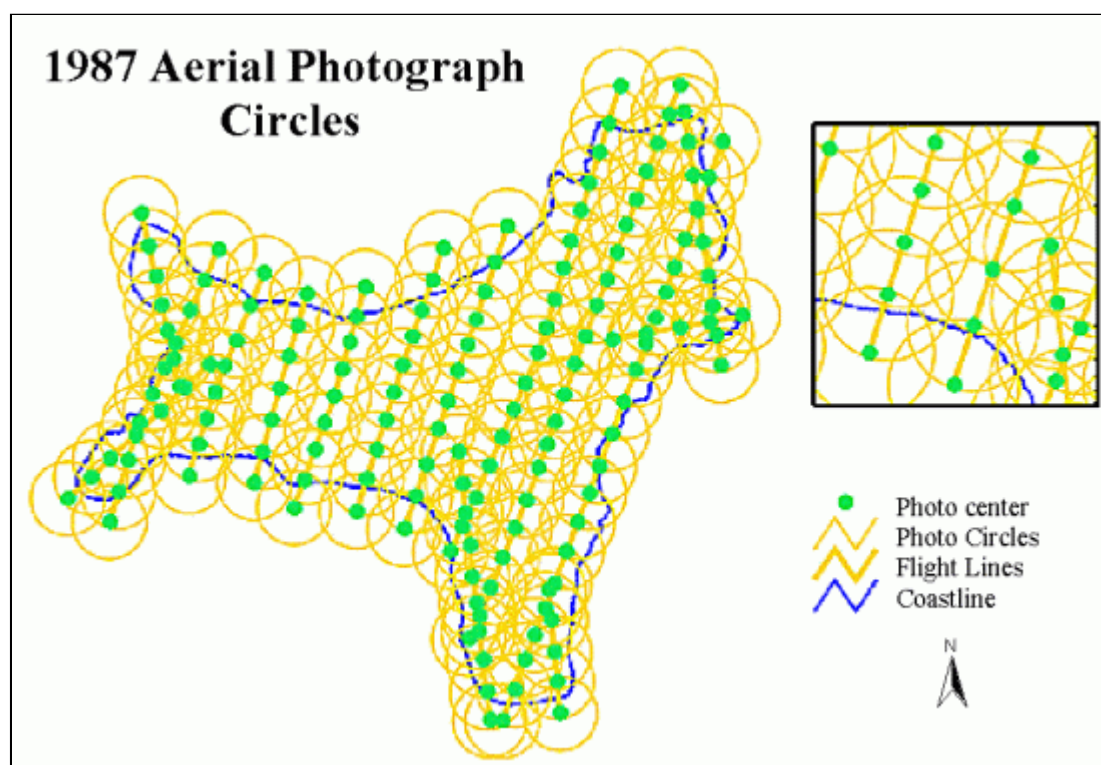
Format	
Available Format Type	DIGITAL - ArcView3.1 shapefile
Access Constraint	Restricted, see contact details below.

Data Quality

Lineage	The data was originally in field notebooks, photo-control point sketches and coordinate listings, copies of which were obtained from AUSLIG. To convert it to digital form, the coordinate listings were OCR scanned. The OCR output was then imported into Microsoft® Excel, corrected and saved as a comma-delimited text file. The table was then added to an ArcView® project, and made into an event theme. Finally, for consistency and portability, the event theme was converted to a shapefile. The attributes of the data in its final form are "Point Number", "Description", "Easting", "Northing", "Height", "East_gda94" and "Northgda94". 'Easting' and 'northing' are in CIG85 coordinates, with MGA map coordinates listed under the 'Eastgda94' and 'Northgda94' headings. Height is in metres. A column labelled "PP points" has been added by MREB and contains an abbreviation of the station description coupled with a flag as to whether the station has been height-surveyed. This has been used to divide the ArcView® legend, and relates to usefulness for the preparation of the orthophotography. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	The Bureau of Resource Sciences does not have all accuracy data relating to these photo control points. The station summary sheets for PSM114 (PP9), PSM102 (PP17) quote orders of accuracy for easting and northing as "2" and the orders of accuracy for R.L. as "4". In addition, PSM1 (PP24) and PSM3 (PP25), which do not have surveyed height, agree with orders of accuracy for easting and northing of "2". It is likely, then, that the other PP points have the same accuracy. Further information should be obtained from AUSLIG.
Attribute Accuracy	The attributes of the data in its final form are "Point Number", "Description", "Easting", "Northing", "Height", "East_gda94" and "Northgda94".
Logical Consistency	All the data in this shapefile is concerned with the survey control points
Completeness	GA recognises that there is still more work that can be done to yield an up to date and error free data set.

Contact Information

Contact Organisation	AUSLIG
Contact Position	-
Mail Address	PO Box 2
Locality	Beloconnen
State	ACT
Country	Australia
Postcode	2616
Telephone	(02) 6201 4222
Facsimile	(02) 6201 4381
Electronic Mail Address	datasales@auslig.gov.au
Metadata Date	9-12-2003



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Dataset

Title	1987 Aerial Photography Plan Data - Photograph Circles
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	This theme consists of circles as approximations of aerial photograph extent. This is a useful way to depict aerial photographs as the centre of the photograph is truer.
Search Word(s)	PHOTOGRAPHY AND IMAGERY Aerial PHOTOGRAPHY AND IMAGERY Plan
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	Unknown
Ending Date	Unknown

Dataset Status

Progress	Complete
Maintenance and Update Frequency	Not Planned

Access

Stored Data Format	DIGITAL - ArcView3.1
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Available Format Type	DIGITAL - ArcView3.1
Access Constraint	Restricted, see contact details below.

Data Quality

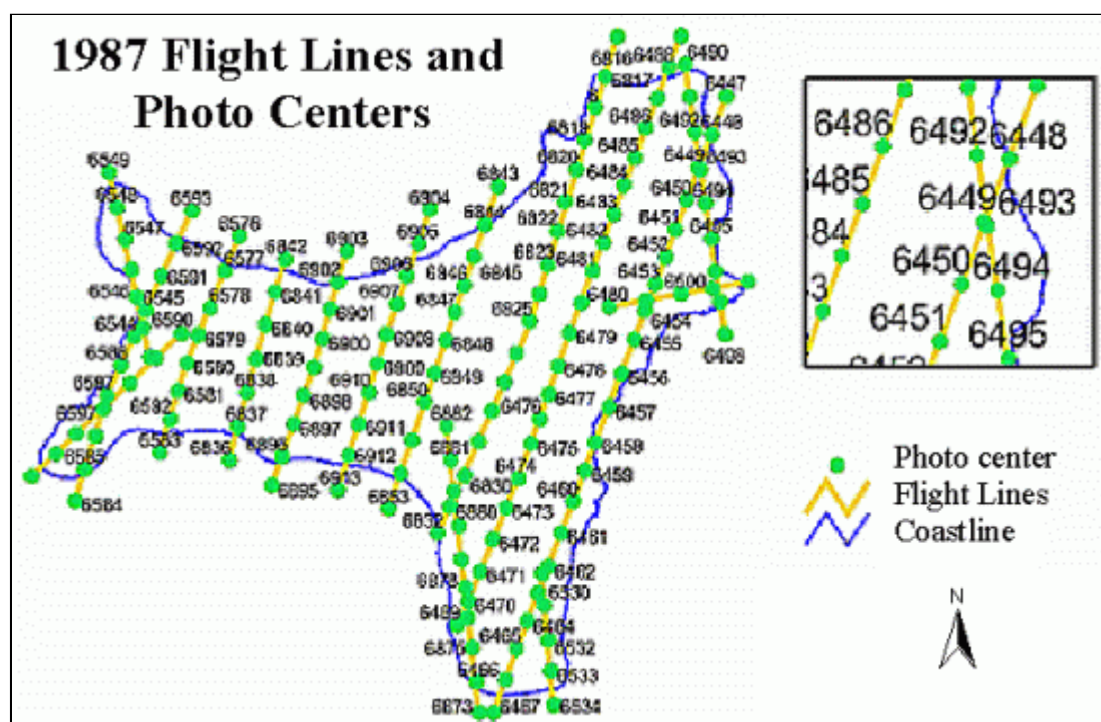
Lineage	The circles were derived from the aerial photograph centres already described. Ungenerate in Arc/Info obtained an ASCII file, a radius field was added to this file using UNIX's vi editor, and Generate Circles (in Arc/Info) created a circles coverage. The radius was chosen by measuring the dimensions of a scanned and registered aerial photograph. In September 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	They are only intended to be approximate and have proven adequate for our purposes.
Attribute Accuracy	Not documented.
Logical Consistency	Consistency.
Completeness	GA recognises that there is still more work that can be done to yield an up to date and error free data set.

Contact Information

Contact Organisation	Geoscience Australia
Contact Position	-
Mail Address	Cnr Jerrabomberra Ave and Hindmarsh Drive
Locality	SYMONSTON
State	ACT
Country	Australia
Postcode	2609
Telephone	(02) 6249 9479
Facsimile	(02) 6249 9983
Electronic Mail Address	Keith.Porritt@ga.gov.au
Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003



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Dataset

Title	1987 Aerial Photography Plan Data - Flight lines and photograph centres
Custodian	Geoscience Australia
Jurisdiction	Australia

Description

Abstract	This dataset shows the approximate flight lines and centres of the aerial photography in relation to Christmas Island
Search Word(s)	PHOTOGRAPHY AND IMAGERY Aerial PHOTOGRAPHY AND IMAGERY Plan
Geographic Extent Name(s)	Christmas Island Edition 2 1995 1:25000 for the Australian Nature Conservation Agency - AUSLIG Mapsheet 94/068

Data Currency

Beginning Date	unknown
Ending Date	unknown

Dataset Status

Progress	Complete
Maintenance and Update Frequency	Not Planned

Access

Stored Data Format	DIGITAL - ArcView3.1
Available Format Type	DIGITAL - ArcView3.1

Access Constraint	Restricted, see contact details below.
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Data Quality

Lineage	These were digitised from the aerial photography flight line diagram. Digitising was on-screen based on a hard copy map as polylines and points respectively. In October 2003 this dataset was converted to the MGA(GDA94) projection using an x y shift (550015 = x, 8780001 = y) on the CIG85 projection.
Positional Accuracy	They are only intended to be approximate and have proven adequate for our purposes.
Attribute Accuracy	Not documented.
Logical Consistency	Consistency.
Completeness	GA recognises that there is still more work that can be done to yield an up to date and error free data set.

Contact Information

Contact Organisation	Geoscience Australia
Contact Position	-
Mail Address	Cnr Jerrabomberra Ave and Hindmarsh Drive
Locality	SYMONSTON
State	ACT
Country	Australia
Postcode	2609
Telephone	(02) 6249 9479
Facsimile	(02) 6249 9983
Electronic Mail Address	Keith.Porritt@ga.gov.au
Metadata Date	9-12-2003

Additional Metadata

Projection	MGA(UTM Zone 48)
Printed	December 2003

Christmas Island Geographic Information System

SYSTEM DOCUMENTATION

December 2003 Release



Chapter 5.

Appendix 3: Cadastre Listing



Australian Government
Department of Transport
and Regional Services
Geoscience Australia

Chapter

5

Appendix 3: Ground Audit Listing

Table 1: The following spreadsheet lists 30 fields of cadastre data that are displayed in the attribute table. Records are sorted by the 'Location Number' field and then by the 'PIN' field. Page order for columns is 'Down, then over'.

<u>Section one fields</u>	<u>Section two fields</u>
• LOC_NO	• LOC_NO
• PIN	• PIN
• LAND_RECO	• LAND_USEC
• PIPARCEL04	• SEWR
• LOT_NO	• WATR
• LND_STATUS	• ELEC
• DESCRIPTIO	• CROWN_LES
• SUBURB	• STRATANO
• STREET	• RESERV_NO
• BPC_NOS	• MINELSE_N
• HECTARES	• COMMEN
• HECT_DOLA	• HERITGE_I
• CENTLONG04	• CONTAM
• CENTLAT04	• OTHR_ISSU

LOCNO	PIN	LAND RECO	PIPARCEL04	LOT_NO	LND STATUS	DESSCRIPTIO	SUBURB	STREET	BPC NOS	HECTARES	HECT DOLA	CENTLONG04	CENTLAT04
1	1097146		CHRISL 00001		L 3116 10919	CASINO, GOLF COURSE ROAD				47.172	47.20	105.70310	-10.45591
1	1097146		LGE G995885		L 3116 10919	CASINO, GOLF COURSE ROAD				47.172	47.20	105.70310	-10.45591
2	1096839		CHRISL 00002		L 3116 10918	ANCA Nursery	Drumsite			0.571	0.57	105.66949	-10.43244
2	1096839		L 3116 10918		L 3116 10918	ANCA Nursery	Drumsite			0.571	0.57	105.66949	-10.43244
3	1096840		CHRISL 00003		CHRISL 00003	ANCA Offices	Drumsite			0.468	0.47	105.66999	-10.43289
3	1096840		L 3116 10918		CHRISL 00003	ANCA Offices	Drumsite			0.468	0.47	105.66999	-10.43289
6	1096813		CHRISL 00006		L 3116 10945		Drumsite			0.079	0.08	105.66984	-10.43388
6	1096813		P218104 6		L 3116 10945		Drumsite			0.079	0.08	105.66984	-10.43388
7	1096814		CHRISL 00007		L 3116 11047	MQ746	Drumsite		MQ746	0.105	0.10	105.66956	-10.43378
7	1096814		P218104 7		L 3116 11047	MQ746	Drumsite		MQ746	0.105	0.10	105.66956	-10.43378
8	1096815		CHRISL 00008		L 3116 11048	MQ742	Drumsite		MQ742	0.086	0.09	105.66980	-10.43412
8	1096815		P218104 8		L 3116 11048	MQ742	Drumsite		MQ742	0.086	0.09	105.66980	-10.43412
9	1096816		CHRISL 00009		CHRISL 00009	MQ743	Drumsite		MQ743	0.107	0.11	105.66951	-10.43404
9	1096816		P218104 9		CHRISL 00009	MQ743	Drumsite		MQ743	0.107	0.11	105.66951	-10.43404
10	1096817		CHRISL 00010		L 3116 10996	MQ746	Drumsite		MQ746	0.077	0.08	105.66925	-10.43399
10	1096817		P218104 10		L 3116 10996	MQ746	Drumsite		MQ746	0.077	0.08	105.66925	-10.43399
11	1096818		CHRISL 00011		CHRISL 00011		Drumsite			0.082	0.08	105.66914	-10.43432
11	1096818		P218104 11		CHRISL 00011		Drumsite			0.082	0.08	105.66914	-10.43432
12	1096819		CHRISL 00012		L 3116 11050	MQ740	Drumsite		MQ740	0.087	0.09	105.66941	-10.43437
12	1096819		P218104 12		L 3116 11050	MQ740	Drumsite		MQ740	0.087	0.09	105.66941	-10.43437
13	1096820		CHRISL 00013		L 3116 10993		Drumsite			0.094	0.09	105.66968	-10.43446
13	1096820		P218104 13		L 3116 10993		Drumsite			0.094	0.09	105.66968	-10.43446
14	1096821		CHRISL 00014		L 3116 11319		Drumsite			0.087	0.09	105.66961	-10.43470
14	1096821		P218104 14		L 3116 11319		Drumsite			0.087	0.09	105.66961	-10.43470
15	1096822		CHRISL 00015		L 3116 11012	MQ736	Drumsite		MQ736	0.085	0.08	105.66934	-10.43463
15	1096822		P218104 15		L 3116 11012	MQ736	Drumsite		MQ736	0.085	0.08	105.66934	-10.43463
15	1358713		P026421 15				Settlement			0.083		105.67497	-10.41701
16	1096823		CHRISL 00016		CHRISL 00016	MQ737	Drumsite		MQ737	0.072	0.07	105.66910	-10.43457
16	1096823		P218104 16		CHRISL 00016	MQ737	Drumsite		MQ737	0.072	0.07	105.66910	-10.43457
17	1096824		CHRISL 00017		L 3116 10925	MQ738	Drumsite		MQ738	0.095	0.10	105.66886	-10.43448
17	1096824		P218104 17		L 3116 10925	MQ738	Drumsite		MQ738	0.095	0.10	105.66886	-10.43448
18	1096825		CHRISL 00018		L 3116 10994	MQ731	Drumsite		MQ731	0.088	0.09	105.66873	-10.43480
18	1096825		P218104 18		L 3116 10994	MQ731	Drumsite		MQ731	0.088	0.09	105.66873	-10.43480
19	1096826		CHRISL 00019		CHRISL 00019		Drumsite			0.087	0.09	105.66899	-10.43487
19	1096826		P218104 19		CHRISL 00019		Drumsite			0.087	0.09	105.66899	-10.43487
20	1096827		CHRISL 00020		L 3116 11051	MQ733	Drumsite		MQ733	0.087	0.09	105.66925	-10.43496
20	1096827		P218104 20		L 3116 11051	MQ733	Drumsite		MQ733	0.087	0.09	105.66925	-10.43496
21	1096828		CHRISL 00021		CHRISL 00021	MQ734	Drumsite		MQ734	0.101	0.10	105.66949	-10.43504
21	1096828		P218104 21		CHRISL 00021	MQ734	Drumsite		MQ734	0.101	0.10	105.66949	-10.43504
22	1096829		CHRISL 00022		L 3116 11052	MQ730	Drumsite		MQ730	0.070	0.07	105.66855	-10.43492
22	1096829		P218104 22		L 3116 11052	MQ730	Drumsite		MQ730	0.070	0.07	105.66855	-10.43492
23	1096830		CHRISL 00023		L 3116 10976	MQ752	Drumsite		MQ752	0.092	0.09	105.67000	-10.43333
23	1096830		P218104 23		L 3116 10976	MQ752	Drumsite		MQ752	0.092	0.09	105.67000	-10.43333
24	1096831		CHRISL 00024		L 3116 10932	MQ748	Drumsite		MQ748	0.082	0.08	105.66994	-10.43356
24	1096831		P218104 24		L 3116 10932	MQ748	Drumsite		MQ748	0.082	0.08	105.66994	-10.43356
25	1096832		CHRISL 00025		L 3116 10934	MQ749	Drumsite		MQ749	0.108	0.11	105.66969	-10.43346
25	1096832		P218104 25		L 3116 10934	MQ749	Drumsite		MQ749	0.108	0.11	105.66969	-10.43346
26	1096846		CHRISL 00026		V CROWN LAND	MQ706 LAM LOK LOH	Drumsite		MQ706	0.103	0.10	105.67174	-10.43251
26	1096846		P218105 26		V CROWN LAND	MQ706 LAM LOK LOH	Drumsite		MQ706	0.103	0.10	105.67174	-10.43251
27	1096847		CHRISL 00027		CHRISL 00027	MQ707	Drumsite		MQ707	0.107	0.11	105.67141	-10.43269
27	1096847		P218105 27		CHRISL 00027	MQ707	Drumsite		MQ707	0.107	0.11	105.67141	-10.43269
28	1096848		CHRISL 00028		V CROWN LAND	MQ708 LAM LOK LOH	Drumsite		MQ708	0.105	0.11	105.67115	-10.43283
28	1096848		P218105 28		V CROWN LAND	MQ708 LAM LOK LOH	Drumsite		MQ708	0.105	0.11	105.67115	-10.43283
29	1096849		CHRISL 00029		CHRISL 00029	MQ709 LAM LOK LOH	Drumsite		MQ709	0.129	0.13	105.67088	-10.43300
29	1096849		P218105 29		CHRISL 00029	MQ709 LAM LOK LOH	Drumsite		MQ709	0.129	0.13	105.67088	-10.43300
30	1096850		CHRISL 00030		L 3116 11053	MQ720	Drumsite		MQ720	0.155	0.16	105.67060	-10.43340
30	1096850		P218105 30		L 3116 11053	MQ720	Drumsite		MQ720	0.155	0.16	105.67060	-10.43340
31	1096851		CHRISL 00031		L 3116 10924		Drumsite			0.105	0.11	105.67099	-10.43327
31	1096851		L 3116 10924		L 3116 10924		Drumsite			0.105	0.11	105.67099	-10.43327
32	1096852		CHRISL 00032		CHRISL 00032	MQ711JALAN KETAM MERAH, Drumsite.	Drumsite		MQ711	0.128	0.13	105.67127	-10.43312
32	1096852		P218105 32		CHRISL 00032	MQ711JALAN KETAM MERAH, Drumsite.	Drumsite		MQ711	0.128	0.13	105.67127	-10.43312
33	1096853		CHRISL 00033		CHRISL 00033	MQ712 Jalan Ketam Meran, (Cnr Golden Bosun), Drumsite.	Drumsite		MQ712	0.116	0.12	105.67155	-10.43295
33	1096853		P218105 33		CHRISL 00033	MQ712 Jalan Ketam Meran, (Cnr Golden Bosun), Drumsite.	Drumsite		MQ712	0.116	0.12	105.67155	-10.43295
34	1096854		CHRISL 00034		CHRISL 00034	MQ713 JALAN KETAM MERAH	Drumsite		MQ713	0.101	0.10	105.67188	-10.43277
34	1096854		V CROWN LAND		CHRISL 00034	MQ713 JALAN KETAM MERAH	Drumsite		MQ713	0.101	0.10	105.67188	-10.43277
35	1096855		CHRISL 00035		CHRISL 00035		Drumsite			0.167	0.17	105.67220	-10.43260
35	1096855		L 3116 10986		CHRISL 00035		Drumsite			0.167	0.17	105.67220	-10.43260
36	1096856		CHRISL 00036		CHRISL 00036	MQ719	Drumsite		MQ719	0.144	0.14	105.67083	-10.43369
36	1096856		P218105 36		CHRISL 00036	MQ719	Drumsite		MQ719	0.144	0.14	105.67083	-10.43369
37	1096857		CHRISL 00037		L 3116 10998		Drumsite			0.112	0.11	105.67122	-10.43386
37	1096857		P218105 37		L 3116 10998		Drumsite			0.112	0.11	105.67122	-10.43386
38	1096858		CHRISL 00038		L 3116 10931		Drumsite			0.168	0.17	105.67136	-10.43358
38	1096858		P218105 38		L 3116 10931		Drumsite			0.168	0.17	105.67136	-10.43358
39	1096859		CHRISL 00039		CHRISL 00039	MQ716	Drumsite		MQ716	0.119	0.12	105.67167	-10.43335
39	1096859		P218105 39		CHRISL 00039	MQ716	Drumsite		MQ716	0.119	0.12	105.67167	-10.43335
40	1096860		CHRISL 00040		CHRISL 00040	MQ715	Drumsite		MQ715	0.107	0.11	105.67192	-10.43319
40	1096860		P218105 40		CHRISL 00040	MQ715	Drumsite		MQ715	0.107	0.11	105.67192	-10.43319

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND STATUS	DESCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT	DOLA	CENTLONG04	CENTLAT04
41	1096861			CHRISL 00041		CHRISL 00041	MQ721	Drumsite		MQ721	0.074	0.07		105.67216	-10.43303
41	1096861			P218105 41		CHRISL 00041	MQ721	Drumsite		MQ721	0.074	0.07		105.67216	-10.43303
42	1096862			CHRISL 00042		L 3116 11255	MQ722 JALAN KETAM MERAH	Drumsite		MQ722	0.101	0.10		105.67244	-10.43285
42	1096862			P218105 42		L 3116 11255	MQ722 JALAN KETAM MERAH	Drumsite		MQ722	0.101	0.10		105.67244	-10.43285
43	1096863			CHRISL 00043		CHRISL 00043	MQ703	Drumsite		MQ703	0.104	0.10		105.67257	-10.43206
43	1096863			P218105 43		CHRISL 00043	MQ703	Drumsite		MQ703	0.104	0.10		105.67257	-10.43206
44	1096864			CHRISL 00044		L 3116 11054	MQ704	Drumsite		MQ704	0.112	0.11		105.67230	-10.43221
44	1096864			P218105 44		L 3116 11054	MQ704	Drumsite		MQ704	0.112	0.11		105.67230	-10.43221
45	1096865			CHRISL 00045		CHRISL 00045	MQ705 Lot45 Tong Yan Loh, Unit 77	Drumsite		MQ705	0.119	0.12		105.67201	-10.43236
45	1096865			P218105 45		CHRISL 00045	MQ705 Lot45 Tong Yan Loh, Unit 77	Drumsite		MQ705	0.119	0.12		105.67201	-10.43236
47	1096896			CHRISL 00047		CHRISL 00047	Port Facilities - Jalan Pantai				0.104	0.10		105.67123	-10.42425
47	1096896			V CROWN LAND		CHRISL 00047	Port Facilities - Jalan Pantai				0.104	0.10		105.67123	-10.42425
48	1096895			CHRISL 00048		V CROWN LAND	Port Facilities - Jalan Pantai				0.090	0.09		105.67113	-10.42476
48	1096895			V CROWN LAND		V CROWN LAND	Port Facilities - Jalan Pantai				0.090	0.09		105.67113	-10.42476
49	1097101			CHRISL 00049		V CROWN LAND	Drier No. 1 site	Drumsite			0.246	0.25		105.67609	-10.42714
49	1097101			V CROWN LAND		V CROWN LAND	Drier No. 1 site	Drumsite			0.246	0.25		105.67609	-10.42714
50	1097102			CHRISL 00050		V CROWN LAND	Drier No. 1 site	Drumsite			0.722	0.72		105.67695	-10.42737
50	1097102			V CROWN LAND		V CROWN LAND	Drier No. 1 site	Drumsite			0.722	0.72		105.67695	-10.42737
51	1097091			CHRISL 00051		V CROWN LAND	Drumsite workshops	Drumsite			1.162	1.16		105.67570	-10.42946
51	1097091			V CROWN LAND		V CROWN LAND	Drumsite workshops	Drumsite			1.162	1.16		105.67570	-10.42946
52	1097087			CHRISL 00052		V CROWN LAND					3.798	3.82		105.66771	-10.43505
52	1097087			V CROWN LAND		V CROWN LAND					3.798	3.82		105.66771	-10.43505
53	1096838			CHRISL 00053		V CROWN LAND	MINES OFFICE. Loc 53	Drumsite			0.128	0.13		105.67052	-10.43453
53	1096838			V CROWN LAND		V CROWN LAND	MINES OFFICE. Loc 53	Drumsite			0.128	0.13		105.67052	-10.43453
54	1096844			CHRISL 00054		CHRISL 00054	Lot 54 Gaze Road, Settlement	Drumsite			0.104	0.10		105.66866	-10.44045
54	1096844			V CROWN LAND		CHRISL 00054	Lot 54 Gaze Road, Settlement	Drumsite			0.104	0.10		105.66866	-10.44045
55	1096843			CHRISL 00055		CHRISL 00055		Drumsite			0.008	0.01		105.66843	-10.44036
55	1096843			V CROWN LAND		CHRISL 00055		Drumsite			0.008	0.01		105.66843	-10.44036
58	1096962			CHRISL 00058		L 3116 10997	MQ699	Silver City		MQ699	0.106	0.11		105.67847	-10.42033
58	1096962			P218113 58		L 3116 10997	MQ699	Silver City		MQ699	0.106	0.11		105.67847	-10.42033
59	1096961			CHRISL 00059		CHRISL 00059	MQ698, SEA VIEW DRIVE	Silver City		MQ698	0.104	0.10		105.67874	-10.42043
59	1096961			P218113 59		CHRISL 00059	MQ698, SEA VIEW DRIVE	Silver City		MQ698	0.104	0.10		105.67874	-10.42043
60	1096960			CHRISL 00060		L 3116 11056	MQ697	Silver City		MQ697	0.104	0.10		105.67898	-10.42054
60	1096960			P218113 60		L 3116 11056	MQ697	Silver City		MQ697	0.104	0.10		105.67898	-10.42054
61	1096959			CHRISL 00061		CHRISL 00061	MQ696	Silver City		MQ696	0.114	0.11		105.67922	-10.42063
61	1096959			P218113 61		CHRISL 00061	MQ696	Silver City		MQ696	0.114	0.11		105.67922	-10.42063
62	1096958			CHRISL 00062		CHRISL 00062	MQ695	Silver City		MQ695	0.120	0.12		105.67946	-10.42073
62	1096958			P218113 62		CHRISL 00062	MQ695	Silver City		MQ695	0.120	0.12		105.67946	-10.42073
63	1096957			CHRISL 00063		V CROWN LAND	MQ694	Silver City		MQ694	0.115	0.11		105.67969	-10.42082
63	1096957			P218113 63		V CROWN LAND	MQ694	Silver City		MQ694	0.115	0.11		105.67969	-10.42082
64	1096954			CHRISL 00064		L 3116 11271	MQ596, LOWER POON SAAN DRIVE.	Silver City		MQ596	0.111	0.11		105.68016	-10.42082
64	1096954			P218113 64		L 3116 11271	MQ596, LOWER POON SAAN DRIVE.	Silver City		MQ596	0.111	0.11		105.68016	-10.42082
65	1096955			CHRISL 00065		CHRISL 00065	MQ597	Silver City		MQ597	0.161	0.16		105.68009	-10.42105
65	1096955			P218113 65		CHRISL 00065	MQ597	Silver City		MQ597	0.161	0.16		105.68009	-10.42105
66	1096956			CHRISL 00066		CHRISL 00066	MQ598	Silver City		MQ598	0.127	0.13		105.68000	-10.42127
66	1096956			P218113 66		CHRISL 00066	MQ598	Silver City		MQ598	0.127	0.13		105.68000	-10.42127
67	1096976			CHRISL 00067		V CROWN LAND	MQ680, PAI CHIN LU/LOWER POON SAAN DRIVE	Silver City		MQ680	0.103	0.10		105.67932	-10.42155
67	1096976			V CROWN LAND		V CROWN LAND	MQ680, PAI CHIN LU/LOWER POON SAAN DRIVE	Silver City		MQ680	0.103	0.10		105.67932	-10.42155
68	1096973			CHRISL 00068		L 3116 10992	MQ681	Silver City		MQ681	0.126	0.13		105.67907	-10.42144
68	1096973			P218113 68		L 3116 10992	MQ681	Silver City		MQ681	0.126	0.13		105.67907	-10.42144
69	1096972			CHRISL 00069		L 3116 11000	MQ682	Silver City		MQ682	0.120	0.12		105.67881	-10.42131
69	1096972			P218113 69		L 3116 11000	MQ682	Silver City		MQ682	0.120	0.12		105.67881	-10.42131
70	1096969			CHRISL 00070		V CROWN LAND	MQ683, PAI CHIN LU	Silver City		MQ683	0.107	0.11		105.67856	-10.42120
70	1096969			V CROWN LAND		V CROWN LAND	MQ683, PAI CHIN LU	Silver City		MQ683	0.107	0.11		105.67856	-10.42120
71	1096968			CHRISL 00071		V CROWN LAND	MQ684, PAI CHIN LU	Silver City		MQ684	0.111	0.11		105.67833	-10.42109
71	1096968			P218113 71		V CROWN LAND	MQ684, PAI CHIN LU	Silver City		MQ684	0.111	0.11		105.67833	-10.42109
72	1096966			CHRISL 00072		L 3116 10978	MQ685	Silver City		MQ685	0.111	0.11		105.67809	-10.42098
72	1096966			P218113 72		L 3116 10978	MQ685	Silver City		MQ685	0.111	0.11		105.67809	-10.42098
73	1096965			CHRISL 00073		CHRISL 00073	MQ686	Silver City		MQ686	0.137	0.14		105.67782	-10.42086
73	1096965			P218113 73		CHRISL 00073	MQ686	Silver City		MQ686	0.137	0.14		105.67782	-10.42086
74	1096963			CHRISL 00074		L 3116 10954	MQ687	Silver City		MQ687	0.131	0.13		105.67806	-10.42062
74	1096963			P218113 74		L 3116 10954	MQ687	Silver City		MQ687	0.131	0.13		105.67806	-10.42062
75	1096964			CHRISL 00075		L 3116 11007	MQ688	Silver City		MQ688	0.110	0.11		105.67835	-10.42072
75	1096964			P218113 75		L 3116 11007	MQ688	Silver City		MQ688	0.110	0.11		105.67835	-10.42072
76	1096967			CHRISL 00076		CHRISL 00076	MQ689	Silver City		MQ689	0.101	0.10		105.67858	-10.42083
76	1096967			P218113 76		CHRISL 00076	MQ689	Silver City		MQ689	0.101	0.10		105.67858	-10.42083
77	1096970			CHRISL 00077		CHRISL 00077	MQ690	Silver City		MQ690	0.106	0.11		105.67880	-10.42093
77	1096970			L 3116 10999		CHRISL 00077	MQ690	Silver City		MQ690	0.106	0.11		105.67880	-10.42093
78	1096971			CHRISL 00078		L 3116 11058	MQ691	Silver City		MQ691	0.105	0.10		105.67903	-10.42104
78	1096971			P218113 78		L 3116 11058	MQ691	Silver City		MQ691	0.105	0.10		105.67903	-10.42104
79	1096974			CHRISL 00079		CHRISL 00079	MQ692, SEA VIEW DRIVE	Silver City		MQ692	0.088	0.09		105.67924	-10.42113
79	1096974			P218113 79		CHRISL 00079	MQ692, SEA VIEW DRIVE	Silver City		MQ692	0.088	0.09		105.67924	-10.42113
80	1096975			CHRISL 00080		CHRISL 00080	MQ693, SEA VIEW DRIVE LOWER POON SAAN DRIVE	Silver City		MQ693	0.109	0.11		105.67945	-10.42124
80	1096975			P218113 80		CHRISL 00080	MQ693, SEA VIEW DRIVE LOWER POON SAAN DRIVE	Silver City		MQ693	0.109	0.11		105.67945	-10.42124
81	1097021			CHRISL 00081		CHRISL 00081		Silver City			0.088	0.09		105.67750	-10.42389
81	1097021			P218114 81		CHRISL 00081		Silver City			0.088	0.09		105.67750	-10.42389
82	1097022			CHRISL 00082		L 3116 11010	MQ665	Silver City		MQ665	0.079	0.08		105.67768	-10.42370

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND	STATUS	DESCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT	DOLA	CENTLONG04	CENTLAT04
82	1097022			P218114 82		L	3116 11010	MQ665	Silver City		MQ665	0.079	0.08		105.67768	-10.42370
83	1097023			CHRISL 00083		CHRISL	00083	MQ664	Silver City		MQ664	0.080	0.08		105.67785	-10.42352
83	1097023			P218114 83		CHRISL	00083	MQ664	Silver City		MQ664	0.080	0.08		105.67785	-10.42352
84	1097024			CHRISL 00084		L	3116 11059	MQ663	Silver City		MQ663	0.068	0.07		105.67801	-10.42333
84	1097024			P218114 84		L	3116 11059	MQ663	Silver City		MQ663	0.068	0.07		105.67801	-10.42333
85	1097025			CHRISL 00085		R	43027	Recreation Reserve - Child Playground	Silver City			0.066	0.07		105.67819	-10.42313
85	1097025			R 43027		R	43027	Recreation Reserve - Child Playground	Silver City			0.066	0.07		105.67819	-10.42313
86	1097026			CHRISL 00086		L	3116 11060	MQ662	Silver City		MQ662	0.096	0.10		105.67845	-10.42322
86	1097026			L 3116 11060		L	3116 11060	MQ662	Silver City		MQ662	0.096	0.10		105.67845	-10.42322
87	1097027			CHRISL 00087		L	3116 10987	MQ661	Silver City		MQ661	0.103	0.10		105.67827	-10.42342
87	1097027			P218114 87		L	3116 10987	MQ661	Silver City		MQ661	0.103	0.10		105.67827	-10.42342
88	1097028			CHRISL 00088		CHRISL	00088	MQ660	Silver City		MQ660	0.078	0.08		105.67810	-10.42362
88	1097028			P218114 88		CHRISL	00088	MQ660	Silver City		MQ660	0.078	0.08		105.67810	-10.42362
89	1097029			CHRISL 00089		CHRISL	00089	MQ659	Silver City		MQ659	0.074	0.07		105.67792	-10.42381
89	1097029			P218114 89		CHRISL	00089	MQ659	Silver City		MQ659	0.074	0.07		105.67792	-10.42381
90	1097030			CHRISL 00090		CHRISL	00090		Silver City			0.069	0.07		105.67775	-10.42399
90	1097030			V CROWN LAND		CHRISL	00090		Silver City			0.069	0.07		105.67775	-10.42399
91	1097031			CHRISL 00091		CHRISL	00091		Silver City			0.089	0.09		105.67755	-10.42417
91	1097031			P218114 91		CHRISL	00091		Silver City			0.089	0.09		105.67755	-10.42417
92	1097032			CHRISL 00092		L	3116 10938	MQ656	Silver City		MQ656	0.116	0.12		105.67785	-10.42440
93	1097033			CHRISL 00093		CHRISL	00093	MQ655	Silver City		MQ655	0.100	0.10		105.67805	-10.42422
93	1097033			P218114 93		CHRISL	00093	MQ655	Silver City		MQ655	0.100	0.10		105.67805	-10.42422
94	1097034			CHRISL 00094		L	3116 11062	MQ654	Silver City		MQ654	0.114	0.11		105.67823	-10.42406
94	1097034			P218114 94		L	3116 11062	MQ654	Silver City		MQ654	0.114	0.11		105.67823	-10.42406
95	1097035			CHRISL 00095		CHRISL	00095	MQ653	Silver City		MQ653	0.127	0.13		105.67842	-10.42388
95	1097035			P218114 95		CHRISL	00095	MQ653	Silver City		MQ653	0.127	0.13		105.67842	-10.42388
96	1097036			CHRISL 00096		L	3116 10927	MQ652	Silver City		MQ652	0.119	0.12		105.67859	-10.42370
96	1097036			P218114 96		L	3116 10927	MQ652	Silver City		MQ652	0.119	0.12		105.67859	-10.42370
97	1097037			CHRISL 00097		CHRISL	00097	MQ651	Silver City		MQ651	0.118	0.12		105.67877	-10.42351
97	1097037			P218114 97		CHRISL	00097	MQ651	Silver City		MQ651	0.118	0.12		105.67877	-10.42351
98	1097038			CHRISL 00098		L	3116 10940	MQ603	Silver City		MQ603	0.151	0.15		105.67937	-10.42253
98	1097038			P218115 98		L	3116 10940	MQ603	Silver City		MQ603	0.151	0.15		105.67937	-10.42253
99	1097039			CHRISL 00099		CHRISL	00099	MQ604	Silver City		MQ604	0.144	0.14		105.67925	-10.42276
99	1097039			P218115 99		CHRISL	00099	MQ604	Silver City		MQ604	0.144	0.14		105.67925	-10.42276
100	1097040			CHRISL 00100		L	3116 11005		Silver City			0.128	0.13		105.67909	-10.42298
100	1097040			P218115 100		L	3116 11005		Silver City			0.128	0.13		105.67909	-10.42298
101	1096979			CHRISL 00101		CHRISL	00101	MQ610	Silver City		MQ610	0.100	0.10		105.67913	-10.42192
101	1096979			P218116 101		CHRISL	00101	MQ610	Silver City		MQ610	0.100	0.10		105.67913	-10.42192
102	1096981			CHRISL 00102		L	3116 11063	MQ609	Silver City		MQ609	0.099	0.10		105.67903	-10.42219
102	1096981			P218116 102		L	3116 11063	MQ609	Silver City		MQ609	0.099	0.10		105.67903	-10.42219
103	1096982			CHRISL 00103		L	3116 10941		Silver City			0.097	0.10		105.67888	-10.42241
103	1096982			P218116 103		L	3116 10941		Silver City			0.097	0.10		105.67888	-10.42241
104	1096983			CHRISL 00104		CHRISL	00104	MQ607, LOWER POON SAAN ROAD	Silver City		MQ607	0.090	0.09		105.67880	-10.42267
104	1096983			P218116 104		CHRISL	00104	MQ607, LOWER POON SAAN ROAD	Silver City		MQ607	0.090	0.09		105.67880	-10.42267
105	1096984			CHRISL 00105		CHRISL	00105	MQ606, LOWER POON SAAN ROAD	Silver City		MQ606	0.090	0.09		105.67868	-10.42293
105	1096984			P218116 105		CHRISL	00105	MQ606, LOWER POON SAAN ROAD	Silver City		MQ606	0.090	0.09		105.67868	-10.42293
106	1096985			CHRISL 00106		L	3116 11320	MQ614	Silver City		MQ614	0.079	0.08		105.67844	-10.42285
106	1096985			P218116 106		L	3116 11320	MQ614	Silver City		MQ614	0.079	0.08		105.67844	-10.42285
107	1096986			CHRISL 00107		CHRISL	00107	MQ613	Silver City		MQ613	0.107	0.11		105.67855	-10.42258
107	1096986			P218116 107		CHRISL	00107	MQ613	Silver City		MQ613	0.107	0.11		105.67855	-10.42258
108	1096987			CHRISL 00108		CHRISL	00108	WOMENS REFUGE CENTRE, JALAN PERAK	Silver City			0.054	0.05		105.67864	-10.42232
108	1096987			V CROWN LAND		CHRISL	00108	WOMENS REFUGE CENTRE, JALAN PERAK	Silver City			0.054	0.05		105.67864	-10.42232
109	1096988			CHRISL 00109		CHRISL	00109	MQ612	Silver City		MQ612	0.092	0.09		105.67879	-10.42208
109	1096988			P218116 109		CHRISL	00109	MQ612	Silver City		MQ612	0.092	0.09		105.67879	-10.42208
110	1096980			CHRISL 00110		V CROWN LAND		MQ611, KINDERGARTEN, JALAN PERAK	Silver City		MQ611	0.079	0.08		105.67890	-10.42182
110	1096980			P218116 110		V CROWN LAND		MQ611, KINDERGARTEN, JALAN PERAK	Silver City		MQ611	0.079	0.08		105.67890	-10.42182
111	1097098			CHRISL 00111		V CROWN LAND		CHRISTMAS ISLAND NATIONAL PARK - North East Section				236.282	236.44		105.69559	-10.41865
111	1097098			V CROWN LAND		V CROWN LAND		CHRISTMAS ISLAND NATIONAL PARK - North East Section				236.282	236.44		105.69559	-10.41865
112	1097147			CHRISL 00112		CHRISL	00112	CHRISTMAS ISLAND NATIONAL PARK - Hosnies Springs Section				199.604	199.74		105.69279	-10.47390
112	1097147			V CROWN LAND		CHRISL	00112	CHRISTMAS ISLAND NATIONAL PARK - Hosnies Springs Section				199.604	199.74		105.69279	-10.47390
113	1096989			CHRISL 00113		CHRISL	00113	MQ639, SEA VIEW DRIVE	Silver City		MQ639	0.104	0.10		105.67629	-10.42244
113	1096989			P218117 113		CHRISL	00113	MQ639, SEA VIEW DRIVE	Silver City		MQ639	0.104	0.10		105.67629	-10.42244
114	1096990			CHRISL 00114		V CROWN LAND		MQ640, SUNSET PLACE/SEAVIEW DRIVE	Silver City		MQ640	0.110	0.11		105.67647	-10.42218
114	1096990			P218117 114		V CROWN LAND		MQ640, SUNSET PLACE/SEAVIEW DRIVE	Silver City		MQ640	0.110	0.11		105.67647	-10.42218
115	1096991			CHRISL 00115		L	3116 11064	MQ641	Silver City		MQ641	0.105	0.11		105.67631	-10.42193
115	1096991			P218117 115		L	3116 11064	MQ641	Silver City		MQ641	0.105	0.11		105.67631	-10.42193
116	1096992			CHRISL 00116		CHRISL	00116	MQ643	Silver City		MQ643	0.136	0.14		105.67657	-10.42149
116	1096992			P218117 116		CHRISL	00116	MQ643	Silver City		MQ643	0.136	0.14		105.67657	-10.42149
117	1096993			CHRISL 00117		V CROWN LAND		MQ644, SUNSET PLACE/SEAVIEW DRIVE	Silver City		MQ644	0.143	0.14		105.67677	-10.42179
117	1096993			P218117 117		V CROWN LAND		MQ644, SUNSET PLACE/SEAVIEW DRIVE	Silver City		MQ644	0.143	0.14		105.67677	-10.42179
117	1096993			V CROWN LAND		V CROWN LAND		MQ644, SUNSET PLACE/SEAVIEW DRIVE	Silver City		MQ644	0.143	0.14		105.67677	-10.42179
118	1096994			CHRISL 00118		V CROWN LAND		MQ637, SEA VIEW DRIVE	Silver City		MQ637	0.145	0.15		105.67669	-10.42270
118	1096994			P218117 118		V CROWN LAND		MQ637, SEA VIEW DRIVE	Silver City		MQ637	0.145	0.15		105.67669	-10.42270
118	1096994			V CROWN LAND		V CROWN LAND		MQ637, SEA VIEW DRIVE	Silver City		MQ637	0.145	0.15		105.67669	-10.42270
119	1096995			CHRISL 00119		V CROWN LAND		MQ636, SEA VIEW DRIVE	Silver City		MQ636	0.151	0.15		105.67689	-10.42248
119	1096995			P218117 119		V CROWN LAND		MQ636, SEA VIEW DRIVE	Silver City		MQ636	0.151	0.15		105.67689	-10.42248
119	1096995			V CROWN LAND		V CROWN LAND		MQ636, SEA VIEW DRIVE	Silver City		MQ636	0.151	0.15		105.67689	-10.42248

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND	STATUS	DESCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT	DOLA	CENTLONG04	CENTLAT04
120	1096996			CHRISL 00120		L	3116 10984	MQ635	Silver City		MQ635	0.134	0.13	105.67707	-10.42225	
120	1096996			P218117 120		L	3116 10984	MQ635	Silver City		MQ635	0.134	0.13	105.67707	-10.42225	
121	1096997			CHRISL 00121		CHRISL	00121	MQ634, SEA VIEW DRIVE	Silver City		MQ634	0.135	0.14	105.67722	-10.42201	
121	1096997			P218117 121		CHRISL	00121	MQ634, SEA VIEW DRIVE	Silver City		MQ634	0.135	0.14	105.67722	-10.42201	
121	1096997			V CROWN LAND		CHRISL	00121	MQ634, SEA VIEW DRIVE	Silver City		MQ634	0.135	0.14	105.67722	-10.42201	
122	1096998			CHRISL 00122		CHRISL	00122	MQ633, SEA VIEW DRIVE	Silver City		MQ633	0.137	0.14	105.67734	-10.42175	
122	1096998			P218117 122		CHRISL	00122	MQ633, SEA VIEW DRIVE	Silver City		MQ633	0.137	0.14	105.67734	-10.42175	
123	1096999			CHRISL 00123		CHRISL	00123	MQ632, SEA VIEW DRIVE	Silver City		MQ632	0.141	0.14	105.67747	-10.42151	
123	1096999			P218117 123		CHRISL	00123	MQ632, SEA VIEW DRIVE	Silver City		MQ632	0.141	0.14	105.67747	-10.42151	
124	1097000			CHRISL 00124		CHRISL	00124	MQ631, PAI CHIN LU/SEAVIEW DRIVE	Silver City		MQ631	0.099	0.10	105.67753	-10.42120	
124	1097000			P218117 124		CHRISL	00124	MQ631, PAI CHIN LU/SEAVIEW DRIVE	Silver City		MQ631	0.099	0.10	105.67753	-10.42120	
125	1097001			CHRISL 00125		CHRISL	00125	MQ630	Silver City		MQ630	0.094	0.09	105.67775	-10.42130	
125	1097001			P218117 125		CHRISL	00125	MQ630	Silver City		MQ630	0.094	0.09	105.67775	-10.42130	
126	1097002			CHRISL 00126		CHRISL	00126	MQ629	Silver City		MQ629	0.113	0.11	105.67800	-10.42140	
126	1097002			P218117 126		CHRISL	00126	MQ629	Silver City		MQ629	0.113	0.11	105.67800	-10.42140	
127	1097003			CHRISL 00127		L	3116 11122	MQ628	Silver City		MQ628	0.118	0.12	105.67788	-10.42164	
127	1097003			P218117 127		L	3116 11122	MQ628	Silver City		MQ628	0.118	0.12	105.67788	-10.42164	
128	1097004			CHRISL 00128		CHRISL	00128	MQ627	Silver City		MQ627	0.135	0.13	105.67775	-10.42188	
128	1097004			P218117 128		CHRISL	00128	MQ627	Silver City		MQ627	0.135	0.13	105.67775	-10.42188	
129	1097005			CHRISL 00129		L	3116 10922	MQ626	Silver City		MQ626	0.157	0.16	105.67761	-10.42212	
129	1097005			P218117 129		L	3116 10922	MQ626	Silver City		MQ626	0.157	0.16	105.67761	-10.42212	
130	1097006			CHRISL 00130		CHRISL	00130	MQ625	Silver City		MQ625	0.178	0.18	105.67747	-10.42241	
130	1097006			P218117 130		CHRISL	00130	MQ625	Silver City		MQ625	0.178	0.18	105.67747	-10.42241	
131	1097007			CHRISL 00131		L	3116 11180	MQ624	Silver City		MQ624	0.078	0.08	105.67788	-10.42259	
131	1097007			P218117 131		L	3116 11180	MQ624	Silver City		MQ624	0.078	0.08	105.67788	-10.42259	
132	1097008			CHRISL 00132		L	3116 11067	MQ623	Silver City		MQ623	0.092	0.09	105.67799	-10.42236	
132	1097008			P218117 132		L	3116 11067	MQ623	Silver City		MQ623	0.092	0.09	105.67799	-10.42236	
133	1097009			CHRISL 00133		L	3116 11068		Silver City			0.090	0.09	105.67811	-10.42211	
133	1097009			P218117 133		L	3116 11068		Silver City			0.090	0.09	105.67811	-10.42211	
134	1097010			CHRISL 00134		CHRISL	00134	MQ621	Silver City		MQ621	0.092	0.09	105.67822	-10.42185	
134	1097010			P218117 134		CHRISL	00134	MQ621	Silver City		MQ621	0.092	0.09	105.67822	-10.42185	
135	1097011			CHRISL 00135		CHRISL	00135	Recreation Reserve	Silver City			0.182	0.18	105.67846	-10.42161	
135	1097011			P218117 135		CHRISL	00135	Recreation Reserve	Silver City			0.182	0.18	105.67846	-10.42161	
135	1097011			R 43028		CHRISL	00135	Recreation Reserve	Silver City			0.182	0.18	105.67846	-10.42161	
136	1097012			CHRISL 00136		L	3116 11123	MQ618	Silver City		MQ618	0.093	0.09	105.67848	-10.42191	
136	1097012			P218117 136		L	3116 11123	MQ618	Silver City		MQ618	0.093	0.09	105.67848	-10.42191	
137	1097013			CHRISL 00137		L	3116 10926	MQ617	Silver City		MQ617	0.083	0.08	105.67837	-10.42216	
137	1097013			P218117 137		L	3116 10926	MQ617	Silver City		MQ617	0.083	0.08	105.67837	-10.42216	
138	1097014			CHRISL 00138		CHRISL	00138	MQ616, JALAN PERAK	Silver City		MQ616	0.086	0.09	105.67825	-10.42242	
138	1097014			P218117 138		CHRISL	00138	MQ616, JALAN PERAK	Silver City		MQ616	0.086	0.09	105.67825	-10.42242	
138	1097014			V CROWN LAND		CHRISL	00138	MQ616, JALAN PERAK	Silver City		MQ616	0.086	0.09	105.67825	-10.42242	
140	1096943			CHRISL 00140		L	3116 10920		Settlement			0.764	0.76	105.68218	-10.41697	
140	1096943			LGE G995880		L	3116 10920		Settlement			0.764	0.76	105.68218	-10.41697	
141	1096940			CHRISL 00141		CHRISL	00141		Settlement			0.154	0.15	105.68061	-10.41693	
141	1096940			P218120 141		CHRISL	00141		Settlement			0.154	0.15	105.68061	-10.41693	
142	1096937			CHRISL 00142		CHRISL	00142	MQ17 Triadic Crescent	Settlement		MQ17	0.167	0.17	105.68076	-10.41650	
142	1096937			P218120 142		CHRISL	00142	MQ17 Triadic Crescent	Settlement		MQ17	0.167	0.17	105.68076	-10.41650	
143	1096938			CHRISL 00143		CHRISL	00143	MQ18 Triadic Crescent	Settlement		MQ18	0.251	0.25	105.68116	-10.41664	
143	1096938			P218120 143		CHRISL	00143	MQ18 Triadic Crescent	Settlement		MQ18	0.251	0.25	105.68116	-10.41664	
144	1096939			CHRISL 00144		CHRISL	00144	MQ19, Triadic Crescent	Settlement		MQ19	0.255	0.26	105.68154	-10.41674	
144	1096939			P218120 144		CHRISL	00144	MQ19, Triadic Crescent	Settlement		MQ19	0.255	0.26	105.68154	-10.41674	
144	1096939			V CROWN LAND		CHRISL	00144	MQ19, Triadic Crescent	Settlement		MQ19	0.255	0.26	105.68154	-10.41674	
145	1096929			CHRISL 00145		V CROWN LAND		MQ14, COCONUT CLOSE	Settlement		MQ14	0.181	0.18	105.67959	-10.41614	
145	1096929			V CROWN LAND		V CROWN LAND		MQ14, COCONUT CLOSE	Settlement		MQ14	0.181	0.18	105.67959	-10.41614	
146	1096930			CHRISL 00146		L	3116 11070	MQ15	Settlement		MQ15	0.200	0.20	105.67998	-10.41626	
146	1096930			P218121 146		L	3116 11070	MQ15	Settlement		MQ15	0.200	0.20	105.67998	-10.41626	
147	1096931			CHRISL 00147		CHRISL	00147	MQ16, SEA VIEW CLOSE	Settlement		MQ16	0.151	0.15	105.68036	-10.41638	
147	1096931			V CROWN LAND		CHRISL	00147	MQ16, SEA VIEW CLOSE	Settlement		MQ16	0.151	0.15	105.68036	-10.41638	
148	1096934			CHRISL 00148		L	3116 10944	MQ21	Settlement		MQ21	0.204	0.20	105.68023	-10.41680	
148	1096934			P218121 148		L	3116 10944	MQ21	Settlement		MQ21	0.204	0.20	105.68023	-10.41680	
149	1096933			CHRISL 00149		V CROWN LAND		MQ22 GAZE ROAD	Settlement		MQ22	0.204	0.20	105.67988	-10.41671	
149	1096933			V CROWN LAND		V CROWN LAND		MQ22 GAZE ROAD	Settlement		MQ22	0.204	0.20	105.67988	-10.41671	
150	1096932			CHRISL 00150		CHRISL	00150	MQ23	Settlement		MQ23	0.207	0.21	105.67954	-10.41661	
150	1096932			P218121 150		CHRISL	00150	MQ23	Settlement		MQ23	0.207	0.21	105.67954	-10.41661	
154	1096927			CHRISL 00154		L	3116 11006		Settlement			0.208	0.21	105.67886	-10.41588	
154	1096927			P218122 154		L	3116 11006		Settlement			0.208	0.21	105.67886	-10.41588	
155	1096928			CHRISL 00155		V CROWN LAND		MQ13, ROCKY POINT CRESCENT	Settlement		MQ13	0.193	0.19	105.67921	-10.41603	
155	1096928			P218122 155		V CROWN LAND		MQ13, ROCKY POINT CRESCENT	Settlement		MQ13	0.193	0.19	105.67921	-10.41603	
156	1096918			CHRISL 00156		L	3116 10980	MQ10	Settlement		MQ10	0.137	0.14	105.67717	-10.41518	
156	1096918			P218123 156		L	3116 10980	MQ10	Settlement		MQ10	0.137	0.14	105.67717	-10.41518	
157	1096919			CHRISL 00157		CHRISL	00157	MQ32	Settlement		MQ32	0.174	0.17	105.67748	-10.41525	
157	1096919			P218123 157		CHRISL	00157	MQ32	Settlement							

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND	STATUS	DESCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT	DOLA	CENTLONG04	CENTLAT04
162	1096907			CHRISL 00162			CHRISL 00162	MQ31	Settlement		MQ31	0.120	0.12		105.67527	-10.41560
162	1096907			P218124 162			CHRISL 00162	MQ31	Settlement		MQ31	0.120	0.12		105.67527	-10.41560
163	1096906			CHRISL 00163			L 3116 10933		Settlement			0.261	0.26		105.67521	-10.41516
163	1096906			P218124 163			L 3116 10933		Settlement			0.261	0.26		105.67521	-10.41516
164	1096908			CHRISL 00164			L 3116 10979	MQ30	Settlement		MQ30	0.137	0.14		105.67551	-10.41541
164	1096908			P218124 164			L 3116 10979	MQ30	Settlement		MQ30	0.137	0.14		105.67551	-10.41541
165	1096909			CHRISL 00165			V CROWN LAND	MQ6, ROCKY POINT CRESCENT	Settlement		MQ6,	0.200	0.20		105.67559	-10.41480
165	1096909			P218124 165			V CROWN LAND	MQ6, ROCKY POINT CRESCENT	Settlement		MQ6,	0.200	0.20		105.67559	-10.41480
166	1096910			CHRISL 00166			V CROWN LAND	MQ7, ROCKY POINT CRESCENT	Settlement		MQ7	0.209	0.21		105.67595	-10.41474
166	1096910			P218124 166			V CROWN LAND	MQ7, ROCKY POINT CRESCENT	Settlement		MQ7	0.209	0.21		105.67595	-10.41474
166	1096910			V CROWN LAND			V CROWN LAND	MQ7, ROCKY POINT CRESCENT	Settlement		MQ7	0.209	0.21		105.67595	-10.41474
167	1096913			CHRISL 00167			V CROWN LAND	MQ8, ROCKY POINT CRESCENT	Settlement		MQ8	0.239	0.24		105.67635	-10.41484
167	1096913			P218124 167			V CROWN LAND	MQ8, ROCKY POINT CRESCENT	Settlement		MQ8	0.239	0.24		105.67635	-10.41484
168	1096914			CHRISL 00168			CHRISL 00168	MQ9, ROCKY POINT CRESCENT	Settlement		MQ9	0.279	0.28		105.67675	-10.41499
168	1096914			P218124 168			CHRISL 00168	MQ9, ROCKY POINT CRESCENT	Settlement		MQ9	0.279	0.28		105.67675	-10.41499
168	1096914			V CROWN LAND			CHRISL 00168	MQ9, ROCKY POINT CRESCENT	Settlement		MQ9	0.279	0.28		105.67675	-10.41499
171	1160049			CHRISL 00171					Settlement			0.205	0.20		105.67609	-10.41531
171	1160049			P218124 171					Settlement			0.205	0.20		105.67609	-10.41531
172	1261891			CHRISL 00455					Settlement			0.140	0.14		105.67578	-10.41516
172	1261891			P218648 455					Settlement			0.140	0.14		105.67578	-10.41516
172	1261891			V CROWN LAND					Settlement			0.140	0.14		105.67578	-10.41516
174	1097063	LR	3100/62	CHRISL 00174			V CROWN LAND	Supermarket, Gaze Road				0.206	0.21		105.67308	-10.42304
174	1097063	LR	3100/62	P218125 174			V CROWN LAND	Supermarket, Gaze Road				0.206	0.21		105.67308	-10.42304
176	1097065	LR	3100/62	CHRISL 00176			CHRISL 00176					0.002	0.00		105.67275	-10.42273
176	1097065	LR	3100/62	V CROWN LAND			CHRISL 00176					0.002	0.00		105.67275	-10.42273
185	1097100			CHRISL 00185			CHRISL 00185	LILY BEACH. DEVELOPMENT SITE				2.444	2.45		105.71065	-10.46760
185	1097100			P218127 185			CHRISL 00185	LILY BEACH. DEVELOPMENT SITE				2.444	2.45		105.71065	-10.46760
188	1097083			CHRISL 00188			V CROWN LAND	Christmas Island Club, CLUB ROAD	Settlement			0.221	0.22		105.67349	-10.42728
188	1097083			V CROWN LAND			V CROWN LAND	Christmas Island Club, CLUB ROAD	Settlement			0.221	0.22		105.67349	-10.42728
193	1096901			CHRISL 00193			V CROWN LAND	MQ387	Settlement		MQ387	0.070	0.07		105.67513	-10.41645
193	1096901			P218131 193			V CROWN LAND	MQ387	Settlement		MQ387	0.070	0.07		105.67513	-10.41645
194	1096902			CHRISL 00194			L 3116 11071	MQ384	Settlement		MQ384	0.058	0.06		105.67523	-10.41623
194	1096902			P218131 194			L 3116 11071	MQ384	Settlement		MQ384	0.058	0.06		105.67523	-10.41623
197	1097130			CHRISL 00197			CHRISL 00197					0.146	0.15		105.67283	-10.42456
197	1097130			V CROWN LAND			CHRISL 00197					0.146	0.15		105.67283	-10.42456
198	1097112			CHRISL 00198			V CROWN LAND	Drier No.1 site	Drumsite			0.836	0.84		105.67633	-10.42776
198	1097112			V CROWN LAND			V CROWN LAND	Drier No.1 site	Drumsite			0.836	0.84		105.67633	-10.42776
199	1097089			CHRISL 00199			V CROWN LAND	ANCA Nursery	Drumsite			0.126	0.13		105.66879	-10.43291
199	1097089			V CROWN LAND			V CROWN LAND	ANCA Nursery	Drumsite			0.126	0.13		105.66879	-10.43291
200	1097088			CHRISL 00200			V CROWN LAND	ANCA Nursery	Drumsite			0.027	0.03		105.66917	-10.43229
200	1097088			V CROWN LAND			V CROWN LAND	ANCA Nursery	Drumsite			0.027	0.03		105.66917	-10.43229
201	1096867			CHRISL 00201	20		CHRISL 00201		Kampong	LORONG KAMPONG		0.182	0.18		105.67113	-10.42935
201	1096867			P218137 201	20		CHRISL 00201		Kampong	LORONG KAMPONG		0.182	0.18		105.67113	-10.42935
202	1096868			CHRISL 00202	32		S025134		Kampong	LORONG KAMPONG		0.182	0.18		105.67202	-10.42881
202	1096868			P218137 202	32		S025134		Kampong	LORONG KAMPONG		0.182	0.18		105.67202	-10.42881
203	1096871			CHRISL 00203			CHRISL 00203	Fuel Farm	Settlement			0.250	0.25		105.67160	-10.42619
203	1096871			V CROWN LAND			CHRISL 00203	Fuel Farm	Settlement			0.250	0.25		105.67160	-10.42619
207	1096942			CHRISL 00207			V CROWN LAND	DONGA 121 - 124, GAZE ROAD	Settlement			0.216	0.22		105.68102	-10.41701
207	1096942			P218140 207			V CROWN LAND	DONGA 121 - 124, GAZE ROAD	Settlement			0.216	0.22		105.68102	-10.41701
208	1096941			CHRISL 00208			CHRISL 00208	VQ1, GAZE ROAD	Settlement			0.111	0.11		105.68150	-10.41713
208	1096941			P218140 208			CHRISL 00208	VQ1, GAZE ROAD	Settlement			0.111	0.11		105.68150	-10.41713
212	1096949			CHRISL 00212			V CROWN LAND	DONGA 114 - 120, GAZE ROAD	Settlement			0.441	0.44		105.67925	-10.41692
212	1096949			V CROWN LAND			V CROWN LAND	DONGA 114 - 120, GAZE ROAD	Settlement			0.441	0.44		105.67925	-10.41692
213	11001827			CHRISL 00213					Settlement			0.238			105.67901	-10.41644
213	11001827			P030801 213					Settlement			0.238			105.67901	-10.41644
214	1096935			CHRISL 00214			V CROWN LAND	DONGA 103 - 109 GAZE ROAD	Settlement			0.036	0.04		105.67900	-10.41634
214	1096935			P218143 214			V CROWN LAND	DONGA 103 - 109 GAZE ROAD	Settlement			0.036	0.04		105.67900	-10.41634
215	1096904			CHRISL 00215			V CROWN LAND	DONGA 110 - 113, GAZE ROAD	Settlement			0.249	0.25		105.67784	-10.41621
215	1096904			P218144 215			V CROWN LAND	DONGA 110 - 113, GAZE ROAD	Settlement			0.249	0.25		105.67784	-10.41621
217	1160051			CHRISL 00217					Settlement			0.124	0.12		105.67669	-10.41548
217	1160051			P218145 217					Settlement			0.124	0.12		105.67669	-10.41548
217	1160051			L 3116 11886					Settlement			0.124	0.12		105.67669	-10.41548
218	1097015			CHRISL 00218			V CROWN LAND	MQ615	Silver City		MQ615	0.089	0.09		105.67813	-10.42268
218	1097015			P218117 218			V CROWN LAND	MQ615	Silver City		MQ615	0.089	0.09		105.67813	-10.42268
219	1097133			CHRISL 00219			CHRISL 00219		Silver City			0.147	0.15		105.67650	-10.42294
219	1097133			L 3116 10971			CHRISL 00219		Silver City			0.147	0.15		105.67650	-10.42294
220	1097114			CHRISL 00220			CHRISL 00220	KIATS SERVICE STATION, MURRAY RD, DRUMSITE	Drumsite			0.191	0.19		105.67748	-10.42691
220	1097114			P218148 220			CHRISL 00220	KIATS SERVICE STATION, MURRAY RD, DRUMSITE	Drumsite			0.191	0.19		105.67748	-10.42691
221	1097092			CHRISL 00221			L 3116 10990		Drumsite			0.095	0.09		105.67538	-10.43015
221	1097092			L 3116 10990			L 3116 10990		Drumsite			0.095	0.09		105.67538	-10.43015
222	1097136			CHRISL 00222			L 3116 10991		Drumsite			0.094	0.09		105.67517	-10.43036
222	1097136			L 3116 10991			L 3116 10991		Drumsite			0.094	0.09		105.67517	-10.43036
223	1097093			CHRISL 00223			L 3116 10975	Vacant building	Drumsite			0.097	0.10		105.67474	-10.43044
223	1097093			P218149 223			L 3116 10975	Vacant building	Drumsite			0.097	0.10		105.67474	-10.43044
226	1097127			CHRISL 00226			CHRISL 00226		Phosphate Hill			0.230	0.23		105.68223	-10.42494
226	1097127			V CROWN LAND			CHRISL 00226		Phosphate Hill			0.230	0.23		105.68223	-10.42494
227	1096845			CHRISL 00227			CHRISL 00227	POWER STATION, MURRAY ROAD	Drumsite			0.960	0.96		105.66835	-10.44117

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND	STATUS	DESCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT	DOLA	CENTLONG04	CENTLAT04
227	1096845			V CROWN LAND			CHRISL 00227	POWER STATION, MURRAY ROAD	Drumsite			0.960	0.96		105.66835	-10.44117
228	1096892			CHRISL 00228	11		CHRISL 00228			LORONG KAMPONG		0.085	0.09		105.67191	-10.42848
228	1096892			S025132	11		CHRISL 00228			LORONG KAMPONG		0.085	0.09		105.67191	-10.42848
228	1096892			P218152 228	11		CHRISL 00228			LORONG KAMPONG		0.085	0.09		105.67191	-10.42848
229	1097085			CHRISL 00229			CHRISL 00229	UPPER ADMINISTRATION, CANBERRA PLACE	Settlement			0.117	0.12		105.67340	-10.42646
229	1097085			P218153 229			CHRISL 00229	UPPER ADMINISTRATION, CANBERRA PLACE	Settlement			0.117	0.12		105.67340	-10.42646
229	1097085			LGE I391018			CHRISL 00229	UPPER ADMINISTRATION, CANBERRA PLACE	Settlement			0.117	0.12		105.67340	-10.42646
230	1097086			CHRISL 00230			V CROWN LAND	WESTPAC BANK, CANBERRA PLACE	Settlement			0.025	0.03		105.67316	-10.42707
230	1097086			V CROWN LAND			V CROWN LAND	WESTPAC BANK, CANBERRA PLACE	Settlement			0.025	0.03		105.67316	-10.42707
231	1096869			CHRISL 00231			CHRISL 00231	CAPEX SHED, OFF GAZE ROAD	Settlement			0.050	0.05		105.67238	-10.42415
231	1096869			P218154 231			CHRISL 00231	CAPEX SHED, OFF GAZE ROAD	Settlement			0.050	0.05		105.67238	-10.42415
231	1096869			V CROWN LAND			CHRISL 00231	CAPEX SHED, OFF GAZE ROAD	Settlement			0.050	0.05		105.67238	-10.42415
232	1097131			CHRISL 00232			CHRISL 00232	Airconditioning workshop	Settlement			0.074	0.07		105.67279	-10.42503
232	1097131			P218155 232			CHRISL 00232	Airconditioning workshop	Settlement			0.074	0.07		105.67279	-10.42503
234	1097106			CHRISL 00234			CHRISL 00234	UCIW MEMORIAL, CNR POON SAAN ROAD & SAN CHYE LOH	Poon Saan			0.041	0.04		105.67937	-10.42473
234	1097106			R 45719			CHRISL 00234	UCIW MEMORIAL, CNR POON SAAN ROAD & SAN CHYE LOH	Poon Saan			0.041	0.04		105.67937	-10.42473
235	1097107			CHRISL 00235			V CROWN LAND		Silver City			0.011	0.01		105.67946	-10.42476
235	1097107			V CROWN LAND			V CROWN LAND		Silver City			0.011	0.01		105.67946	-10.42476
236	1097105			CHRISL 00236			L 3116 10949	Yong Chong's Restaurant, Poon Saan	Poon Saan			0.120	0.12		105.67914	-10.42487
236	1097105			P218157 236			L 3116 10949	Yong Chong's Restaurant, Poon Saan	Poon Saan			0.120	0.12		105.67914	-10.42487
237	1097104			CHRISL 00237			CHRISL 00237		Poon Saan			0.147	0.15		105.67979	-10.42345
237	1097104			P218157 237			CHRISL 00237		Poon Saan			0.147	0.15		105.67979	-10.42345
238	1096875			CHRISL 00238			CHRISL 00238	LOWER ADMIN - GROUND; LOWER ADMIN - TOP; LOWER ADMIN CASINO CONTROL; TELECOM WOR	Settlement			0.093	0.09		105.67251	-10.42623
238	1096875			V CROWN LAND			CHRISL 00238	LOWER ADMIN - GROUND; LOWER ADMIN - TOP; LOWER ADMIN CASINO CONTROL; TELECOM WOR	Settlement			0.093	0.09		105.67251	-10.42623
239	1096874			CHRISL 00239			V CROWN LAND	WAREHOUSE, JALAN PANTAI	Off Jalan Pantai			0.531	0.53		105.67208	-10.42644
239	1096874			P218158 239			V CROWN LAND	WAREHOUSE, JALAN PANTAI	Off Jalan Pantai			0.531	0.53		105.67208	-10.42644
239	1096874			V CROWN LAND			V CROWN LAND	WAREHOUSE, JALAN PANTAI	Off Jalan Pantai			0.531	0.53		105.67208	-10.42644
240	1096877			CHRISL 00240			V CROWN LAND	WAREHOUSE, JALAN PANTAI				0.015	0.02		105.67197	-10.42613
240	1096877			P218158 240			V CROWN LAND	WAREHOUSE, JALAN PANTAI				0.015	0.02		105.67197	-10.42613
240	1096877			V CROWN LAND			V CROWN LAND	WAREHOUSE, JALAN PANTAI				0.015	0.02		105.67197	-10.42613
241	1096876			CHRISL 00241			CHRISL 00241	WAREHOUSE, JALAN PANTAI				0.009	0.01		105.67203	-10.42614
241	1096876			P218158 241			CHRISL 00241	WAREHOUSE, JALAN PANTAI				0.009	0.01		105.67203	-10.42614
241	1096876			V CROWN LAND			CHRISL 00241	WAREHOUSE, JALAN PANTAI				0.009	0.01		105.67203	-10.42614
242	1096872			CHRISL 00242			CHRISL 00242	Diesel Bowser, Jalan Pantai	Settlement			0.025	0.02		105.67240	-10.42580
242	1096872			V CROWN LAND			CHRISL 00242	Diesel Bowser, Jalan Pantai	Settlement			0.025	0.02		105.67240	-10.42580
243	1096873			CHRISL 00243			CHRISL 00243	Paperbag store.	Settlement			0.143	0.14		105.67213	-10.42574
243	1096873			V CROWN LAND			CHRISL 00243	Paperbag store.	Settlement			0.143	0.14		105.67213	-10.42574
244	1097016			CHRISL 00244			CHRISL 00244	MQ	Silver City		MQ	0.075	0.08		105.67728	-10.42355
244	1097016			P218159 244			CHRISL 00244	MQ	Silver City		MQ	0.075	0.08		105.67728	-10.42355
245	1097017			CHRISL 00245			CHRISL 00245		Silver City			0.075	0.08		105.67742	-10.42341
245	1097017			L 3116 10953			CHRISL 00245		Silver City			0.075	0.08		105.67742	-10.42341
246	1097018			CHRISL 00246			CHRISL 00246		Silver City			0.075	0.08		105.67756	-10.42327
246	1097018			P218159 246			CHRISL 00246		Silver City			0.075	0.08		105.67756	-10.42327
247	1097019			CHRISL 00247			L 3116 10969		Silver City			0.075	0.08		105.67770	-10.42312
247	1097019			P218159 247			L 3116 10969		Silver City			0.075	0.08		105.67770	-10.42312
248	1097020			CHRISL 00248			CHRISL 00248	MQ	Silver City		MQ	0.092	0.09		105.67786	-10.42297
248	1097020			P218159 248			CHRISL 00248	MQ	Silver City		MQ	0.092	0.09		105.67786	-10.42297
249	1097103			CHRISL 00249			CHRISL 00249	MQ	Silver City		MQ	0.139	0.14		105.67895	-10.42326
249	1097103			P218160 249			CHRISL 00249	MQ	Silver City		MQ	0.139	0.14		105.67895	-10.42326
251	1097111			CHRISL 00251			V CROWN LAND	LAND, MURRAY ROAD	Taman Sweetland			0.479	0.48		105.68157	-10.42354
251	1097111			V CROWN LAND			V CROWN LAND	LAND, MURRAY ROAD	Taman Sweetland			0.479	0.48		105.68157	-10.42354
252	1097108			CHRISL 00252			V CROWN LAND	LAND, MURRAY ROAD	Poon Saan			0.541	0.54		105.68428	-10.42311
252	1097108			R 46360			V CROWN LAND	LAND, MURRAY ROAD	Poon Saan			0.541	0.54		105.68428	-10.42311
253	1097110			CHRISL 00253			CHRISL 00253	LAND, MURRAY ROAD	Taman Sweetland			0.427	0.43		105.68482	-10.42354
253	1097110			V CROWN LAND			CHRISL 00253	LAND, MURRAY ROAD	Taman Sweetland			0.427	0.43		105.68482	-10.42354
254	1096886			CHRISL 00254			L 3116 10973		Drumsite			0.091	0.09		105.67251	-10.43244
254	1096886			V CROWN LAND			L 3116 10973		Drumsite			0.091	0.09		105.67251	-10.43244
255	1096885			CHRISL 00255			CHRISL 00255		Drumsite			0.105	0.11		105.67273	-10.43235
255	1096885			P218163 255			CHRISL 00255		Drumsite			0.105	0.11		105.67273	-10.43235
256	1096884			CHRISL 00256			V CROWN LAND	MQ702 LAM LOK LOH + PHONE EXCHANGE	Drumsite		MQ702	0.169	0.17		105.67291	-10.43197
256	1096884			P218163 256			V CROWN LAND	MQ702 LAM LOK LOH + PHONE EXCHANGE	Drumsite		MQ702	0.169	0.17		105.67291	-10.43197
257	1096881			CHRISL 00257			CHRISL 00257		Drumsite			0.093	0.09		105.67333	-10.43204
257	1096881			P218163 257			CHRISL 00257		Drumsite			0.093	0.09		105.67333	-10.43204
258	1096880			CHRISL 00258			L 3116 10977		Drumsite			0.089	0.09		105.67349	-10.43188
258	1096880			P218163 258			L 3116 10977		Drumsite			0.089	0.09		105.67349	-10.43188
259	1096879			CHRISL 00259			V CROWN LAND	BAHA'I CENTRE, SUNG MIAW LOH	Drumsite			0.146	0.15		105.67366	-10.43165
259	1096879			V CROWN LAND			V CROWN LAND	BAHA'I CENTRE, SUNG MIAW LOH	Drumsite			0.146	0.15		105.67366	-10.43165
260	1096878			CHRISL 00260			L 3116 10983		Drumsite			0.105	0.10		105.67350	-10.43139
261	1096883			CHRISL 00261			CHRISL 00261		Drumsite			0.087	0.09		105.67330	-10.43163
261	1096883			P218163 261			CHRISL 00261		Drumsite			0.087	0.09		105.67330	-10.43163
262	1096882			CHRISL 00262			L 3116 10970		Drumsite			0.090	0.09		105.67313	-10.43178
262	1096882			L 3116 10970			L 3116 10970		Drumsite			0.090	0.09		105.67313	-10.43178
264	1097048			CHRISL 00264			CHRISL 00264		Poon Saan			0.238	0.24		105.68170	-10.42216
264	1097048			P218164 264			CHRISL 00264		Poon Saan			0.238	0.24		105.68170	-10.42216
266	1097045	LR 3100/62		CHRISL 00266			CHRISL 00266		Poon Saan			0.174	0.17		105.68055	-10.42293
266	1097045	LR 3100/62		P218164 266			CHRISL 00266		Poon Saan			0.174	0.17		105.68055	-10.42293
268	1097060			CHRISL 00268			CHRISL 00268	Poon Saan residential blocks:556-561	Poon Saan			0.388	0.39		105.67797	-10.42512

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND STATUS	DESCRIPTIO	SUBURB	STREET	BPC NOS	HECTARES	HECT	DOLA	CENTLONG04	CENTLAT04
268	1097060			LGE G995882		CHRISL 00268	Poon Saan residential blocks:556-561	Poon Saan			0.388	0.39	105.67797	-10.42512	
269	1097061			CHRISL 00269		CHRISL 00269	Poon Saan residential blocks:550-555	Poon Saan			0.419	0.42	105.67820	-10.42547	
269	1097061			LGE G995881		CHRISL 00269	Poon Saan residential blocks:550-555	Poon Saan			0.419	0.42	105.67820	-10.42547	
270	1097062			CHRISL 00270		CHRISL 00270	POON SAAN CLUB, POON SAAN ROAD	Poon Saan			0.128	0.13	105.67884	-10.42506	
270	1097062			V CROWN LAND		CHRISL 00270	POON SAAN CLUB, POON SAAN ROAD	Poon Saan			0.128	0.13	105.67884	-10.42506	
271	1097066			CHRISL 00271		CHRISL 00271	'Spit-N-Chips'				0.022	0.02	105.67283	-10.42257	
271	1097066			P218166 271		CHRISL 00271	'Spit-N-Chips'				0.022	0.02	105.67283	-10.42257	
272	1096899			CHRISL 00272		L 3116 10955		Settlement			0.085	0.08	105.67503	-10.41678	
272	1096899			P218167 272		L 3116 10955		Settlement			0.085	0.08	105.67503	-10.41678	
273	1096900			CHRISL 00273		V CROWN LAND	MUSIC CENTRE, GAZE ROAD	Settlement			0.024	0.02	105.67508	-10.41660	
273	1096900			R 45725		V CROWN LAND	MUSIC CENTRE, GAZE ROAD	Settlement			0.024	0.02	105.67508	-10.41660	
275	1096977			CHRISL 00275		CHRISL 00275		Silver City			0.100	0.10	105.67819	-10.42021	
275	1096977			L 3116 10974		CHRISL 00275		Silver City			0.100	0.10	105.67819	-10.42021	
276	1097041			CHRISL 00276		CHRISL 00276	MQ599	Silver City		MQ599	0.159	0.16	105.67987	-10.42161	
276	1097041			P218115 276		CHRISL 00276	MQ599	Silver City		MQ599	0.159	0.16	105.67987	-10.42161	
277	1097042			CHRISL 00277		L 3116 10937	MQ600	Silver City		MQ600	0.146	0.15	105.67974	-10.42182	
277	1097042			P218115 277		L 3116 10937	MQ600	Silver City		MQ600	0.146	0.15	105.67974	-10.42182	
278	1097043			CHRISL 00278		CHRISL 00278	MQ601, LOWER POON SAAN ROAD	Silver City		MQ601	0.165	0.17	105.67961	-10.42204	
278	1097043			P218115 278		CHRISL 00278	MQ601, LOWER POON SAAN ROAD	Silver City		MQ601	0.165	0.17	105.67961	-10.42204	
279	1097044			CHRISL 00279		CHRISL 00279	MQ602	Silver City		MQ602	0.168	0.17	105.67950	-10.42229	
279	1097044			P218115 279		CHRISL 00279	MQ602	Silver City		MQ602	0.168	0.17	105.67950	-10.42229	
280	1097149			CHRISL 00280		CHRISL 00280	CHRISTMAS ISLAND NATIONAL PARK - Murray Hill Section				7771.229	7776.55	105.62495	-10.48553	
280	1097149			V CROWN LAND		CHRISL 00280	CHRISTMAS ISLAND NATIONAL PARK - Murray Hill Section				7771.229	7776.55	105.62495	-10.48553	
281	1097148			CHRISL 00281		V CROWN LAND	CHRISTMAS ISLAND NATIONAL PARK - Ross Hill section				550.714	551.08	105.66511	-10.51991	
281	1097148			V CROWN LAND		V CROWN LAND	CHRISTMAS ISLAND NATIONAL PARK - Ross Hill section				550.714	551.08	105.66511	-10.51991	
282	1096812	LR	3100/76	CHRISL 00282		CHRISL 00282	SCHOOL, MURRAY ROAD	Drumsite			3.541	3.54	105.66859	-10.43599	
282	1096812	LR	3100/76	R 45602		CHRISL 00282	SCHOOL, MURRAY ROAD	Drumsite			3.541	3.54	105.66859	-10.43599	
283	1096833	LR	3100/77	CHRISL 00283		L 3116 11338	MQ701A Murray Road	Drumsite		MQ701	0.216	0.19	105.67059	-10.43233	
283	1096833	LR	3100/77	P218256 283		L 3116 11338	MQ701A Murray Road	Drumsite		MQ701	0.216	0.19	105.67059	-10.43233	
285	1096887			CHRISL 00285	24	S025136			JALAN PANTI		0.181	0.18	105.67069	-10.42934	
285	1096887			S025136	24	S025136			JALAN PANTI		0.181	0.18	105.67069	-10.42934	
285	1096887			P218420 285	24	S025136			JALAN PANTI		0.181	0.18	105.67069	-10.42934	
286	1096888			CHRISL 00286	2	S025133			JALAN PANTI		0.072	0.07	105.67113	-10.42886	
286	1096888			S025133	2	S025133			JALAN PANTI		0.072	0.07	105.67113	-10.42886	
286	1096888			P218420 286	2	S025133			JALAN PANTI		0.072	0.07	105.67113	-10.42886	
287	1096891	LR	3100/58	CHRISL 00287		V CROWN LAND					0.011	0.01	105.67133	-10.42885	
287	1096891	LR	3100/58	V CROWN LAND		V CROWN LAND					0.011	0.01	105.67133	-10.42885	
288	1096893	LR	3100/58	CHRISL 00288		CHRISL 00288					0.441	0.44	105.67157	-10.42881	
288	1096893	LR	3100/58	V CROWN LAND		CHRISL 00288					0.441	0.44	105.67157	-10.42881	
289	1096889			CHRISL 00289	16	S025137			JALAN PANTI		0.208	0.21	105.67157	-10.42834	
289	1096889			S025137	16	S025137			JALAN PANTI		0.208	0.21	105.67157	-10.42834	
289	1096889			P218420 289	16	S025137			JALAN PANTI		0.208	0.21	105.67157	-10.42834	
290	1096890	LR	3100/58	CHRISL 00290		CHRISL 00290	MOSQUE, JALAN PANTAI	Kampong			0.141	0.14	105.67203	-10.42789	
290	1096890	LR	3100/58	V CROWN LAND		CHRISL 00290	MOSQUE, JALAN PANTAI	Kampong			0.141	0.14	105.67203	-10.42789	
292	1097056			CHRISL 00292				Poon Saan			0.013	0.01	105.68135	-10.42297	
292	1097056			R 45718				Poon Saan			0.013	0.01	105.68135	-10.42297	
293	1097058	LR	3100/59	CHRISL 00293		V CROWN LAND		Silver City			0.007	0.01	105.68118	-10.42294	
293	1097058	LR	3100/59	V CROWN LAND		V CROWN LAND		Silver City			0.007	0.01	105.68118	-10.42294	
294	1097055	LR	3100/59	CHRISL 00294		V CROWN LAND		Poon Saan			0.151	0.15	105.68163	-10.42266	
294	1097055	LR	3100/59	R 45721		V CROWN LAND		Poon Saan			0.151	0.15	105.68163	-10.42266	
294	1097057	LR	3100/59	CHRISL 00294		V CROWN LAND		Poon Saan			0.110	0.11	105.68125	-10.42310	
294	1097057	LR	3100/59	R 45721		V CROWN LAND		Poon Saan			0.110	0.11	105.68125	-10.42310	
295	1097059			CHRISL 00295	28	S025128		Poon Saan	POON SAN ROAD		0.203	0.20	105.68173	-10.42282	
295	1097059			S025128	28	S025128		Poon Saan	POON SAN ROAD		0.203	0.20	105.68173	-10.42282	
295	1097059			P218309 295	28	S025128		Poon Saan	POON SAN ROAD		0.203	0.20	105.68173	-10.42282	
296	1097051			CHRISL 00296		CHRISL 00296		Poon Saan			0.217	0.22	105.68263	-10.42217	
296	1097051			S025129		CHRISL 00296		Poon Saan			0.217	0.22	105.68263	-10.42217	
296	1097051			P218309 296		CHRISL 00296		Poon Saan			0.217	0.22	105.68263	-10.42217	
296	1097053			CHRISL 00296		S025129		Poon Saan			0.180	0.18	105.68219	-10.42241	
296	1097053			S025129		S025129		Poon Saan			0.180	0.18	105.68219	-10.42241	
296	1097053			P218309 296		S025129		Poon Saan			0.180	0.18	105.68219	-10.42241	
297	1097079			CHRISL 00297	2	CHRISL 00297			TONG CHEE ROAD		0.186	0.19	105.67368	-10.42531	
297	1097079			S025131	2	CHRISL 00297			TONG CHEE ROAD		0.186	0.19	105.67368	-10.42531	
297	1097079			P191122 297	2	CHRISL 00297			TONG CHEE ROAD		0.186	0.19	105.67368	-10.42531	
298	1097080	LR	3100/59	CHRISL 00298		CHRISL 00298	MQ420, TONG CHEE ROAD	Settlement		MQ420	0.088	0.09	105.67357	-10.42554	
298	1097080	LR	3100/59	P191122 298		CHRISL 00298	MQ420, TONG CHEE ROAD	Settlement		MQ420	0.088	0.09	105.67357	-10.42554	
299	1097081	LR	3100/59	CHRISL 00299		CHRISL 00299		Settlement			0.192	0.19	105.67352	-10.42589	
299	1097081	LR	3100/59	V CROWN LAND		CHRISL 00299		Settlement			0.192	0.19	105.67352	-10.42589	
300	1097119	LR	3100/59	CHRISL 00300		V CROWN LAND					0.002	0.00	105.67926	-10.42564	
300	1097119	LR	3100/59	V CROWN LAND		V CROWN LAND					0.002	0.00	105.67926	-10.42564	
301	1097120			CHRISL 00301				Poon Saan			0.139	0.14	105.67951	-10.42555	
301	1097120			S025126				Poon Saan			0.139	0.14	105.67951	-10.42555	
301	1097120			P218346 301				Poon Saan			0.139	0.14	105.67951	-10.42555	
301	1097121			CHRISL 00301		S025126		Poon Saan			0.043	0.04	105.67973	-10.42533	
301	1097121			S025126		S025126		Poon Saan			0.043	0.04	105.67973	-10.42533	
301	1097121			P218346 301		S025126		Poon Saan			0.043	0.04	105.67973	-10.42533	
302	1097125			CHRISL 00302	2	CHRISL 00302		Poon Saan			0.160	0.16	105.68040	-10.42470	

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND STATUS	DESCRIPTIO	SUBURB	STREET	BPC NOS	HECTARES	HECT	DOLA	CENTLONG04	CENTLAT04
302	1097125			S025125	2	CHRISL 00302		Poon Saan			0.160	0.16		105.68040	-10.42470
302	1097125			P218346 302	2	CHRISL 00302		Poon Saan			0.160	0.16		105.68040	-10.42470
303	1097124	LR	3056/60	CHRISL 00303		R 43803	Recreation Reserve - Parkland	Poon Saan			0.124	0.12		105.68038	-10.42505
303	1097124	LR	3056/60	R 43803		R 43803	Recreation Reserve - Parkland	Poon Saan			0.124	0.12		105.68038	-10.42505
304	1097123			CHRISL 00304	1	CHRISL 00304		Poon Saan			0.235	0.24		105.68000	-10.42544
304	1097123			S027673	1	CHRISL 00304		Poon Saan			0.235	0.24		105.68000	-10.42544
304	1097123			P218346 304	1	CHRISL 00304		Poon Saan			0.235	0.24		105.68000	-10.42544
305	1097054			CHRISL 00305				Poon Saan			0.010	0.01		105.68202	-10.42253
305	1097054			R 45723				Poon Saan			0.010	0.01		105.68202	-10.42253
306	1097052			CHRISL 00306							0.010	0.01		105.68237	-10.42229
306	1097052			R 45723							0.010	0.01		105.68237	-10.42229
307	1097082			CHRISL 00307							0.003	0.00		105.67353	-10.42517
307	1097082			V CROWN LAND							0.003	0.00		105.67353	-10.42517
308	1097126	LR	3100/60	CHRISL 00308		CHRISL 00308		Poon Saan			0.003	0.00		105.67968	-10.42539
308	1097126	LR	3100/60	R 45724		CHRISL 00308		Poon Saan			0.003	0.00		105.67968	-10.42539
309	1097122			CHRISL 00309	2	CHRISL 00309		Poon Saan	MURRAY ROAD		0.197	0.20		105.67999	-10.42506
309	1097122			S025127	2	CHRISL 00309		Poon Saan	MURRAY ROAD		0.197	0.20		105.67999	-10.42506
309	1097122			P218346 309	2	CHRISL 00309		Poon Saan	MURRAY ROAD		0.197	0.20		105.67999	-10.42506
310	1097135			CHRISL 00310	1	CHRISL 00310	Block 771 & 772 , loc 310	Drumsite	TONG YAN LOH		0.087	0.09		105.67461	-10.43076
310	1097135			S025130	1	CHRISL 00310	Block 771 & 772 , loc 310	Drumsite	TONG YAN LOH		0.087	0.09		105.67461	-10.43076
310	1097135			P190992 310	1	CHRISL 00310	Block 771 & 772 , loc 310	Drumsite	TONG YAN LOH		0.087	0.09		105.67461	-10.43076
311	1097134	LR	3100/77	CHRISL 00311		V CROWN LAND	BLOCK 770 A , B & C TONG YAN LOH	Drumsite			0.066	0.07		105.67496	-10.43059
311	1097134	LR	3100/77	V CROWN LAND		V CROWN LAND	BLOCK 770 A , B & C TONG YAN LOH	Drumsite			0.066	0.07		105.67496	-10.43059
312	1097140	LR	3101/06	CHRISL 00312		V CROWN LAND		Poon Saan			0.031	0.03		105.67927	-10.42445
312	1097140	LR	3101/06	R 44527		V CROWN LAND		Poon Saan			0.031	0.03		105.67927	-10.42445
313	1097141	LR	3101/06	CHRISL 00313		CHRISL 00313		Poon Saan			0.031	0.03		105.67916	-10.42430
313	1097141	LR	3101/06	R 44740		CHRISL 00313		Poon Saan			0.031	0.03		105.67916	-10.42430
315	1296580			CHRISL 00315							4.335	4.34		105.69061	-10.42383
315	1296580			V CROWN LAND							4.335	4.34		105.69061	-10.42383
317	1097077	LR	3101/97	CHRISL 00317		L 338 20057	UNITS, TONG CHEE ROAD				0.234	0.23		105.67355	-10.42483
317	1097077	LR	3101/97	P191299 317		L 338 20057	UNITS, TONG CHEE ROAD				0.234	0.23		105.67355	-10.42483
318	1097078	LR	3101/97	CHRISL 00318		V CROWN LAND	YEOWS COFFEE SHOP, GAZE ROAD	Settlement			0.027	0.03		105.67357	-10.42514
318	1097078	LR	3101/97	P191299 318		V CROWN LAND	YEOWS COFFEE SHOP, GAZE ROAD	Settlement			0.027	0.03		105.67357	-10.42514
319	1097144			CHRISL 00319		CHRISL 00319	Jalan Ketam Merah, Drumsite.	Drumsite			0.082	0.08		105.67295	-10.43228
319	1097144			P191298 319		CHRISL 00319	Jalan Ketam Merah, Drumsite.	Drumsite			0.082	0.08		105.67295	-10.43228
320	1097145	LR	3101/97	CHRISL 00320		CHRISL 00320	Jalan Ketam Merah, Drumsite.	Drumsite			0.074	0.07		105.67317	-10.43221
320	1097145	LR	3101/97	P191298 320		CHRISL 00320	Jalan Ketam Merah, Drumsite.	Drumsite			0.074	0.07		105.67317	-10.43221
323	1097075	LR	3101/97	CHRISL 00323		CHRISL 00323	TEMPLE COURT TEMPLE, GAZE ROAD	Gaze Road			0.149	0.15		105.67386	-10.42076
323	1097075	LR	3101/97	V CROWN LAND		CHRISL 00323	TEMPLE COURT TEMPLE, GAZE ROAD	Gaze Road			0.149	0.15		105.67386	-10.42076
324	1097068	LR	3101/98	CHRISL 00324		CHRISL 00324		Settlement			0.010	0.01		105.67344	-10.42185
324	1097068	LR	3101/98	V CROWN LAND		CHRISL 00324		Settlement			0.010	0.01		105.67344	-10.42185
325	1097069	LR	3101/98	CHRISL 00325		V CROWN LAND					0.020	0.02		105.67333	-10.42206
325	1097069	LR	3101/98	V CROWN LAND		V CROWN LAND					0.020	0.02		105.67333	-10.42206
326	1096894	LR	3103/27	CHRISL 00326		CHRISL 00326					2.071	2.07		105.66064	-10.44916
326	1096894	LR	3103/27	P218453 326		CHRISL 00326					2.071	2.07		105.66064	-10.44916
327	1096945	LR	3102/38	CHRISL 00327		L 338 20063	Lot 327 Gaze Road, Settlement.	Settlement			0.086	0.09		105.68289	-10.41719
327	1096945	LR	3102/38	P191333 327		L 338 20063	Lot 327 Gaze Road, Settlement.	Settlement			0.086	0.09		105.68289	-10.41719
328	1096946	LR	3102/39	CHRISL 00328		L 338 20134	Lot 328 Gaze Road, Settlement.	Settlement			0.096	0.10		105.68267	-10.41718
328	1096946	LR	3102/39	P191333 328		L 338 20134	Lot 328 Gaze Road, Settlement.	Settlement			0.096	0.10		105.68267	-10.41718
329	1096947	LR	3102/39	CHRISL 00329		CHRISL 00329	Lot 329 Gaze Road, Settlement.	Settlement			0.097	0.10		105.68272	-10.41682
329	1096947	LR	3102/39	P191333 329		CHRISL 00329	Lot 329 Gaze Road, Settlement.	Settlement			0.097	0.10		105.68272	-10.41682
329	1096947	LR	3102/39	L 338 20062		CHRISL 00329	Lot 329 Gaze Road, Settlement.	Settlement			0.097	0.10		105.68272	-10.41682
330	1096948			CHRISL 00330	2	CHRISL 00330	Lot 330 Gaze Road, Settlement	Settlement	HARDEY ROAD		0.094	0.09		105.68289	-10.41684
330	1096948			S030301	2	CHRISL 00330	Lot 330 Gaze Road, Settlement	Settlement	HARDEY ROAD		0.094	0.09		105.68289	-10.41684
330	1096948			P191333 330	2	CHRISL 00330	Lot 330 Gaze Road, Settlement	Settlement	HARDEY ROAD		0.094	0.09		105.68289	-10.41684
331	1147780	LR	3102/06	CHRISL 00331		L 3116 11270	MQ 725 Block 725, loc 331	Drumsite		MQ725	0.164	0.16		105.66822	-10.43467
331	1147780	LR	3102/06	P191431 331		L 3116 11270	MQ 725 Block 725, loc 331	Drumsite		MQ725	0.164	0.16		105.66822	-10.43467
335	1096952			CHRISL 00335	4	CHRISL 00335	Gaze Road, Settlement.	Settlement	GAZE ROAD		0.117	0.12		105.68006	-10.41723
335	1096952			S029543	4	CHRISL 00335	Gaze Road, Settlement.	Settlement	GAZE ROAD		0.117	0.12		105.68006	-10.41723
335	1096952			P191380 335	4	CHRISL 00335	Gaze Road, Settlement.	Settlement	GAZE ROAD		0.117	0.12		105.68006	-10.41723
336	1096953			CHRISL 00336	1	CHRISL 00336	Lot 336, Gaze Road, Settlement.	Settlement	GAZE ROAD		0.121	0.12		105.68037	-10.41730
336	1096953			S029542	1	CHRISL 00336	Lot 336, Gaze Road, Settlement.	Settlement	GAZE ROAD		0.121	0.12		105.68037	-10.41730
336	1096953			P191380 336	1	CHRISL 00336	Lot 336, Gaze Road, Settlement.	Settlement	GAZE ROAD		0.121	0.12		105.68037	-10.41730
337	1097074	LR	3102/41	CHRISL 00337		L 338 20061	VACANT FLATS	Settlement			0.170	0.17		105.67317	-10.42249
337	1097074	LR	3102/41	P218434 337		L 338 20061	VACANT FLATS	Settlement			0.170	0.17		105.67317	-10.42249
338	1128441			CHRISL 00338		CHRISL 00338		Silver City			0.071	0.07		105.67553	-10.42141
338	1128441			P218534 338		CHRISL 00338		Silver City			0.071	0.07		105.67553	-10.42141
339	1128442			CHRISL 00339		V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.070	0.07		105.67571	-10.42125
339	1128442			V CROWN LAND		V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.070	0.07		105.67571	-10.42125
340	1128443			CHRISL 00340		V CROWN LAND	HOUSE, SEA VIEW DRIVE	Silver City			0.071	0.07		105.67592	-10.42121
340	1128443			V CROWN LAND		V CROWN LAND	HOUSE, SEA VIEW DRIVE	Silver City			0.071	0.07		105.67592	-10.42121
341	1128444			CHRISL 00341		L 345B 2321	UNITS - SEAVIEW DRIVE	Silver City			0.071	0.07		105.67608	-10.42133
341	1128444			P218534 341		L 345B 2321	UNITS - SEAVIEW DRIVE	Silver City			0.071	0.07		105.67608	-10.42133
342	1128445			CHRISL 00342		CHRISL 00342	UNITS, SEAVIEW DRIVE	Silver City			0.081	0.08		105.67614	-10.42154
342	1128445			P218534 342		CHRISL 00342	UNITS, SEAVIEW DRIVE	Silver City			0.081	0.08		105.67614	-10.42154
343	1128446			CHRISL 00343		V CROWN LAND	HOUSE, SEA VIEW DRIVE	Silver City			0.072	0.07		105.67605	-10.42169
343	1128446			V CROWN LAND		V CROWN LAND	HOUSE, SEA VIEW DRIVE	Silver City			0.072	0.07		105.67605	-10.42169

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND	STATUS	DESSCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT	DOLA	CENTLONG04	CENTLAT04
344	1128447			CHRISL 00344			CHRISL 00344	VACANT LAND, SEA VIEW DRIVE	Silver City			0.077	0.08		105.67576	-10.42171
344	1128447			P218534 344			CHRISL 00344	VACANT LAND, SEA VIEW DRIVE	Silver City			0.077	0.08		105.67576	-10.42171
345	1128448			CHRISL 00345			V CROWN LAND	VACANT LAND, SEA VIEW DRIVE	Silver City			0.078	0.08		105.67563	-10.42184
345	1128448			P218534 345			V CROWN LAND	VACANT LAND, SEA VIEW DRIVE	Silver City			0.078	0.08		105.67563	-10.42184
346	1128449			CHRISL 00346			CHRISL 00346	Seaview Drive	Silver City			0.075	0.08		105.67555	-10.42199
346	1128449			L 338 20469			CHRISL 00346	Seaview Drive	Silver City			0.075	0.08		105.67555	-10.42199
347	1128450			CHRISL 00347			CHRISL 00347	HOUSE, SEAVIEW DRIVE/GUANO COURT	Silver City			0.083	0.08		105.67552	-10.42218
347	1128450			V CROWN LAND			CHRISL 00347	HOUSE, SEAVIEW DRIVE/GUANO COURT	Silver City			0.083	0.08		105.67552	-10.42218
348	1128451			CHRISL 00348			V CROWN LAND	VACANT LAND, GUANO COURT	Silver City			0.072	0.07		105.67595	-10.42189
348	1128451			P218534 348			V CROWN LAND	VACANT LAND, GUANO COURT	Silver City			0.072	0.07		105.67595	-10.42189
351	1128454			CHRISL 00351			CHRISL 00351	VACANT LAND, GUANO COURT	Silver City			0.075	0.07		105.67598	-10.42241
351	1128454			P218534 351			CHRISL 00351	VACANT LAND, GUANO COURT	Silver City			0.075	0.07		105.67598	-10.42241
352	1128455			CHRISL 00352			CHRISL 00352	VACANT LAND, GUANO COURT	Silver City			0.071	0.07		105.67582	-10.42251
352	1128455			P218534 352			CHRISL 00352	VACANT LAND, GUANO COURT	Silver City			0.071	0.07		105.67582	-10.42251
353	1128456			CHRISL 00353			V CROWN LAND	VACANT LAND, GUANO COURT	Silver City			0.073	0.07		105.67569	-10.42259
353	1128456			P218534 353			V CROWN LAND	VACANT LAND, GUANO COURT	Silver City			0.073	0.07		105.67569	-10.42259
354	1128457			CHRISL 00354			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.079	0.08		105.67544	-10.42256
354	1128457			V CROWN LAND			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.079	0.08		105.67544	-10.42256
355	1128458			CHRISL 00355			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.071	0.07		105.67545	-10.42277
355	1128458			V CROWN LAND			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.071	0.07		105.67545	-10.42277
356	1128459			CHRISL 00356			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.073	0.07		105.67558	-10.42291
356	1128459			P218534 356			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.073	0.07		105.67558	-10.42291
357	1128460			CHRISL 00357			CHRISL 00357	VACANT LAND, SEAVIEW DRIVE	Silver City			0.073	0.07		105.67576	-10.42293
357	1128460			P218534 357			CHRISL 00357	VACANT LAND, SEAVIEW DRIVE	Silver City			0.073	0.07		105.67576	-10.42293
358	1197976			CHRISL 00358					Silver City			0.073	0.07		105.67595	-10.42284
358	1197976			P193107 358					Silver City			0.073	0.07		105.67595	-10.42284
359	1197977			CHRISL 00359					Silver City			0.073	0.07		105.67609	-10.42267
359	1197977			P193107 359					Silver City			0.073	0.07		105.67609	-10.42267
360	1128463			CHRISL 00360			CHRISL 00360	HOUSE, SEAVIEW DRIVE	Silver City			0.085	0.09		105.67633	-10.42311
360	1128463			V CROWN LAND			CHRISL 00360	HOUSE, SEAVIEW DRIVE	Silver City			0.085	0.09		105.67633	-10.42311
361	1128464			CHRISL 00361			V CROWN LAND	VACANT LAND, SEAVIEW DRIVE	Silver City			0.084	0.08		105.67620	-10.42322
361	1128464			P218534 361			V CROWN LAND	VACANT LAND, SEAVIEW DRIVE	Silver City			0.084	0.08		105.67620	-10.42322
362	1128465			CHRISL 00362			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.081	0.08		105.67607	-10.42334
362	1128465			V CROWN LAND			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.081	0.08		105.67607	-10.42334
363	1128466			CHRISL 00363			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.082	0.08		105.67575	-10.42342
363	1128466			V CROWN LAND			V CROWN LAND	HOUSE, SEAVIEW DRIVE	Silver City			0.082	0.08		105.67575	-10.42342
364	1128467			CHRISL 00364			CHRISL 00364	VACANT LAND, SEAVIEW DRIVE	Silver City			0.079	0.08		105.67556	-10.42338
364	1128467			P218534 364			CHRISL 00364	VACANT LAND, SEAVIEW DRIVE	Silver City			0.079	0.08		105.67556	-10.42338
365	1128468			CHRISL 00365			L 345B 2280	Seaview Drive	Silver City			0.083	0.08		105.67538	-10.42332
365	1128468			P218534 365			L 345B 2280	Seaview Drive	Silver City			0.083	0.08		105.67538	-10.42332
366	1128476	LR	3102/46	CHRISL 00366	3		CHRISL 00366	Abbotts Nest	Drumsite	MURRAY ROAD		0.110	0.11		105.67059	-10.43378
366	1128476	LR	3102/46	P191764 366	3		CHRISL 00366	Abbotts Nest	Drumsite	MURRAY ROAD		0.110	0.11		105.67059	-10.43378
367	1128471	LR	3102/46	CHRISL 00367	1		CHRISL 00367	Abbotts Nest	Drumsite	MURRAY ROAD		0.098	0.10		105.67056	-10.43395
367	1128471	LR	3102/46	P191764 367	1		CHRISL 00367	Abbotts Nest	Drumsite	MURRAY ROAD		0.098	0.10		105.67056	-10.43395
368	1128472	LR	3102/46	CHRISL 00368			CHRISL 00368	Abbotts Nest	Drumsite			0.088	0.09		105.67065	-10.43419
368	1128472	LR	3102/46	P191764 368			CHRISL 00368	Abbotts Nest	Drumsite			0.088	0.09		105.67065	-10.43419
369	1128473	LR	3102/46	CHRISL 00369			CHRISL 00369	VACANT LAND, ABBOTTS NEST	Drumsite			0.073	0.07		105.67086	-10.43429
369	1128473	LR	3102/46	V CROWN LAND			CHRISL 00369	VACANT LAND, ABBOTTS NEST	Drumsite			0.073	0.07		105.67086	-10.43429
370	1128474	LR	3102/46	CHRISL 00370			CHRISL 00370	ABBOTTS NEST	Drumsite			0.075	0.08		105.67111	-10.43413
370	1128474	LR	3102/46	V CROWN LAND			CHRISL 00370	ABBOTTS NEST	Drumsite			0.075	0.08		105.67111	-10.43413
371	1097070	LR	3054/68	CHRISL 00371			L 338 20060	Seven vacant flats, Gaze Road				0.146	0.15		105.67359	-10.42133
371	1097070	LR	3054/68	P218434 371			L 338 20060	Seven vacant flats, Gaze Road				0.146	0.15		105.67359	-10.42133
372	1097071			CHRISL 00372			CHRISL 00372	UNOCCUPIED UNITS, SETTLEMENT, GAZE ROAD				0.129	0.13		105.67346	-10.42165
372	1097071			P218434 372			CHRISL 00372	UNOCCUPIED UNITS, SETTLEMENT, GAZE ROAD				0.129	0.13		105.67346	-10.42165
373	1097072			CHRISL 00373			CHRISL 00373	Gaze Road				0.068	0.07		105.67335	-10.42194
373	1097072			P218434 373			CHRISL 00373	Gaze Road				0.068	0.07		105.67335	-10.42194
374	1097073	LR	3054/68	CHRISL 00374			V CROWN LAND					0.053	0.05		105.67326	-10.42215
374	1097073	LR	3054/68	P218434 374			V CROWN LAND					0.053	0.05		105.67326	-10.42215
375	1160050			CHRISL 00375					Settlement			0.163	0.16		105.67639	-10.41538
375	1160050			P218648 375					Settlement			0.163	0.16		105.67639	-10.41538
379	1291798			CHRISL 00379								2.043	2.04		105.68745	-10.41667
379	1291798			P219061 379								2.043	2.04		105.68745	-10.41667
379	1291798			R 45026								2.043	2.04		105.68745	-10.41667
380	1151253			CHRISL 00380					Settlement			0.257	0.26		105.68314	-10.41700
380	1151253			P219061 380					Settlement			0.257	0.26		105.68314	-10.41700
380	1151253			R 45027					Settlement			0.257	0.26		105.68314	-10.41700
381	1291797			CHRISL 00381								0.470	0.47		105.68801	-10.41620
381	1291797			P219061 381								0.470	0.47		105.68801	-10.41620
381	1291797			R 45028								0.470	0.47		105.68801	-10.41620
383	1271979			CHRISL 00383					Drumsite			0.023	0.02		105.67059	-10.43201
383	1271979			R 45298					Drumsite			0.023	0.02		105.67059	-10.43201
384	1271981			CHRISL 00384								0.005	0.01		105.67637	-10.41674
384	1271981			R 45299								0.005	0.01		105.67637	-10.41674
385	1271983			CHRISL 00385								0.070	0.07		105.69523	-10.42560
385	1271983			R 45300								0.070	0.07		105.69523	-10.42560
402	1097139			CHRISL 00402			V CROWN LAND	Drumsite Breezeway Park	Drumsite			0.086	0.09		105.67422	-10.43069
402	1097139			R 45247			V CROWN LAND	Drumsite Breezeway Park	Drumsite			0.086	0.09		105.67422	-10.43069

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND STATUS	DESCRIPTIO	SUBURB	STREET	BPC NOS	HECTARES	HECT_DOLA	CENTLONG04	CENTLAT04
403	1097137			CHRISL 00403		V CROWN LAND	DRUMSITE PARK	Drumsite			0.198	0.20	105.67105	-10.43245
403	1097137			P218614 403		V CROWN LAND	DRUMSITE PARK	Drumsite			0.198	0.20	105.67105	-10.43245
403	1097137			R 43371		V CROWN LAND	DRUMSITE PARK	Drumsite			0.198	0.20	105.67105	-10.43245
405	1097118			CHRISL 00405				Poon Saan			0.737	0.74	105.67906	-10.42612
405	1097118			P191988 405				Poon Saan			0.737	0.74	105.67906	-10.42612
406	1097099			CHRISL 00406		V CROWN LAND	TOM PATTERSON PRE-SCHOOL, GAZE ROAD	Settlement			0.323	0.32	105.67832	-10.41652
406	1097099			R 44528		V CROWN LAND	TOM PATTERSON PRE-SCHOOL, GAZE ROAD	Settlement			0.323	0.32	105.67832	-10.41652
407	1142655	LR	3104/37	CHRISL 00407		CHRISL 00407		Drumsite			0.048	0.05	105.67030	-10.43428
407	1142655	LR	3104/37	R 45248		CHRISL 00407		Drumsite			0.048	0.05	105.67030	-10.43428
408	1142653	LR	3104/37	CHRISL 00408		CHRISL 00408					0.058	0.06	105.67386	-10.42582
408	1142653	LR	3104/37	P192157 408		CHRISL 00408					0.058	0.06	105.67386	-10.42582
409	1142654	LR	3104/37	CHRISL 00409		CHRISL 00409	Christian Church, former old public Library, Gaze Road	Settlement			0.030	0.03	105.67381	-10.42602
409	1142654	LR	3104/37	V CROWN LAND		CHRISL 00409	Christian Church, former old public Library, Gaze Road	Settlement			0.030	0.03	105.67381	-10.42602
411	1160582			CHRISL 00411							0.061	0.06	105.67303	-10.42621
411	1160582			V CROWN LAND							0.061	0.06	105.67303	-10.42621
412	1160583			CHRISL 00412							0.034	0.03	105.67305	-10.42636
412	1160583			V CROWN LAND							0.034	0.03	105.67305	-10.42636
413	1160581			CHRISL 00413							0.380	0.38	105.67286	-10.42662
413	1160581			R 45720							0.380	0.38	105.67286	-10.42662
414	1160580			CHRISL 00414							0.092	0.09	105.67328	-10.42831
414	1160580			R 45029							0.092	0.09	105.67328	-10.42831
415	1142661	LR	3104/38	CHRISL 00415		CHRISL 00415		Drumsite			1.118	1.12	105.66766	-10.43647
415	1142661	LR	3104/38	R 45602		CHRISL 00415		Drumsite			1.118	1.12	105.66766	-10.43647
416	1142658	LR	3104/38	CHRISL 00416		CHRISL 00416	BLOCK 406, ISLAMIC SCHOOL, LORONG KAMPONG MELAYU	Kampong			0.111	0.11	105.67230	-10.42817
416	1142658	LR	3104/38	V CROWN LAND		CHRISL 00416	BLOCK 406, ISLAMIC SCHOOL, LORONG KAMPONG MELAYU	Kampong			0.111	0.11	105.67230	-10.42817
417	1238016			CHRISL 00417							0.490		105.66278	-10.44763
417	1238016			V CROWN LAND							0.490		105.66278	-10.44763
418	1238017			CHRISL 00418							0.652		105.66234	-10.44735
418	1238017			P219803 418							0.652		105.66234	-10.44735
419	1238018			CHRISL 00419							0.674		105.66196	-10.44692
419	1238018			P219803 419							0.674		105.66196	-10.44692
420	1238019			CHRISL 00420							0.728		105.66124	-10.44759
420	1238019			P219803 420							0.728		105.66124	-10.44759
421	1238020			CHRISL 00421							1.034		105.66105	-10.44836
421	1238020			V CROWN LAND							1.034		105.66105	-10.44836
422	1238021			CHRISL 00422							0.725		105.66180	-10.44812
422	1238021			P219803 422							0.725		105.66180	-10.44812
423	1153076			CHRISL 00423				Settlement			0.731	0.73	105.67828	-10.41573
423	1153076			P192457 423				Settlement			0.731	0.73	105.67828	-10.41573
425	1271978			CHRISL 00425				Drumsite			0.033	0.03	105.67017	-10.43223
425	1271978			V CROWN LAND				Drumsite			0.033	0.03	105.67017	-10.43223
427	1148263			CHRISL 00427							0.615	0.62	105.66424	-10.42856
427	1148263			R 44530							0.615	0.62	105.66424	-10.42856
428	1148260			CHRISL 00428							0.485	0.49	105.66510	-10.42886
428	1148260			V CROWN LAND							0.485	0.49	105.66510	-10.42886
428	1148261			CHRISL 00428							0.064	0.06	105.66570	-10.42912
428	1148261			V CROWN LAND							0.064	0.06	105.66570	-10.42912
428	1148262			CHRISL 00428							0.169	0.17	105.66467	-10.42815
428	1148262			V CROWN LAND							0.169	0.17	105.66467	-10.42815
430	1148206			CHRISL 00430				Poon Saan			0.169	0.17	105.68275	-10.42277
430	1148206			R 44532				Poon Saan			0.169	0.17	105.68275	-10.42277
431	1189462			CHRISL 00431				Poon Saan			0.333	0.33	105.67955	-10.42426
431	1189462			P219040 431				Poon Saan			0.333	0.33	105.67955	-10.42426
431	1189462			R 45618				Poon Saan			0.333	0.33	105.67955	-10.42426
432	1189461			CHRISL 00432				Poon Saan			0.140	0.14	105.67897	-10.42448
432	1189461			P219040 432				Poon Saan			0.140	0.14	105.67897	-10.42448
432	1189461			V CROWN LAND				Poon Saan			0.140	0.14	105.67897	-10.42448
433	1189460			CHRISL 00433				Poon Saan			0.131	0.13	105.67863	-10.42470
433	1189460			P219040 433				Poon Saan			0.131	0.13	105.67863	-10.42470
433	1189460			R 44533				Poon Saan			0.131	0.13	105.67863	-10.42470
435	1148202			CHRISL 00435				Poon Saan			0.349	0.35	105.67820	-10.42606
435	1148202			V CROWN LAND				Poon Saan			0.349	0.35	105.67820	-10.42606
436	1148198			CHRISL 00436				Drumsite			0.588	0.59	105.67419	-10.43121
436	1148198			V CROWN LAND				Drumsite			0.588	0.59	105.67419	-10.43121
437	1148325			CHRISL 00437				Drumsite			0.071	0.07	105.67038	-10.43218
437	1148325			V CROWN LAND				Drumsite			0.071	0.07	105.67038	-10.43218
440	1148269			CHRISL 00440				Silver City			0.374	0.37	105.67491	-10.42244
440	1148269			R 45722				Silver City			0.374	0.37	105.67491	-10.42244
440	1148272			CHRISL 00440							0.212	0.22	105.67436	-10.41943
440	1148272			R 45722							0.212	0.22	105.67436	-10.41943
441	1148270			CHRISL 00441							0.130	0.13	105.67471	-10.42072
441	1148270			V CROWN LAND							0.130	0.13	105.67471	-10.42072
442	1148271			CHRISL 00442							0.750	0.75	105.67439	-10.42162
442	1148271			P219039 442							0.750	0.75	105.67439	-10.42162
443	1148196			CHRISL 00443							0.065	0.06	105.67296	-10.42205
443	1148196			V CROWN LAND							0.065	0.06	105.67296	-10.42205
444	1148195			CHRISL 00444							0.119	0.12	105.67280	-10.42234

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND_STATUS	DESCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT_DOLA	CENTLONG04	CENTLAT04
444	1148195			R 44534							0.119	0.12	105.67280	-10.42234
445	1148194			CHRISL 00445							0.077	0.08	105.67283	-10.42354
445	1148194			R 44535							0.077	0.08	105.67283	-10.42354
446	1185969			CHRISL 00446				Poon Saan			0.059	0.06	105.67926	-10.42381
446	1185969			P219040 446				Poon Saan			0.059	0.06	105.67926	-10.42381
446	1185969			R 44536				Poon Saan			0.059	0.06	105.67926	-10.42381
447	1153080			CHRISL 00447							0.349	0.35	105.67410	-10.41970
447	1153080			P192460 447							0.349	0.35	105.67410	-10.41970
449	1148199			CHRISL 00449							0.008	0.01	105.67394	-10.43152
449	1148199			V CROWN LAND							0.008	0.01	105.67394	-10.43152
450	1150338			CHRISL 00450				Drumsite			0.142	0.14	105.66805	-10.43498
450	1150338			P219056 450				Drumsite			0.142	0.14	105.66805	-10.43498
451	1157733			CHRISL 00451							7.531	7.54	105.67582	-10.44551
451	1157733			P192428 451							7.531	7.54	105.67582	-10.44551
452	1149737			CHRISL 00452		CHRISL 00452		Silver City			0.080	0.08	105.67609	-10.42203
452	1149737			P192420 452		CHRISL 00452		Silver City			0.080	0.08	105.67609	-10.42203
453	1149736			CHRISL 00453		CHRISL 00453		Silver City			0.071	0.07	105.67609	-10.42225
453	1149736			V CROWN LAND		CHRISL 00453		Silver City			0.071	0.07	105.67609	-10.42225
456	1149742	LR 3106/40		CHRISL 00456		CHRISL 00456	BLOCK 505, SHOPS 1 - 12 AND MESS (1ST FLOOR), POON SAAN ROAD	Poon Saan			0.177	0.18	105.68107	-10.42250
456	1149742	LR 3106/40		S031467		CHRISL 00456	BLOCK 505, SHOPS 1 - 12 AND MESS (1ST FLOOR), POON SAAN ROAD	Poon Saan			0.177	0.18	105.68107	-10.42250
456	1149742	LR 3106/40		P192425 456		CHRISL 00456	BLOCK 505, SHOPS 1 - 12 AND MESS (1ST FLOOR), POON SAAN ROAD	Poon Saan			0.177	0.18	105.68107	-10.42250
457	1149741	LR 3106/40		CHRISL 00457		CHRISL 00457	UCIW OFFICE, POON SAAN RD	Poon Saan			0.057	0.06	105.68084	-10.42265
457	1149741	LR 3106/40		P192425 457		CHRISL 00457	UCIW OFFICE, POON SAAN RD	Poon Saan			0.057	0.06	105.68084	-10.42265
458	1152802			CHRISL 00458							0.328	0.33	105.67306	-10.42474
458	1152802			P192462 458							0.328	0.33	105.67306	-10.42474
458	1152802			V CROWN LAND							0.328	0.33	105.67306	-10.42474
460	1172669			CHRISL 00460				Poon Saan			2.303	2.30	105.68036	-10.42251
460	1172669			P192718 460				Poon Saan			2.303	2.30	105.68036	-10.42251
461	1190426			CHRISL 00461							0.992	0.99	105.68654	-10.41734
461	1190426			P219061 461							0.992	0.99	105.68654	-10.41734
461	1190426			V CROWN LAND							0.992	0.99	105.68654	-10.41734
464	1177713			CHRISL 00464				Poon Saan			0.070	0.07	105.67872	-10.42408
464	1177713			P219193 464				Poon Saan			0.070	0.07	105.67872	-10.42408
465	1177714			CHRISL 00465				Poon Saan			0.080	0.08	105.67886	-10.42396
465	1177714			P219193 465				Poon Saan			0.080	0.08	105.67886	-10.42396
466	1177715			CHRISL 00466				Poon Saan			0.093	0.09	105.67899	-10.42384
466	1177715			P219193 466				Poon Saan			0.093	0.09	105.67899	-10.42384
467	1177716			CHRISL 00467				Poon Saan			0.201	0.20	105.67918	-10.42354
467	1177716			P219193 467				Poon Saan			0.201	0.20	105.67918	-10.42354
467	1177716			V CROWN LAND				Poon Saan			0.201	0.20	105.67918	-10.42354
468	1177717			CHRISL 00468				Poon Saan			0.031	0.03	105.67945	-10.42369
468	1177717			P219193 468				Poon Saan			0.031	0.03	105.67945	-10.42369
468	1177717			V CROWN LAND				Poon Saan			0.031	0.03	105.67945	-10.42369
469	1197970			CHRISL 00469				Poon Saan			0.584	0.58	105.68069	-10.42345
470	1197971			CHRISL 00470				Poon Saan			0.554	0.55	105.68005	-10.42402
471	1197979			CHRISL 00471				Drumsite			0.823	0.82	105.66921	-10.43336
471	1197979			P193108 471				Drumsite			0.823	0.82	105.66921	-10.43336
482	1218763			CHRISL 00482							0.006	0.01	105.67148	-10.42466
482	1218763			P219653 482							0.006	0.01	105.67148	-10.42466
482	1218763			V CROWN LAND							0.006	0.01	105.67148	-10.42466
483	1218764			CHRISL 00483							0.036	0.04	105.67244	-10.42423
483	1218764			P219653 483							0.036	0.04	105.67244	-10.42423
483	1218764			V CROWN LAND							0.036	0.04	105.67244	-10.42423
484	1218765			CHRISL 00484							0.086	0.09	105.67277	-10.42308
484	1218765			P219653 484							0.086	0.09	105.67277	-10.42308
484	1218765			V CROWN LAND							0.086	0.09	105.67277	-10.42308
485	1218774			CHRISL 00485							0.059	0.06	105.67267	-10.42283
485	1218774			V CROWN LAND							0.059	0.06	105.67267	-10.42283
486	1218775			CHRISL 00486							0.086	0.09	105.67277	-10.42175
486	1218775			P219654 486							0.086	0.09	105.67277	-10.42175
486	1218775			V CROWN LAND							0.086	0.09	105.67277	-10.42175
487	1218776			CHRISL 00487							0.234	0.23	105.67338	-10.42000
487	1218776			P219654 487							0.234	0.23	105.67338	-10.42000
487	1218776			V CROWN LAND							0.234	0.23	105.67338	-10.42000
488	1218766			CHRISL 00488							1.861	1.86	105.67223	-10.42492
488	1218766			P219653 488							1.861	1.86	105.67223	-10.42492
488	1218766			V CROWN LAND							1.861	1.86	105.67223	-10.42492
489	1262712			CHRISL 00489							14.354		105.70158	-10.42693
489	1262712			P219762 489							14.354		105.70158	-10.42693
489	1262712			R 43174							14.354		105.70158	-10.42693
492	1262713			CHRISL 00492							0.414		105.70148	-10.42597
492	1262713			P219762 492							0.414		105.70148	-10.42597
492	1262713			R 43175							0.414		105.70148	-10.42597
493	1262714			CHRISL 00493							0.484		105.70821	-10.44627
493	1262714			P219762 493							0.484		105.70821	-10.44627
493	1262714			V CROWN LAND							0.484		105.70821	-10.44627
494	1218761			CHRISL 00494							0.584	0.58	105.67162	-10.42548

LOCNO	PIN	LAND RECO	PIPARCEL04	LOT_NO	LND STATUS	DESCRIPTIO	SUBURB	STREET	BPC NOS	HECTARES	HECT DOLA	CENTLONG04	CENTLAT04
494	1218761		P193335 494							0.584	0.58	105.67162	-10.42548
494	1218761		V CROWN LAND							0.584	0.58	105.67162	-10.42548
499	1369463		CHRISL 00499							1.156		105.70610	-10.44989
499	1369463		P193407 499							1.156		105.70610	-10.44989
499	1369463		V CROWN LAND							1.156		105.70610	-10.44989
500	1296585		CHRISL 00500							0.303	0.30	105.68492	-10.42545
500	1296585		P220143 500							0.303	0.30	105.68492	-10.42545
501	1296586		CHRISL 00501							0.542	0.54	105.68572	-10.42524
501	1296586		P220143 501							0.542	0.54	105.68572	-10.42524
502	1296587		CHRISL 00502							0.002	0.00	105.68538	-10.42573
502	1296587		V CROWN LAND							0.002	0.00	105.68538	-10.42573
503	1296588		CHRISL 00503							0.124	0.12	105.68511	-10.42593
503	1296588		P220143 503							0.124	0.12	105.68511	-10.42593
504	1296589		CHRISL 00504							0.127	0.13	105.68549	-10.42584
504	1296589		P220143 504							0.127	0.13	105.68549	-10.42584
505	1296590		CHRISL 00505							0.128	0.13	105.68586	-10.42574
505	1296590		P220143 505							0.128	0.13	105.68586	-10.42574
506	1296591		CHRISL 00506							0.124	0.12	105.68624	-10.42564
506	1296591		P220143 506							0.124	0.12	105.68624	-10.42564
507	1296592		CHRISL 00507							0.101	0.10	105.68566	-10.42595
507	1296592		V CROWN LAND							0.101	0.10	105.68566	-10.42595
509	1260529		CHRISL 00509				Drumsite			0.641	0.64	105.66864	-10.43406
509	1260529		P193868 509				Drumsite			0.641	0.64	105.66864	-10.43406
510	1262711		CHRISL 00510							1.744		105.70218	-10.42572
510	1262711		P219762 510							1.744		105.70218	-10.42572
510	1262711		R 43174							1.744		105.70218	-10.42572
511	1299582		CHRISL 00511							1.152		105.68305	-10.43432
511	1299582		P220518 511							1.152		105.68305	-10.43432
511	1299582		V CROWN LAND							1.152		105.68305	-10.43432
512	1299583		CHRISL 00512							0.040		105.68253	-10.43505
512	1299583		P220518 512							0.040		105.68253	-10.43505
512	1299583		V CROWN LAND							0.040		105.68253	-10.43505
513	1299584		CHRISL 00513							3.961		105.68212	-10.43395
513	1299584		P220518 513							3.961		105.68212	-10.43395
513	1299584		V CROWN LAND							3.961		105.68212	-10.43395
514	1299585		CHRISL 00514							0.248		105.68218	-10.43355
514	1299585		P220518 514							0.248		105.68218	-10.43355
514	1299585		V CROWN LAND							0.248		105.68218	-10.43355
515	1299586		CHRISL 00515							2.372		105.68458	-10.43296
515	1299586		P220518 515							2.372		105.68458	-10.43296
515	1299586		V CROWN LAND							2.372		105.68458	-10.43296
516	1299587		CHRISL 00516							0.192		105.68402	-10.43358
516	1299587		P220518 516							0.192		105.68402	-10.43358
516	1299587		V CROWN LAND							0.192		105.68402	-10.43358
517	1299588		CHRISL 00517							0.324		105.68383	-10.43292
517	1299588		P220518 517							0.324		105.68383	-10.43292
517	1299588		V CROWN LAND							0.324		105.68383	-10.43292
518	1299589		CHRISL 00518							0.052		105.68561	-10.43355
518	1299589		P220518 518							0.052		105.68561	-10.43355
518	1299589		V CROWN LAND							0.052		105.68561	-10.43355
519	1299590		CHRISL 00519							0.523		105.68686	-10.43318
519	1299590		P220518 519							0.523		105.68686	-10.43318
519	1299590		V CROWN LAND							0.523		105.68686	-10.43318
520	1299315		CHRISL 00520				Poon Saan			0.019	0.02	105.68292	-10.42294
520	1299315		R 45882				Poon Saan			0.019	0.02	105.68292	-10.42294
522	1295969		CHRISL 00522							6.537	6.54	105.67384	-10.44089
522	1295969		P194415 522							6.537	6.54	105.67384	-10.44089
522	1295969		R 45297							6.537	6.54	105.67384	-10.44089
523	1295513		CHRISL 00523							139.625		105.68094	-10.43973
523	1295513		P220459 523							139.625		105.68094	-10.43973
523	1295513		V CROWN LAND							139.625		105.68094	-10.43973
524	1299308		CHRISL 00524				Drumsite			0.229	0.23	105.67398	-10.43204
524	1299308		P194546 524				Drumsite			0.229	0.23	105.67398	-10.43204
525	1299310		CHRISL 00525				Poon Saan			0.121	0.12	105.67783	-10.42471
525	1299310		P194547 525				Poon Saan			0.121	0.12	105.67783	-10.42471
527	1316330		CHRISL 00527				Silver City			0.137	0.14	105.68066	-10.42133
527	1316330		V CROWN LAND				Silver City			0.137	0.14	105.68066	-10.42133
528	1316331		CHRISL 00528				Silver City			0.141	0.14	105.68101	-10.42138
528	1316331		P194782 528				Silver City			0.141	0.14	105.68101	-10.42138
528	1316331		V CROWN LAND				Silver City			0.141	0.14	105.68101	-10.42138
529	1316332		CHRISL 00529				Silver City			0.141	0.14	105.68138	-10.42144
529	1316332		V CROWN LAND				Silver City			0.141	0.14	105.68138	-10.42144
530	1316333		CHRISL 00530				Silver City			0.141	0.14	105.68174	-10.42150
530	1316333		V CROWN LAND				Silver City			0.141	0.14	105.68174	-10.42150
531	1316334		CHRISL 00531				Silver City			0.141	0.14	105.68211	-10.42156
531	1316334		V CROWN LAND				Silver City			0.141	0.14	105.68211	-10.42156
532	1316335		CHRISL 00532				Silver City			0.139	0.14	105.68247	-10.42162

LOCNO	PIN	LAND	RECO	PIPARCEL04	LOT_NO	LND_STATUS	DESCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT_DOLA	CENTLONG04	CENTLAT04
532	1316335			V CROWN LAND				Silver City			0.139	0.14	105.68247	-10.42162
533	1316336			CHRISL 00533				Silver City			0.052	0.05	105.68273	-10.42168
533	1316336			R 46436				Silver City			0.052	0.05	105.68273	-10.42168
534	1163393			CHRISL 00534							3.325		105.66981	-10.44278
534	1163393			P219122 534							3.325		105.66981	-10.44278
534	1163393			V CROWN LAND							3.325		105.66981	-10.44278
535	1326712			CHRISL 00535							0.130	0.13	105.67299	-10.42168
535	1326712			V CROWN LAND							0.130	0.13	105.67299	-10.42168
536	1326702			CHRISL 00536							0.182	0.18	105.66985	-10.43002
536	1326702			V CROWN LAND							0.182	0.18	105.66985	-10.43002
537	1326703			CHRISL 00537							0.049	0.05	105.67030	-10.42982
537	1326703			V CROWN LAND							0.049	0.05	105.67030	-10.42982
538	1326219			CHRISL 00538							0.020	0.02	105.67450	-10.41605
538	1326219			P194968 538							0.020	0.02	105.67450	-10.41605
538	1326219			V CROWN LAND							0.020	0.02	105.67450	-10.41605
540	1356057			CHRISL 00540							0.149		105.67393	-10.41872
540	1356057			P026096 540							0.149		105.67393	-10.41872
540	1356057			R 46634							0.149		105.67393	-10.41872
541	1326216			CHRISL 00541				Settlement			0.143	0.14	105.67740	-10.41566
541	1326216			P194967 541				Settlement			0.143	0.14	105.67740	-10.41566
541	1326216			V CROWN LAND				Settlement			0.143	0.14	105.67740	-10.41566
542	1326217			CHRISL 00542				Settlement			0.137	0.14	105.67776	-10.41582
542	1326217			P194967 542				Settlement			0.137	0.14	105.67776	-10.41582
542	1326217			V CROWN LAND				Settlement			0.137	0.14	105.67776	-10.41582
543	1326227			CHRISL 00543							0.076	0.08	105.67787	-10.42630
543	1326227			P194970 543							0.076	0.08	105.67787	-10.42630
543	1326227			R 44741							0.076	0.08	105.67787	-10.42630
544	1326221			CHRISL 00544				Poon Saan			0.109	0.11	105.67859	-10.42578
544	1326221			P194969 544				Poon Saan			0.109	0.11	105.67859	-10.42578
544	1326221			V CROWN LAND				Poon Saan			0.109	0.11	105.67859	-10.42578
545	1326222			CHRISL 00545				Poon Saan			0.135	0.14	105.67883	-10.42560
545	1326222			P194969 545				Poon Saan			0.135	0.14	105.67883	-10.42560
545	1326222			V CROWN LAND				Poon Saan			0.135	0.14	105.67883	-10.42560
546	1326223			CHRISL 00546				Poon Saan			0.042	0.04	105.67902	-10.42545
546	1326223			P194969 546				Poon Saan			0.042	0.04	105.67902	-10.42545
546	1326223			V CROWN LAND				Poon Saan			0.042	0.04	105.67902	-10.42545
547	1326224			CHRISL 00547				Poon Saan			0.150	0.15	105.67929	-10.42525
547	1326224			P194969 547				Poon Saan			0.150	0.15	105.67929	-10.42525
547	1326224			V CROWN LAND				Poon Saan			0.150	0.15	105.67929	-10.42525
548	1326225			CHRISL 00548				Poon Saan			0.108	0.11	105.67972	-10.42482
548	1326225			P194969 548				Poon Saan			0.108	0.11	105.67972	-10.42482
548	1326225			R 46352				Poon Saan			0.108	0.11	105.67972	-10.42482
549	1326713			CHRISL 00549							0.035	0.03	105.67281	-10.42201
549	1326713			V CROWN LAND							0.035	0.03	105.67281	-10.42201
551	1336607			CHRISL 00551							3.995		105.68432	-10.44270
551	1336607			P221135 551							3.995		105.68432	-10.44270
551	1336607			P ROAD							3.995		105.68432	-10.44270
552	1336605			CHRISL 00552							165.581		105.69037	-10.44506
552	1336605			P221134 552							165.581		105.69037	-10.44506
552	1336605			R 46221							165.581		105.69037	-10.44506
556	1350191			CHRISL 00556							40.273		105.68415	-10.42937
556	1350191			P195417 556							40.273		105.68415	-10.42937
556	1350191			V CROWN LAND							40.273		105.68415	-10.42937
557	1350201			CHRISL 00557							4.449		105.70111	-10.41441
557	1350201			P195418 557							4.449		105.70111	-10.41441
558	1350194			CHRISL 00558							0.100		105.68156	-10.43014
558	1350194			P195416 558							0.100		105.68156	-10.43014
558	1350194			V CROWN LAND							0.100		105.68156	-10.43014
559	1357537			CHRISL 00559							1.253		105.67554	-10.41704
559	1357537			P026420 559							1.253		105.67554	-10.41704
559	1357537			V CROWN LAND							1.253		105.67554	-10.41704
560	1357538			CHRISL 00560							1.512		105.67489	-10.41811
560	1357538			P026420 560							1.512		105.67489	-10.41811
560	1357538			R 46644							1.512		105.67489	-10.41811
561	1357539			CHRISL 00561							0.667		105.67463	-10.41932
561	1357539			P026420 561							0.667		105.67463	-10.41932
561	1357539			V CROWN LAND							0.667		105.67463	-10.41932
564	1356058			CHRISL 00564							0.126		105.67387	-10.41817
564	1356058			P026096 564							0.126		105.67387	-10.41817
564	1356058			V CROWN LAND							0.126		105.67387	-10.41817
567	1356054			CHRISL 00567							0.596		105.68373	-10.42441
567	1356054			P026095 567							0.596		105.68373	-10.42441
567	1356054			V CROWN LAND							0.596		105.68373	-10.42441
568	1360098			CHRISL 00568							0.097		105.67322	-10.42562
568	1360098			P026701 568							0.097		105.67322	-10.42562
569	1360099			CHRISL 00569							0.029		105.67319	-10.42595
569	1360099			P026701 569							0.029		105.67319	-10.42595

LOCNO	PIN	LAND RECO	PIPARCEL04	LOT_NO	LND STATUS	DESCRIPTIO	SUBURB	STREET	BPC NOS	HECTARES	HECT DOLA	CENTLONG04	CENTLAT04
569	1360099		V CROWN LAND							0.029		105.67319	-10.42595
570	1360100		CHRISL 00570							0.036		105.67302	-10.42600
570	1360100		P026701 570							0.036		105.67302	-10.42600
570	1360100		V CROWN LAND							0.036		105.67302	-10.42600
571	1360101		CHRISL 00571							0.103		105.67300	-10.42578
571	1360101		P026701 571							0.103		105.67300	-10.42578
575	1379685		CHRISL 00575				Drumsite			0.832		105.67195	-10.43185
575	1379685		P029289 575				Drumsite			0.832		105.67195	-10.43185
575	1379685		R 43371				Drumsite			0.832		105.67195	-10.43185
576	1379686		CHRISL 00576				Drumsite			0.066		105.67447	-10.43025
576	1379686		P029289 576				Drumsite			0.066		105.67447	-10.43025
576	1379686		R 46704				Drumsite			0.066		105.67447	-10.43025
577	1379687		CHRISL 00577				Drumsite			0.179		105.67504	-10.42998
577	1379687		P029289 577				Drumsite			0.179		105.67504	-10.42998
577	1379687		R 46704				Drumsite			0.179		105.67504	-10.42998
578	1262716		CHRISL 00578							6.129		105.70281	-10.42665
578	1262716		V CROWN LAND							6.129		105.70281	-10.42665
579	1369465		CHRISL 00579							3.844		105.70215	-10.41548
579	1369465		P219761 579							3.844		105.70215	-10.41548
579	1369465		V CROWN LAND							3.844		105.70215	-10.41548
581	11031030		R 44531				Poon Saan			0.730		105.68340	-10.42247
1000	1180149		D091781 1000							0.140	0.14	105.67397	-10.42036
1000	1180149		S031710							0.140	0.14	105.67397	-10.42036
1001	1180150		D091781 1001							0.088	0.09	105.67391	-10.42056
1001	1180150		S031711							0.088	0.09	105.67391	-10.42056
1002	1180146		D091782 1002							0.107	0.11	105.67368	-10.42097
1002	1180146		S031712							0.107	0.11	105.67368	-10.42097
1003	1180147		D091782 1003							0.069	0.07	105.67362	-10.42105
1003	1180147		S031713							0.069	0.07	105.67362	-10.42105
1004	1229104		D094854 1004				Poon Saan			0.323	0.32	105.68025	-10.42187
1005	1329663		D100580 1005				Poon Saan			0.034	0.03	105.67861	-10.42417
1006	1329664		D100580 1006				Poon Saan			0.033	0.03	105.67853	-10.42423
1007	1329665		D100580 1007				Poon Saan			0.033	0.03	105.67845	-10.42429
1008	1329666		D100580 1008				Poon Saan			0.032	0.03	105.67837	-10.42435
1009	1329667		D100580 1009				Poon Saan			0.030	0.03	105.67829	-10.42441
1010	1329668		D100580 1010				Poon Saan			0.027	0.03	105.67821	-10.42447
1011	1329669		D100580 1011				Poon Saan			0.025	0.03	105.67813	-10.42453
1012	1329670		D100580 1012				Poon Saan			0.025	0.03	105.67805	-10.42459
1013	1290707		D098170 1013							0.150	0.15	105.67447	-10.41724
1014	1290708		D098170 1014							0.684	0.68	105.67468	-10.41662
1015	1290709		D098170 1015				Settlement			0.243	0.24	105.67498	-10.41573
1016	1379691		P029362 1016				Taman Sweetland			0.028		105.68231	-10.42293
1017	1379692		P029362 1017				Taman Sweetland			0.029		105.68216	-10.42300
1018	1379693		P029362 1018				Taman Sweetland			0.026		105.68220	-10.42309
1019	1379694		P029362 1019				Taman Sweetland			0.033		105.68228	-10.42317
1020	1379695		P029362 1020				Taman Sweetland			0.025		105.68239	-10.42315
1021	1379696		P029362 1021				Taman Sweetland			0.029		105.68248	-10.42313
1022	1379697		P029362 1022				Taman Sweetland			0.031		105.68257	-10.42312
1023	1379698		P029362 1023				Taman Sweetland			0.035		105.68267	-10.42312
1024	1379699		P029362 1024				Taman Sweetland			0.031		105.68277	-10.42312
1025	1379700		P029362 1025				Taman Sweetland			0.029		105.68286	-10.42314
1026	1379701		P029362 1026				Taman Sweetland			0.040		105.68296	-10.42310
1027	1379702		P029362 1027				Taman Sweetland			0.044		105.68305	-10.42309
1028	1379703		P029362 1028				Taman Sweetland			0.044		105.68314	-10.42310
1029	1379704		P029362 1029				Taman Sweetland			0.043		105.68323	-10.42312
1030	1379705		P029362 1030				Taman Sweetland			0.043		105.68332	-10.42313
1031	1379706		P029362 1031				Taman Sweetland			0.027		105.68347	-10.42329
1032	1379707		P029362 1032				Taman Sweetland			0.027		105.68349	-10.42320
1045	1379709		P029362 1045				Taman Sweetland			0.076		105.68248	-10.42288
	1096944		V CROWN LAND		V CROWN LAND					0.006	0.01	105.68256	-10.41730
	1097094		V CROWN LAND		V CROWN LAND					6.633	6.64	105.68885	-10.45423
	1097113		V CROWN LAND		V CROWN LAND		Drumsite			0.402	0.40	105.67560	-10.42873
	1097117		V CROWN LAND		V CROWN LAND					38.407	38.43	105.67741	-10.42465
	1097150		V CROWN LAND		V CROWN LAND					10.824	10.83	105.55586	-10.45657
	1097151		V CROWN LAND		V CROWN LAND					85.738	85.80	105.57522	-10.47173
	1097152		V CROWN LAND		V CROWN LAND					51.802	51.84	105.57963	-10.47855
	1097153		V CROWN LAND		V CROWN LAND					3.487	3.49	105.57416	-10.48151
	1097154		V CROWN LAND		V CROWN LAND					33.171	33.19	105.56934	-10.47317
	1097155		V CROWN LAND		V CROWN LAND					12.475	12.48	105.57794	-10.47721
	1097156		V CROWN LAND		V CROWN LAND					1.058	1.06	105.63396	-10.49208
	1097157		V CROWN LAND		V CROWN LAND					0.982	0.98	105.63139	-10.49199
	1097158		V CROWN LAND		V CROWN LAND					2.294	2.30	105.62577	-10.48983
	1097159		V CROWN LAND		V CROWN LAND	Central Area Workshop - Mining Lease 114				3.591	3.59	105.62926	-10.47776
	1097160		V CROWN LAND		V CROWN LAND					5.727	5.73	105.61913	-10.48027
	1097161		V CROWN LAND		V CROWN LAND					2.121	2.12	105.60283	-10.48337
	1097162		V CROWN LAND		V CROWN LAND					45.839	45.87	105.61056	-10.48577
	1097163		V CROWN LAND		V CROWN LAND					8.355	8.36	105.61460	-10.48752

LOCNO	PIN	LAND RECO	PIPARCEL04	LOT_NO	LND STATUS	DESCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT_DOLA	CENTLONG04	CENTLAT04
	1097164		V CROWN LAND		V CROWN LAND					74.664	74.72	105.62432	-10.49836
	1097165		V CROWN LAND		V CROWN LAND					25.720	25.74	105.63050	-10.50226
	1097166		V CROWN LAND		V CROWN LAND					4.750	4.75	105.63354	-10.50114
	1097167		V CROWN LAND		V CROWN LAND					1.480	1.48	105.65012	-10.49850
	1097168		V CROWN LAND		V CROWN LAND					1.965	1.97	105.64297	-10.51193
	1097169		V CROWN LAND		V CROWN LAND					411.702	411.98	105.65197	-10.55314
	1097170		V CROWN LAND		V CROWN LAND					0.931	0.93	105.64444	-10.55610
	1097171		V CROWN LAND		V CROWN LAND					1.438	1.44	105.66199	-10.56183
	1097172		V CROWN LAND		V CROWN LAND					0.084	0.08	105.65840	-10.52172
	1097173		V CROWN LAND		V CROWN LAND					241.697	241.86	105.65329	-10.52923
	1097174		V CROWN LAND		V CROWN LAND					16.694	16.71	105.65457	-10.52689
	1097175		V CROWN LAND		V CROWN LAND					195.483	195.62	105.65029	-10.50724
	1097176		V CROWN LAND		V CROWN LAND					15.475	15.49	105.65185	-10.49906
	1097177		V CROWN LAND		V CROWN LAND					19.924	19.94	105.63723	-10.50824
	1097178		V CROWN LAND		V CROWN LAND					6.206	6.21	105.66861	-10.48434
	1097179		V CROWN LAND		V CROWN LAND					33.255	33.28	105.66652	-10.48919
	1097180		V CROWN LAND		V CROWN LAND					32.057	32.08	105.68301	-10.48224
	1097181		V CROWN LAND		V CROWN LAND					37.716	37.74	105.67772	-10.47496
	1097182		V CROWN LAND		V CROWN LAND					5.109	5.11	105.70613	-10.46871
	1097183		V CROWN LAND		V CROWN LAND					13.603	13.61	105.70282	-10.46757
	1097184		V CROWN LAND		V CROWN LAND					3.358	3.36	105.70330	-10.46155
	1097185		V CROWN LAND		V CROWN LAND					50.168	51.42	105.68186	-10.45200
	1097186		V CROWN LAND		V CROWN LAND					8.679	8.68	105.68069	-10.45005
	1097187		V CROWN LAND		V CROWN LAND					58.167	158.37	105.68581	-10.44525
	1097190		V CROWN LAND		V CROWN LAND					5.761	5.76	105.68518	-10.44860
	1097191		V CROWN LAND		V CROWN LAND					0.059	0.06	105.68519	-10.42344
	1097192		V CROWN LAND		V CROWN LAND					3.927	3.93	105.69197	-10.42754
	1097193		V CROWN LAND		V CROWN LAND					249.770	249.93	105.69408	-10.44906
	1097194		V CROWN LAND		V CROWN LAND					4.121	4.12	105.70037	-10.45084
	1097195		V CROWN LAND		V CROWN LAND					65.772	65.81	105.70315	-10.44238
	1097196		V CROWN LAND		V CROWN LAND					3.394	3.40	105.70297	-10.44568
	1097197		V CROWN LAND		V CROWN LAND	Drier No. 2 site - Mining Lease 134	Drumsite			16.357	16.37	105.66669	-10.44033
	1097198		V CROWN LAND		V CROWN LAND					22.118	22.13	105.68783	-10.42284
	1097199		V CROWN LAND		V CROWN LAND					29.458	29.48	105.69020	-10.42582
	1097200		V CROWN LAND		V CROWN LAND					0.210	0.21	105.68735	-10.42822
	1097201		V CROWN LAND		V CROWN LAND					7.893	8.49	105.68228	-10.42453
	1097202		V CROWN LAND		V CROWN LAND					663.504	663.95	105.66356	-10.54413
	1097203		V CROWN LAND		V CROWN LAND					575.815	576.20	105.67184	-10.49566
	1097204		V CROWN LAND		V CROWN LAND					28.313	28.33	105.66242	-10.49883
	1097205		V CROWN LAND		V CROWN LAND					0.417	0.42	105.66031	-10.50336
	1097206		V CROWN LAND		V CROWN LAND					0.541	0.54	105.65978	-10.50405
	1097207		V CROWN LAND		V CROWN LAND					16.919	16.93	105.67746	-10.48938
	1097209		V CROWN LAND		V CROWN LAND					3.538	3.54	105.68108	-10.46772
	1097210		V CROWN LAND		V CROWN LAND					6.915	6.92	105.68330	-10.46908
	1097213		V CROWN LAND		V CROWN LAND		Drumsite			0.039	0.04	105.66841	-10.44046
	1097215		V CROWN LAND							0.018	0.02	105.67169	-10.42667
	1097216		V CROWN LAND		V CROWN LAND					0.014	0.01	105.67135	-10.42605
	1097220		V CROWN LAND		V CROWN LAND					15.890	161.64	105.70515	-10.43478
	1128153		P ROAD				Drumsite			0.171		105.67261	-10.43135
	1128469		P ROAD				Silver City			0.541		105.67529	-10.42304
	1128470		P ROAD				Silver City			0.131		105.67569	-10.42229
	1128475		P ROAD							0.053		105.67089	-10.43401
	1142659		P ROAD							0.022		105.67231	-10.42839
	1147781		P ROAD				Drumsite			0.149		105.66865	-10.43451
	1150347		P ROAD				Drumsite			0.034		105.66832	-10.43505
	1151255		P ROAD							1.169		105.68658	-10.41672
	1155231		V CROWN LAND							0.724	0.72	105.67389	-10.42124
	1155232		V CROWN LAND							2.883	2.89	105.67430	-10.42302
	1160585		P ROAD							0.158		105.67321	-10.42657
	1167302		P ROAD							5.374		105.68072	-10.44752
	1172523		P ROAD							0.026		105.67150	-10.43344
	1189459		P ROAD				Poon Saan			0.872		105.68341	-10.42341
	1190061		V CROWN LAND							67.996	68.04	105.67284	-10.42753
	1218092		CHRISL 00472									105.66827	-10.43793
	1218092		P219656 472									105.66827	-10.43793
	1218092		V CROWN LAND									105.66827	-10.43793
	1218093		CHRISL 00473									105.66264	-10.43297
	1218093		P219656 473									105.66264	-10.43297
	1218093		V CROWN LAND									105.66264	-10.43297
	1218094		V CROWN LAND									105.66204	-10.43230
	1218094		CHRISL 00474									105.66204	-10.43230
	1218094		P219656 474									105.66204	-10.43230
	1218095		CHRISL 00475									105.66266	-10.43173
	1218095		P219656 475									105.66266	-10.43173
	1218095		V CROWN LAND									105.66266	-10.43173
	1218096		CHRISL 00476									105.66267	-10.43222
	1218096		P219656 476									105.66267	-10.43222

LOCNO	PIN	LAND RECO	PIPARCEL04	LOT_NO	LND STATUS	DESCRIPTIO	SUBURB	STREET	BPC NOS	HECTARES	HECT_DOLA	CENTLONG04	CENTLAT04
	1218096		V CROWN LAND									105.66267	-10.43222
	1218097		CHRISL 00477									105.66273	-10.43264
	1218097		P219656 477									105.66273	-10.43264
	1218097		V CROWN LAND									105.66273	-10.43264
	1218098		CHRISL 00478									105.66286	-10.43286
	1218098		P219656 478									105.66286	-10.43286
	1218098		V CROWN LAND									105.66286	-10.43286
	1218099		CHRISL 00479									105.66259	-10.43132
	1218099		P219656 479									105.66259	-10.43132
	1218099		R 44529									105.66259	-10.43132
	1218798		CHRISL 00563									105.66814	-10.44025
	1218798		P193345 563									105.66814	-10.44025
	1218798		P ROAD									105.66814	-10.44025
	1219135		CHRISL 00480									105.66658	-10.42988
	1219135		P219672 480									105.66658	-10.42988
	1219135		V CROWN LAND									105.66658	-10.42988
	1219136		CHRISL 00481									105.66584	-10.43222
	1219136		P219672 481									105.66584	-10.43222
	1219136		V CROWN LAND									105.66584	-10.43222
	1219137		CHRISL 00496									105.66856	-10.43245
	1219137		P219672 496									105.66856	-10.43245
	1219137		V CROWN LAND									105.66856	-10.43245
	1238015		P ROAD										
	1295970		V CROWN LAND							0.209		105.66203	-10.44779
	1295971		V CROWN LAND							1.112	1.11	105.65939	-10.54498
	1295972		V CROWN LAND							1.238	1.24	105.65820	-10.54323
	1295972		V CROWN LAND							1.100	1.10	105.68456	-10.42224
	1295973		P ROAD							0.196		105.68548	-10.42504
	1296582		P ROAD							0.644		105.68455	-10.42583
	1299579		P ROAD							0.943		105.68561	-10.43337
	1299580		P ROAD							0.039		105.68590	-10.43344
	1299581		P ROAD							0.236		105.68302	-10.43363
	1316329		P ROAD				Silver City			0.505		105.68147	-10.42126
	1317123		V CROWN LAND							0.234	0.23	105.68545	-10.42607
	1317124		V CROWN LAND							0.003	0.00	105.68641	-10.42555
	1325040		P ROAD							0.142		105.67332	-10.42553
	1325041		P ROAD							0.080		105.67369	-10.42602
	1326714		P ROAD							0.038		105.67312	-10.42175
	1336604		P ROAD							2.743		105.68790	-10.43364
	1350193		P ROAD							0.699		105.68257	-10.43113
	1354307		CCLOSED ROAD							0.186	0.19	105.67244	-10.42592
	1354308		V CROWN LAND							0.563	0.56	105.67318	-10.42120
	1354309		V CROWN LAND							0.107	0.11	105.67270	-10.42402
	1358679		V CROWN LAND							127.261	197.77	105.67537	-10.43478
	1369462		P ROAD							0.311		105.68351	-10.43318
	1369466		P ROAD							0.265		105.70151	-10.42486
	1369468		V CROWN LAND							1.591		105.69494	-10.41467
	1369469		V CROWN LAND							2.266		105.70139	-10.42003
	1369470		V CROWN LAND							139.914		105.70118	-10.43657
	11031031		P ROAD				Poon Saan			0.064		105.68296	-10.42268
	11040099		V CROWN LAND							691.428		105.70830	-10.46769
	11067451		S031715									105.67052	-10.43368
	11067452		S031715									105.67048	-10.43378
	11067453		S031715									105.67070	-10.43385
	11067649		S031714									105.67046	-10.43395
	11067650		S031714									105.67064	-10.43399
	11103762		S036590									105.67485	-10.41600
	11103763		S036590									105.67479	-10.41620
	11103764		S036590									105.67460	-10.41623
	11103765		S036590									105.67454	-10.41644
	11103766		S036590									105.67446	-10.41689
	11103767		S036590									105.67476	-10.41646
	11103768		S036590									105.67450	-10.41662
	11103769		S036590									105.67467	-10.41666
	11103770		S036590									105.67449	-10.41679
	11103771		S036590									105.67462	-10.41692
	11103772		S036590									105.67443	-10.41698
	11103773		S036590									105.67441	-10.41669
	11105162		P035135 1									105.68063	-10.42631
	11105163		P035135 23									105.68100	-10.42618
	11105164		P035135 2									105.68117	-10.42613
	11105165		P035135 3									105.68130	-10.42608
	11105166		P035135 4									105.68139	-10.42601
	11105167		P035135 5									105.68160	-10.42613
	11105168		P035135 6									105.68177	-10.42610
	11105169		P035135 7									105.68193	-10.42606
	11105170		P035135 8									105.68209	-10.42603
	11105171		P035135 9									105.68224	-10.42599

LOCNO	PIN	LAND_RECO	PIPARCEL04	LOT_NO	LND_STATUS	DESCRIPTIO	SUBURB	STREET	BPC_NOS	HECTARES	HECT_DOLA	CENTLONG04	CENTLAT04
	11105172		P035135 10									105.68238	-10.42596
	11105173		P035135 11									105.68253	-10.42581
	11105174		P035135 12									105.68279	-10.42566
	11105175		P035135 13									105.68277	-10.42548
	11105176		P035135 14									105.68270	-10.42530
	11105177		P035135 15									105.68240	-10.42548
	11105178		P035135 16									105.68231	-10.42556
	11105179		P035135 17									105.68219	-10.42561
	11105180		P035135 18									105.68206	-10.42565
	11105181		P035135 19									105.68193	-10.42570
	11105182		P035135 20									105.68180	-10.42575
	11105183		P035135 21									105.68165	-10.42581
	11105184		P035135 22									105.68149	-10.42586
	11105185		P ROAD									105.68031	-10.42641
	11105186		P ROAD									105.68256	-10.42551
	11105505		P035144 1049									105.67401	-10.41848
	11105506		P035144 1050									105.67407	-10.41830
	11105507		P035144 1051									105.67413	-10.41811
	11105508		P035144 1052									105.67418	-10.41797
	11105509		P035144 1053									105.67421	-10.41786
	11105510		P035144 1054									105.67427	-10.41767
	11107704		S042751									105.67402	-10.41854
	11107705		S042751									105.67402	-10.41845
	11107711		S042752									105.67410	-10.41812
	11107712		S042752									105.67424	-10.41810
	11132749		CHRISL 00462									105.69057	-10.41604
	11132749		P219061 462									105.69057	-10.41604
	11132749		V CROWN LAND									105.69057	-10.41604
	11157601		P ROAD									105.68095	-10.42590
	11164439		CHRISL 00274									105.67784	-10.42025
	11164439		P036534 274									105.67784	-10.42025
	11166541		S043355									105.67406	-10.41835
	11166542		S043355									105.67408	-10.41825
	11167339		S043356									105.67426	-10.41777
	11167340		S043356									105.67437	-10.41767
	11167341		S043356									105.67419	-10.41762
	11167587		V CROWN LAND									105.70230	-10.41519
	11171359		CHRISL 00284									105.68375	-10.42539
	11171359		P036509 284									105.68375	-10.42539
	11187542		P038056 1045									105.68350	-10.42311
	11187543		P038056 1034									105.68355	-10.42296
	11187544		P038056 1035									105.68371	-10.42281
	11187545		P038056 1036									105.68390	-10.42275
	11187546		P038056 1037									105.68396	-10.42267
	11187547		P038056 1038									105.68400	-10.42258
	11187548		P038056 1039									105.68406	-10.42247
	11187549		P038056 1040									105.68425	-10.42249
	11187550		P038056 1041									105.68434	-10.42250
	11187551		P038056 1042									105.68442	-10.42249
	11187552		P038056 1043									105.68450	-10.42248
	11187553		P038056 1044									105.68459	-10.42248
	11187570		P ROAD									105.68423	-10.42266
	11229090		V CROWN LAND									105.66292	-10.44228
	11229110		V CROWN LAND									105.67016	-10.42945

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN	LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
1	1097146	LAND OCCUPIED UNDER 99 YEAR LEASE					CL0199200579					N	N	N
1	1097146	LAND OCCUPIED UNDER 99 YEAR LEASE					CL0199200579					N	N	N
2	1096839		Y	Y	Y		CL0199200578					N	N	
2	1096839		Y	Y	Y		CL0199200578					N	N	
3	1096840		Y	Y	Y		CL0199200578					N	N	
3	1096840		Y	Y	Y		CL0199200578					N	N	
6	1096813		Y	Y	Y		CL0199200605							
6	1096813		Y	Y	Y		CL0199200605							
7	1096814		Y	Y	Y		CL0199300050							
7	1096814		Y	Y	Y		CL0199300050							
8	1096815		Y	Y	Y		CL0199300051							
8	1096815		Y	Y	Y		CL0199300051							
9	1096816		Y	Y	Y		CL0199300052							
9	1096816		Y	Y	Y		CL0199300052							
10	1096817		Y	Y	Y		CL0199200656							
10	1096817		Y	Y	Y		CL0199200656							
11	1096818		Y	Y	Y		CL0199200599							
11	1096818		Y	Y	Y		CL0199200599							
12	1096819		Y	Y	Y		CL0199300053							
12	1096819		Y	Y	Y		CL0199300053							
13	1096820		Y	Y	Y		CL0199200653							
13	1096820		Y	Y	Y		CL0199200653							
14	1096821		Y	Y	Y		CL0199400556							
14	1096821		Y	Y	Y		CL0199400556							
15	1096822		Y	Y	Y		CL0199200672							
15	1096822		Y	Y	Y		CL0199200672							
15	1358713													
16	1096823		Y	Y	Y		CL0199400557							
16	1096823		Y	Y	Y		CL0199400557							
17	1096824		Y	Y	Y		CL0199200585							
17	1096824		Y	Y	Y		CL0199200585							
18	1096825		Y	Y	Y		CL0199200654							
18	1096825		Y	Y	Y		CL0199200654							
19	1096826		Y	Y	Y		CL0199200595							
19	1096826		Y	Y	Y		CL0199200595							
20	1096827		Y	Y	Y		CL0199300054							
20	1096827		Y	Y	Y		CL0199300054							
21	1096828		Y	Y	Y		CL0199200671							
21	1096828		Y	Y	Y		CL0199200671							
22	1096829		Y	Y	Y		CL0199300055							
22	1096829		Y	Y	Y		CL0199300055							
23	1096830		Y	Y	Y		CL0199200636							
23	1096830		Y	Y	Y		CL0199200636							
24	1096831		Y	Y	Y		CL0199200592							
24	1096831		Y	Y	Y		CL0199200592							
25	1096832		Y	Y	Y		CL0199200594							
25	1096832		Y	Y	Y		CL0199200594							
26	1096846		Y	Y	Y							N	N	
26	1096846		Y	Y	Y							N	N	
27	1096847		Y	Y	Y		CL0199200616							
27	1096847		Y	Y	Y		CL0199200616							
28	1096848		Y	Y	Y							N	N	
28	1096848		Y	Y	Y							N	N	
29	1096849		Y	Y	Y							N	N	
29	1096849		Y	Y	Y							N	N	
30	1096850		Y	Y	Y		CL0199300056							
30	1096850		Y	Y	Y		CL0199300056							
31	1096851		Y	Y	Y		CL0199200584							
31	1096851		Y	Y	Y		CL0199200584							
32	1096852		Y	Y	Y							N	N	
32	1096852		Y	Y	Y							N	N	
33	1096853		Y	Y	Y							N	N	
33	1096853		Y	Y	Y							N	N	
34	1096854		Y	Y	Y							N	N	
34	1096854		Y	Y	Y							N	N	
35	1096855		Y	Y	Y		CL0199200646							
35	1096855		Y	Y	Y		CL0199200646							
36	1096856		Y	Y	Y		CL0199300399							
36	1096856		Y	Y	Y		CL0199300399							
37	1096857		Y	Y	Y		CL0199200658							
37	1096857		Y	Y	Y		CL0199200658							
38	1096858		Y	Y	Y		CL0199200591							
38	1096858		Y	Y	Y		CL0199200591							
39	1096859		Y	Y	Y		CL0199200661							
39	1096859		Y	Y	Y		CL0199200661							
40	1096860		Y	Y	Y		CL0199200612							
40	1096860		Y	Y	Y		CL0199200612							

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN	LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
41	1096861		Y	Y	Y		CL0199200608							
41	1096861		Y	Y	Y		CL0199200608							
42	1096862		Y	Y	Y		CL0199400036							
42	1096862		Y	Y	Y		CL0199400036						N	N
43	1096863		Y	Y	Y		CL0199200589						N	N
43	1096863		Y	Y	Y		CL0199200589							
44	1096864		Y	Y	Y		CL0199300057							
44	1096864		Y	Y	Y		CL0199300057							
45	1096865		Y	Y	Y		CL0199300058							
45	1096865		Y	Y	Y		CL0199300058							
47	1096896		Y	Y	Y									
47	1096896		Y	Y	Y									
48	1096895		Y	Y	Y									
48	1096895		Y	Y	Y									
49	1097101		Y	Y	Y									
49	1097101		Y	Y	Y									
50	1097102		Y	Y	Y						Occupies part of this parcel (not verified)			
50	1097102		Y	Y	Y						Occupies part of this parcel (not verified)			
51	1097091		Y	Y	Y						Occupies part of this parcel (not verified)			
51	1097091		Y	Y	Y						Occupies part of this parcel (not verified)			
52	1097087										Occupies part of this parcel			
52	1097087										Occupies part of this parcel			
53	1096838		Y	Y	Y							N	N	
53	1096838		Y	Y	Y							N	N	
54	1096844		Y	Y	Y							N	N	
54	1096844		Y	Y	Y							N	N	
55	1096843		Y	Y	Y							N	N	
55	1096843		Y	Y	Y							N	N	
58	1096962		Y	Y	Y		CL0199200657							
58	1096962		Y	Y	Y		CL0199200657							
59	1096961		Y	Y	Y								N	N
59	1096961		Y	Y	Y								N	N
60	1096960		Y	Y	Y		CL0199300059							
60	1096960		Y	Y	Y		CL0199300059							
61	1096959		Y	Y	Y		CL0199300093							
61	1096959		Y	Y	Y		CL0199300093							
62	1096958		Y	Y	Y									
62	1096958		Y	Y	Y									
63	1096957		Y	Y	Y									
63	1096957		Y	Y	Y									
64	1096954		Y	Y	Y		CL0199400111						N	N
64	1096954		Y	Y	Y		CL0199400111						N	N
65	1096955		Y	Y	Y									
65	1096955		Y	Y	Y									
66	1096956		Y	Y	Y									
66	1096956		Y	Y	Y									
67	1096976		Y	Y	Y								N	N
67	1096976		Y	Y	Y								N	N
68	1096973		Y	Y	Y		CL0199200651							
68	1096973		Y	Y	Y		CL0199200651							
69	1096972		Y	Y	Y		CL0199200660							
69	1096972		Y	Y	Y		CL0199200660							
70	1096969		Y	Y	Y								N	N
70	1096969		Y	Y	Y								N	N
71	1096968		Y	Y	Y								N	N
71	1096968		Y	Y	Y								N	N
72	1096966		Y	Y	Y		CL0199200638							
72	1096966		Y	Y	Y		CL0199200638							
73	1096965		Y	Y	Y		CL0199200669							
73	1096965		Y	Y	Y		CL0199200669							
74	1096963		Y	Y	Y		CL0199200614							
74	1096963		Y	Y	Y		CL0199200614							
75	1096964		Y	Y	Y		CL0199200667							
75	1096964		Y	Y	Y		CL0199200667							
76	1096967		Y	Y	Y		CL0199200610							
76	1096967		Y	Y	Y		CL0199200610							
77	1096970		Y	Y	Y		CL0199200659							
77	1096970		Y	Y	Y		CL0199200659							
78	1096971		Y	Y	Y		CL0199300061							
78	1096971		Y	Y	Y		CL0199300061							
79	1096974		Y	Y	Y								N	N
79	1096974		Y	Y	Y								N	N
80	1096975		Y	Y	Y								N	N
80	1096975		Y	Y	Y								N	N
81	1097021		Y	Y	Y		CL0199200590							
81	1097021		Y	Y	Y		CL0199200590							
82	1097022		Y	Y	Y		CL0199200670							

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN	LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
82	1097022		Y	Y	Y	CL0199200670								
83	1097023		Y	Y	Y	CL0199200649								
83	1097023		Y	Y	Y	CL0199200649								
84	1097024		Y	Y	Y	CL0199300062								
84	1097024		Y	Y	Y	CL0199300062								
85	1097025		Y	Y	Y				R 43027					
85	1097025		Y	Y	Y				R 43027					
86	1097026		Y	Y	Y	CL0199300063								
86	1097026		Y	Y	Y	CL0199300063								
87	1097027		Y	Y	Y	CL0199200647								
87	1097027		Y	Y	Y	CL0199200647								
88	1097028		Y	Y	Y	CL0199300064								
88	1097028		Y	Y	Y	CL0199300064								
89	1097029		Y	Y	Y	CL0199200641								
89	1097029		Y	Y	Y	CL0199200641								
90	1097030		Y	Y	Y	CL0199200655								
90	1097030		Y	Y	Y	CL0199200655								
91	1097031		Y	Y	Y	CL0199200596								
91	1097031		Y	Y	Y	CL0199200596								
92	1097032		Y	Y	Y	CL0199200598								
93	1097033		Y	Y	Y									
93	1097033		Y	Y	Y									
94	1097034		Y	Y	Y	CL0199300065								
94	1097034		Y	Y	Y	CL0199300065								
95	1097035		Y	Y	Y									
95	1097035		Y	Y	Y									
96	1097036		Y	Y	Y	CL0199200587								
96	1097036		Y	Y	Y	CL0199200587								
97	1097037		Y	Y	Y	CL0199200673								
97	1097037		Y	Y	Y	CL0199200673								
98	1097038		Y	Y	Y	CL0199200600								
98	1097038		Y	Y	Y	CL0199200600								
99	1097039		Y	Y	Y	CL0199200662								
99	1097039		Y	Y	Y	CL0199200662								
100	1097040		Y	Y	Y	CL0199200665								
100	1097040		Y	Y	Y	CL0199200665								
101	1096979		Y	Y	Y	CL0199300316								
101	1096979		Y	Y	Y	CL0199300316								
102	1096981		Y	Y	Y	CL0199300066								
102	1096981		Y	Y	Y	CL0199300066								
103	1096982		Y	Y	Y	CL0199200601								
103	1096982		Y	Y	Y	CL0199200601								
104	1096983		Y	Y	Y								N	N
104	1096983		Y	Y	Y								N	N
105	1096984		Y	Y	Y								N	N
105	1096984		Y	Y	Y								N	N
106	1096985		Y	Y	Y	CL0199400555								
106	1096985		Y	Y	Y	CL0199400555								
107	1096986		Y	Y	Y	CL0199200642								
107	1096986		Y	Y	Y	CL0199200642								
108	1096987	Community Building	Y	Y	Y								N	N
108	1096987	Community Building	Y	Y	Y								N	N
109	1096988		Y	Y	Y	CL0199200620								
109	1096988		Y	Y	Y	CL0199200620								
110	1096980	Community Building	Y	Y	Y								N	N
110	1096980	Community Building	Y	Y	Y								N	N
111	1097098										Part of this parcel is occupied by Early workings and Chinese cemet			
111	1097098										Part of this parcel is occupied by Early workings and Chinese cemet			
112	1097147													
112	1097147													
113	1096989		Y	Y	Y								N	N
113	1096989		Y	Y	Y								N	N
114	1096990		Y	Y	Y								N	N
114	1096990		Y	Y	Y								N	N
115	1096991		Y	Y	Y	CL0199300067								
115	1096991		Y	Y	Y	CL0199300067								
116	1096992		Y	Y	Y	CL0199300068								
116	1096992		Y	Y	Y	CL0199300068								
117	1096993		Y	Y	Y								N	N
117	1096993		Y	Y	Y								N	N
117	1096993		Y	Y	Y								N	N
118	1096994		Y	Y	Y								N	N
118	1096994		Y	Y	Y								N	N
118	1096994		Y	Y	Y								N	N
119	1096995		Y	Y	Y								N	N
119	1096995		Y	Y	Y								N	N
119	1096995		Y	Y	Y								N	N

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN	LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
120	1096996		Y	Y	Y	CL0199200644								
120	1096996		Y	Y	Y	CL0199200644								
121	1096997		Y	Y	Y								N	N
121	1096997		Y	Y	Y								N	N
121	1096997		Y	Y	Y								N	N
122	1096998		Y	Y	Y								N	N
122	1096998		Y	Y	Y								N	N
123	1096999		Y	Y	Y								N	N
123	1096999		Y	Y	Y								N	N
124	1097000		Y	Y	Y								N	N
124	1097000		Y	Y	Y								N	N
125	1097001		Y	Y	Y	CL0199200668								
125	1097001		Y	Y	Y	CL0199200668								
126	1097002		Y	Y	Y	CL0199200664								
126	1097002		Y	Y	Y	CL0199200664								
127	1097003		Y	Y	Y	CL0199300305								
127	1097003		Y	Y	Y	CL0199300305								
128	1097004		Y	Y	Y	CL0199300069								
128	1097004		Y	Y	Y	CL0199300069								
129	1097005		Y	Y	Y	CL0199200582								
129	1097005		Y	Y	Y	CL0199200582								
130	1097006		Y	Y	Y	CL0199200645								
130	1097006		Y	Y	Y	CL0199200645								
131	1097007		Y	Y	Y	CL0199300466								
131	1097007		Y	Y	Y	CL0199300466								
132	1097008		Y	Y	Y	CL0199300070								
132	1097008		Y	Y	Y	CL0199300070								
133	1097009		Y	Y	Y	CL0199300071								
133	1097009		Y	Y	Y	CL0199300071								
134	1097010		Y	Y	Y	CL0199200602								
134	1097010		Y	Y	Y	CL0199200602								
135	1097011		Y	Y	Y				R 43028					
135	1097011		Y	Y	Y				R 43028					
135	1097011		Y	Y	Y				R 43028					
136	1097012		Y	Y	Y	CL0199300304								
136	1097012		Y	Y	Y	CL0199300304								
137	1097013		Y	Y	Y	CL0199200586								
137	1097013		Y	Y	Y	CL0199200586								
138	1097014		Y	Y	Y									
138	1097014		Y	Y	Y									
138	1097014		Y	Y	Y									
140	1096943		Y	Y	Y	CL0199200580								
140	1096943		Y	Y	Y	CL0199200580								
141	1096940		Y	Y	Y	CL0199200583								
141	1096940		Y	Y	Y	CL0199200583								
142	1096937		Y	Y	Y							Y	N	N
142	1096937		Y	Y	Y							Y	N	N
143	1096938		Y	Y	Y							Y	N	N
143	1096938		Y	Y	Y							Y	N	N
144	1096939		Y	Y	Y							Y	N	N
144	1096939		Y	Y	Y							Y	N	N
144	1096939		Y	Y	Y							Y	N	N
145	1096929		Y	Y	Y							Y	N	N
145	1096929		Y	Y	Y							Y	N	N
146	1096930		Y	Y	Y	CL0199300073						Y	N	N
146	1096930		Y	Y	Y	CL0199300073						Y	N	N
147	1096931		Y	Y	Y							Y	N	N
147	1096931		Y	Y	Y							Y	N	N
148	1096934		Y	Y	Y	CL0199200604								
148	1096934		Y	Y	Y	CL0199200604								
149	1096933		Y	Y	Y							Y	N	N
149	1096933		Y	Y	Y							Y	N	N
150	1096932		Y	Y	Y	CL0199200588								
150	1096932		Y	Y	Y	CL0199200588								
154	1096927		Y	Y	Y	CL0199200666								
154	1096927		Y	Y	Y	CL0199200666								
155	1096928	Occupied by ANCA	Y	Y	Y									
155	1096928	Occupied by ANCA	Y	Y	Y									
156	1096918		Y	Y	Y	CL0199200640								
156	1096918		Y	Y	Y	CL0199200640								
157	1096919		Y	Y	Y	CL0199200581								
157	1096919		Y	Y	Y	CL0199200581								
158	1096920	Occupied by ANCA	Y	Y	Y									
158	1096920	Occupied by ANCA	Y	Y	Y									
161	1096921		Y	Y	Y							Y	N	N
161	1096921		Y	Y	Y							Y	N	N
161	1096921		Y	Y	Y							Y	N	N

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN	LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
162	1096907		Y	Y	Y	CL0199200663								
162	1096907		Y	Y	Y	CL0199200663								
163	1096906		Y	Y	Y	CL0199200593								
163	1096906		Y	Y	Y	CL0199200593								
164	1096908		Y	Y	Y	CL0199200639								
164	1096908		Y	Y	Y	CL0199200639								
165	1096909		Y	Y	Y							Y	N	N
165	1096909		Y	Y	Y							Y	N	N
166	1096910		Y	Y	Y							Y	N	N
166	1096910		Y	Y	Y							Y	N	N
166	1096910		Y	Y	Y							Y	N	N
167	1096913		Y	Y	Y							Y	N	N
167	1096913		Y	Y	Y							Y	N	N
168	1096914		Y	Y	Y							Y	N	N
168	1096914		Y	Y	Y							Y	N	N
168	1096914		Y	Y	Y							Y	N	N
171	1160049													
171	1160049													
172	1261891													
172	1261891													
172	1261891													
174	1097063		Y	Y	Y									
174	1097063		Y	Y	Y									
176	1097065		Y	Y	Y									
176	1097065		Y	Y	Y									
185	1097100												N	N
185	1097100												N	N
188	1097083	Community Building	Y	Y	Y							Y	N	N
188	1097083	Community Building	Y	Y	Y							Y	N	N
193	1096901		Y	Y	Y									
193	1096901		Y	Y	Y									
194	1096902		Y	Y	Y	CL0199300074								
194	1096902		Y	Y	Y	CL0199300074								
197	1097130		Y	Y	Y									
197	1097130		Y	Y	Y									
198	1097112		Y	Y	Y									
198	1097112		Y	Y	Y									
199	1097089		Y	Y	Y							N	N	
199	1097089		Y	Y	Y							N	N	
200	1097088		Y	Y	Y									
200	1097088		Y	Y	Y									
201	1096867	STRATA UNITS - SEE PIPARCEL S025135	Y	Y	Y		S025135						N	N
201	1096867	STRATA UNITS - SEE PIPARCEL S025135	Y	Y	Y		S025135						N	N
202	1096868	Strata. See PIPARCEL S025134	Y	Y	Y		S025134						N	N
202	1096868	Strata. See PIPARCEL S025134	Y	Y	Y		S025134						N	N
203	1096871		Y	Y	Y								N	N
203	1096871		Y	Y	Y								N	N
207	1096942		Y	Y	Y							Y	N	N
207	1096942		Y	Y	Y							Y	N	N
208	1096941		Y	Y	Y								N	N
208	1096941		Y	Y	Y								N	N
212	1096949		Y	Y	Y							Y	N	N
212	1096949		Y	Y	Y							Y	N	N
213	11001827													
213	11001827													
214	1096935	Situated on CHRISL 00213 and CHRISL 00214	Y	Y	Y									
214	1096935	Situated on CHRISL 00213 and CHRISL 00214	Y	Y	Y									
215	1096904		Y	Y	Y							Y	N	N
215	1096904		Y	Y	Y							Y	N	N
217	1160051													
217	1160051													
217	1160051													
218	1097015		Y	Y	Y									
218	1097015		Y	Y	Y									
219	1097133		Y	Y	Y	CL0199200631								
219	1097133		Y	Y	Y	CL0199200631								
220	1097114		Y	Y	Y								N	N
220	1097114		Y	Y	Y								N	N
221	1097092		Y	Y	Y	CL0199200650								
221	1097092		Y	Y	Y	CL0199200650								
222	1097136		Y	Y	Y	CL0199200652								
222	1097136		Y	Y	Y	CL0199200652								
223	1097093		Y	Y	Y	CL0199200635								
223	1097093		Y	Y	Y	CL0199200635								
226	1097127		Y	Y	Y							N	N	
226	1097127		Y	Y	Y							N	N	
227	1096845		Y	Y	Y								N	N

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
227	1096845		Y	Y	Y							N	N
228	1096892		Y	Y	Y		S025132						
228	1096892		Y	Y	Y		S025132						
228	1096892		Y	Y	Y		S025132						
229	1097085		Y	Y	Y						Y	N	N
229	1097085		Y	Y	Y						Y	N	N
229	1097085		Y	Y	Y						Y	N	N
230	1097086		Y	Y	Y						Y	N	N
230	1097086		Y	Y	Y						Y	N	N
231	1096869		Y	Y	Y						Y	N	N
231	1096869		Y	Y	Y						Y	N	N
231	1096869		Y	Y	Y						Y	N	N
232	1097131	Occupies part of Loc 232	Y	Y	Y						Y	N	N
232	1097131	Occupies part of Loc 232	Y	Y	Y						Y	N	N
234	1097106		Y	Y	Y							N	N
234	1097106		Y	Y	Y							N	N
235	1097107		Y	Y	Y								
235	1097107		Y	Y	Y								
236	1097105		Y	Y	Y	CL0199200609							
236	1097105		Y	Y	Y	CL0199200609							
237	1097104		Y	Y	Y	CL0199200648							
237	1097104		Y	Y	Y	CL0199200648							
238	1096875		Y	Y	Y						Y	N	N
238	1096875		Y	Y	Y						Y	N	N
239	1096874	GROUP 2 - (CHRISL 239 - 241). Located behind lower Adm	Y	Y	Y						Y	N	N
239	1096874	GROUP 2 - (CHRISL 239 - 241). Located behind lower Adm	Y	Y	Y						Y	N	N
239	1096874	GROUP 2 - (CHRISL 239 - 241). Located behind lower Adm	Y	Y	Y						Y	N	N
240	1096877	GROUP 2 - (CHRISL 239 - 241). Located behind lower Admi	Y	Y	Y								
240	1096877	GROUP 2 - (CHRISL 239 - 241). Located behind lower Admi	Y	Y	Y								
240	1096877	GROUP 2 - (CHRISL 239 - 241). Located behind lower Admi	Y	Y	Y								
241	1096876	GROUP 2 - (CHRISL 239 - 241). Located behind lower Adm	Y	Y	Y								
241	1096876	GROUP 2 - (CHRISL 239 - 241). Located behind lower Adm	Y	Y	Y								
241	1096876	GROUP 2 - (CHRISL 239 - 241). Located behind lower Adm	Y	Y	Y								
242	1096872		Y	Y	Y						Y	N	N
242	1096872		Y	Y	Y						Y	N	N
243	1096873	Part only of store.	Y	Y	Y						Y	N	N
243	1096873	Part only of store.	Y	Y	Y						Y	N	N
244	1097016		Y	Y	Y	CL0199200626							
244	1097016		Y	Y	Y	CL0199200626							
245	1097017		Y	Y	Y	CL0199200613							
245	1097017		Y	Y	Y	CL0199200613							
246	1097018		Y	Y	Y	CL0199200618							
246	1097018		Y	Y	Y	CL0199200618							
247	1097019		Y	Y	Y	CL0199200629							
247	1097019		Y	Y	Y	CL0199200629							
248	1097020		Y	Y	Y	CL0199200632							
248	1097020		Y	Y	Y	CL0199200632							
249	1097103		Y	Y	Y	CL0199200628							
249	1097103		Y	Y	Y	CL0199200628							
251	1097111	Group 3 = CHRISL 250 - 253	Y	Y	Y							N	N
251	1097111	Group 3 = CHRISL 250 - 253	Y	Y	Y							N	N
252	1097108	Group 3 = CHRISL 250 - 253	Y	Y	Y							N	N
252	1097108	Group 3 = CHRISL 250 - 253	Y	Y	Y							N	N
253	1097110	Group 3 = CHRISL 250 - 253	Y	Y	Y							N	N
253	1097110	Group 3 = CHRISL 250 - 253	Y	Y	Y							N	N
254	1096886		Y	Y	Y	CL0199200633						N	N
254	1096886		Y	Y	Y	CL0199200633						N	N
255	1096885		Y	Y	Y	CL0199401027							
255	1096885		Y	Y	Y	CL0199401027							
256	1096884	Heritage listed	Y	Y	Y							N	N
256	1096884	Heritage listed	Y	Y	Y							N	N
257	1096881		Y	Y	Y	CL0199200619							
257	1096881		Y	Y	Y	CL0199200619							
258	1096880		Y	Y	Y	CL0199200637							
258	1096880		Y	Y	Y	CL0199200637							
259	1096879		Y	Y	Y							N	N
259	1096879		Y	Y	Y							N	N
260	1096878		Y	Y	Y	CL0199200643							
261	1096883		Y	Y	Y	CL0199200625							
261	1096883		Y	Y	Y	CL0199200625							
262	1096882		Y	Y	Y	CL0199200630							
262	1096882		Y	Y	Y	CL0199200630							
264	1097048		Y	Y	Y	CL0199200624							
264	1097048		Y	Y	Y	CL0199200624							
266	1097045		Y	Y	Y	CL0199200623							
266	1097045		Y	Y	Y	CL0199200623							
268	1097060		Y	Y	Y	CL0199200622							

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN	LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
268	1097060		Y	Y	Y	CL0199200622								
269	1097061		Y	Y	Y	CL0199200621								
269	1097061		Y	Y	Y	CL0199200621								
270	1097062	COMMUNITY BUILDING	Y	Y	Y								N	N
270	1097062	COMMUNITY BUILDING	Y	Y	Y								N	N
271	1097066		Y	Y	Y	CL0199200627								
271	1097066		Y	Y	Y	CL0199200627								
272	1096899		Y	Y	Y	CL0199200615								
272	1096899		Y	Y	Y	CL0199200615								
273	1096900	Community Building.	Y	Y	Y							Y	N	N
273	1096900	Community Building.	Y	Y	Y							Y	N	N
275	1096977		Y	Y	Y	CL0199200634								
275	1096977		Y	Y	Y	CL0199200634								
276	1097041		Y	Y	Y	CL0199300075								
276	1097041		Y	Y	Y	CL0199300075								
277	1097042		Y	Y	Y	CL0199200597								
277	1097042		Y	Y	Y	CL0199200597								
278	1097043		Y	Y	Y								N	N
278	1097043		Y	Y	Y								N	N
279	1097044		Y	Y	Y	CL0199200603								
279	1097044		Y	Y	Y	CL0199200603								
280	1097149													
280	1097149													
281	1097148													
281	1097148													
282	1096812		Y	Y	Y								N	N
282	1096812		Y	Y	Y								N	N
283	1096833		Y	Y	Y	CL0199400715								
283	1096833		Y	Y	Y	CL0199400715								
285	1096887		Y	Y	Y		S025136							
285	1096887		Y	Y	Y		S025136							
285	1096887		Y	Y	Y		S025136							
286	1096888		Y	Y	Y		S025133							
286	1096888		Y	Y	Y		S025133							
286	1096888		Y	Y	Y		S025133							
287	1096891		Y	Y	Y									
287	1096891		Y	Y	Y									
288	1096893		Y	Y	Y							N	N	
288	1096893		Y	Y	Y							N	N	
289	1096889		Y	Y	Y		S025137							
289	1096889		Y	Y	Y		S025137							
289	1096889		Y	Y	Y		S025137							
290	1096890		Y	Y	Y								N	N
290	1096890		Y	Y	Y								N	N
292	1097056													
292	1097056													
293	1097058		Y	Y	Y									
293	1097058		Y	Y	Y									
294	1097055		Y	Y	Y									
294	1097055		Y	Y	Y									
294	1097057		Y	Y	Y									
294	1097057		Y	Y	Y									
295	1097059		Y	Y	Y		S025128							
295	1097059		Y	Y	Y		S025128							
295	1097059		Y	Y	Y		S025128							
296	1097051		Y	Y	Y		S025129							
296	1097051		Y	Y	Y		S025129							
296	1097051		Y	Y	Y		S025129							
296	1097053		Y	Y	Y		S025129							
296	1097053		Y	Y	Y		S025129							
297	1097079		Y	Y	Y		S025131							
297	1097079		Y	Y	Y		S025131							
297	1097079		Y	Y	Y		S025131							
298	1097080	Heritage House	Y	Y	Y							Y	N	N
298	1097080	Heritage House	Y	Y	Y							Y	N	N
299	1097081		Y	Y	Y							Y	N	
299	1097081		Y	Y	Y							Y	N	
300	1097119		Y	Y	Y									
300	1097119		Y	Y	Y									
301	1097120													
301	1097120													
301	1097120													
301	1097121													
301	1097121													
301	1097121													
302	1097125		Y	Y	Y		S025125							

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
302	1097125		Y	Y	Y		S025125						
302	1097125		Y	Y	Y		S025125						
303	1097124		Y	Y	Y			R 43803					
303	1097124		Y	Y	Y			R 43803					
304	1097123		Y	Y	Y		S027673						
304	1097123		Y	Y	Y		S027673						
304	1097123		Y	Y	Y		S027673						
305	1097054												
305	1097054												
306	1097052												
306	1097052												
307	1097082												
307	1097082												
308	1097126		Y	Y	Y								
308	1097126		Y	Y	Y								
309	1097122		Y	Y	Y		S025127						
309	1097122		Y	Y	Y		S025127						
309	1097122		Y	Y	Y		S025127						
310	1097135		Y	Y	Y		S025130						
310	1097135		Y	Y	Y		S025130						
310	1097135		Y	Y	Y		S025130						
311	1097134	BLOCK OF 3 x 2BR FLATS	Y	Y	Y							N	N
311	1097134	BLOCK OF 3 x 2BR FLATS	Y	Y	Y							N	N
312	1097140		Y	Y	Y						N	N	
312	1097140		Y	Y	Y						N	N	
313	1097141		Y	Y	Y							N	N
313	1097141		Y	Y	Y							N	N
315	1296580												
315	1296580												
317	1097077	Units(8)	Y	Y	Y	CL0199300921				Location not verified			
317	1097077	Units(8)	Y	Y	Y	CL0199300921				Location not verified			
318	1097078		Y	Y	Y						Y	N	N
318	1097078		Y	Y	Y						Y	N	N
319	1097144		Y	Y	Y								
319	1097144		Y	Y	Y								
320	1097145		Y	Y	Y	CL0199300922							
320	1097145		Y	Y	Y	CL0199300922							
323	1097075		Y	Y	Y						Y	N	N
323	1097075		Y	Y	Y						Y	N	N
324	1097068		Y	Y	Y						Y	N	
324	1097068		Y	Y	Y						Y	N	
325	1097069		Y	Y	Y								
325	1097069		Y	Y	Y								
326	1096894					CL0199400758					Y	N	
326	1096894					CL0199400758					Y	N	
327	1096945		Y	Y	Y	CL0199300923							
327	1096945		Y	Y	Y	CL0199300923							
328	1096946		Y	Y	Y	CL0199400077							
328	1096946		Y	Y	Y	CL0199400077							
329	1096947		Y	Y	Y	CL0199300981							
329	1096947		Y	Y	Y	CL0199300981							
329	1096947		Y	Y	Y	CL0199300981							
330	1096948		Y	Y	Y								
330	1096948		Y	Y	Y								
330	1096948		Y	Y	Y								
331	1147780		Y	Y	Y	CL0199400092							
331	1147780		Y	Y	Y	CL0199400092							
335	1096952	Suitable for strata.	Y	Y	Y		S029543						
335	1096952	Suitable for strata.	Y	Y	Y		S029543						
335	1096952	Suitable for strata.	Y	Y	Y		S029543						
336	1096953	Suitable for strata	Y	Y	Y		S029542				N	N	
336	1096953	Suitable for strata	Y	Y	Y		S029542				N	N	
336	1096953	Suitable for strata	Y	Y	Y		S029542				N	N	
337	1097074	Units (3) - Neglected. Units (2) - Unoccupied (Source	Y	Y	Y	CL0199300925					Y	N	N
337	1097074	Units (3) - Neglected. Units (2) - Unoccupied (Source	Y	Y	Y	CL0199300925					Y	N	N
338	1128441		Y	Y	Y	CL0199400995							
338	1128441		Y	Y	Y	CL0199400995							
339	1128442		Y	Y	Y							N	N
339	1128442		Y	Y	Y							N	N
340	1128443		Y	Y	Y							N	N
340	1128443		Y	Y	Y							N	N
341	1128444	Needs to be demolished - condition of sale. Occupies pa	Y	Y	Y								
341	1128444	Needs to be demolished - condition of sale. Occupies pa	Y	Y	Y								
342	1128445	Occupies part of CHRISL 341 & 342	Y	Y	Y								
342	1128445	Occupies part of CHRISL 341 & 342	Y	Y	Y								
343	1128446		Y	Y	Y							N	N
343	1128446		Y	Y	Y							N	N

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
344	1128447		Y	Y	Y							N	N
344	1128447		Y	Y	Y							N	N
345	1128448		Y	Y	Y							N	N
345	1128448		Y	Y	Y							N	N
346	1128449		Y	Y	Y								
346	1128449		Y	Y	Y								
347	1128450		Y	Y	Y							N	N
347	1128450		Y	Y	Y							N	N
348	1128451		Y	Y	Y							N	N
348	1128451		Y	Y	Y							N	N
351	1128454		Y	Y	Y							N	N
351	1128454		Y	Y	Y							N	N
352	1128455		Y	Y	Y							N	N
352	1128455		Y	Y	Y							N	N
353	1128456		Y	Y	Y							N	N
353	1128456		Y	Y	Y							N	N
354	1128457		Y	Y	Y							N	N
354	1128457		Y	Y	Y							N	N
355	1128458		Y	Y	Y							N	N
355	1128458		Y	Y	Y							N	N
356	1128459		Y	Y	Y							N	N
356	1128459		Y	Y	Y							N	N
357	1128460		Y	Y	Y							N	N
357	1128460		Y	Y	Y							N	N
358	1197976												
358	1197976												
359	1197977												
359	1197977												
360	1128463		Y	Y	Y							N	N
360	1128463		Y	Y	Y							N	N
361	1128464		Y	Y	Y							N	N
361	1128464		Y	Y	Y							N	N
362	1128465		Y	Y	Y							N	N
362	1128465		Y	Y	Y							N	N
363	1128466		Y	Y	Y							N	N
363	1128466		Y	Y	Y							N	N
364	1128467		Y	Y	Y							N	N
364	1128467		Y	Y	Y							N	N
365	1128468		Y	Y	Y								
365	1128468		Y	Y	Y								
366	1128476		Y	Y	Y	CL0199400993							
366	1128476		Y	Y	Y	CL0199400993							
367	1128471		Y	Y	Y	CL0199401024							
367	1128471		Y	Y	Y	CL0199401024							
368	1128472		Y	Y	Y	CL0199400994							
368	1128472		Y	Y	Y	CL0199400994							
369	1128473	Valuation excludes improvements	Y	Y	Y							N	N
369	1128473	Valuation excludes improvements	Y	Y	Y							N	N
370	1128474	Valuation excludes improvements	Y	Y	Y							N	N
370	1128474	Valuation excludes improvements	Y	Y	Y							N	N
371	1097070		Y	Y	Y	CL0199300926							
371	1097070		Y	Y	Y	CL0199300926							
372	1097071	Unoccupied - neglected units (6)	Y	Y	Y								
372	1097071	Unoccupied - neglected units (6)	Y	Y	Y								
373	1097072		Y	Y	Y								
373	1097072		Y	Y	Y								
374	1097073		Y	Y	Y								
374	1097073		Y	Y	Y								
375	1160050												
375	1160050												
379	1291798												
379	1291798												
379	1291798												
380	1151253												
380	1151253												
380	1151253												
381	1291797												
381	1291797												
381	1291797												
383	1271979												
383	1271979												
384	1271981												
384	1271981												
385	1271983												
385	1271983												
402	1097139		Y	Y	Y								
402	1097139		Y	Y	Y								

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
403	1097137		Y	Y	Y								
403	1097137		Y	Y	Y								
403	1097137		Y	Y	Y								
405	1097118												
405	1097118												
406	1097099		Y	Y	Y						Y	N	N
406	1097099		Y	Y	Y						Y	N	N
407	1142655		Y	Y	Y						N	N	
407	1142655		Y	Y	Y						N	N	
408	1142653		Y	Y	Y								
408	1142653		Y	Y	Y								
409	1142654		Y	Y	Y						Y	N	N
409	1142654		Y	Y	Y						Y	N	N
411	1160582												
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412	1160583												
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413	1160581												
414	1160580												
414	1160580												
415	1142661		Y	Y	Y						N	N	
415	1142661		Y	Y	Y						N	N	
416	1142658	Occupies part of CHRISL 00416	Y	Y	Y							N	N
416	1142658	Occupies part of CHRISL 00416	Y	Y	Y							N	N
417	1238016												
417	1238016												
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421	1238020												
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422	1238021												
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423	1153076												
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430	1148206												
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437	1148325												
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442	1148271												
443	1148196												
443	1148196												
444	1148195												

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
444	1148195												
445	1148194												
445	1148194												
446	1185969												
446	1185969												
446	1185969												
447	1153080												
447	1153080												
449	1148199												
449	1148199												
450	1150338												
450	1150338												
451	1157733												
451	1157733												
452	1149737		Y	Y	Y								
452	1149737		Y	Y	Y								
453	1149736		Y	Y	Y								
453	1149736		Y	Y	Y								
456	1149742	FORMERLEY LOC 265. MESS CURRENTLY USED AS POOL HALL	Y	Y	Y								
456	1149742	FORMERLEY LOC 265. MESS CURRENTLY USED AS POOL HALL	Y	Y	Y								
456	1149742	FORMERLEY LOC 265. MESS CURRENTLY USED AS POOL HALL	Y	Y	Y								
457	1149741		Y	Y	Y								
457	1149741		Y	Y	Y								
458	1152802												
458	1152802												
458	1152802												
460	1172669												
460	1172669												
461	1190426												
461	1190426												
461	1190426												
464	1177713												
464	1177713												
465	1177714												
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466	1177715												
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467	1177716												
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LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
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520	1299315												
522	1295969												
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522	1295969												
523	1295513												
523	1295513												
523	1295513												
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524	1299308												
525	1299310												
525	1299310												
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527	1316330												
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528	1316331												
528	1316331												
529	1316332												
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532	1316335												

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
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533	1316336												
533	1316336												
534	1163393												
534	1163393												
534	1163393												
535	1326712												
535	1326712												
536	1326702												
536	1326702												
537	1326703												
537	1326703												
538	1326219												
538	1326219												
538	1326219												
540	1356057												
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556	1350191												
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564	1356058												
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567	1356054												
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567	1356054												
568	1360098												
568	1360098												
569	1360099												
569	1360099												

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
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571	1360101												
575	1379685												
575	1379685												
575	1379685												
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576	1379686												
576	1379686												
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577	1379687												
577	1379687												
578	1262716												
578	1262716												
579	1369465												
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579	1369465												
581	11031030												
1000	1180149												
1000	1180149												
1001	1180150												
1001	1180150												
1002	1180146												
1002	1180146												
1003	1180147												
1003	1180147												
1004	1229104												
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1021	1379696												
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1023	1379698												
1024	1379699												
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1027	1379702												
1028	1379703												
1029	1379704												
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1032	1379707												
1045	1379709												
	1096944		Y	Y	Y								
	1097094								ML 133B				
	1097113		Y	Y	Y								
	1097117												
	1097150								ML 137				
	1097151								ML 138				
	1097152								ML 139				
	1097153								ML 139				
	1097154								ML 140				
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	1097156								ML 111				
	1097157								ML 112				
	1097158								ML 113				
	1097159								ML 114				
	1097160								ML 115				
	1097161								ML 118				
	1097162								ML 116				
	1097163								ML 117				

LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
	1097164								ML 110				
	1097165								ML 109				
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	1097175								ML 106				
	1097176								ML 105				
	1097177								ML 108				
	1097178								ML 123				
	1097179								ML 122				
	1097180								ML 124				
	1097181								ML 125				
	1097182								ML 128				
	1097183								ML 129				
	1097184								ML 130				
	1097185								ML 133B	N	N		
	1097186												
	1097187								ML 133B				
	1097190												
	1097191								ML 133A				
	1097192								ML 133A				
	1097193								ML 133A				
	1097194								ML 131				
	1097195								ML 132				
	1097196		Y	Y	Y								
	1097197								ML 134				
	1097198								ML 136				
	1097199								ML 135				
	1097200												
	1097201												
	1097202												
	1097203												
	1097204								ML 102				
	1097205								ML 103				
	1097206								ML 104				
	1097207								ML 121				
	1097209								ML 126				
	1097210								ML 127				
	1097213		Y	Y	Y								
	1097215												
	1097216		Y	Y	Y								
	1097220									Part of this parcel is occupied by Early workings and Chinese cemet			
	1128153												
	1128469												
	1128470												
	1128475												
	1142659												
	1147781												
	1150347												
	1151255												
	1155231												
	1155232												
	1160585												
	1167302												
	1172523												
	1189459												
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LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
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	1369470												
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	11040099												
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LOCNO	PIN	LAND_USEC	SEWR	WATR	ELEC	CROWN_LES	STRATANO	RESERV_NO	MINELSE_N	COMMEN	HERITGE_I	CONTAM	OTHR_ISSU
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	11107704												
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	11167340												
	11167341												
	11167587												
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	11187570												
	11229090												
	11229110												

Christmas Island
Geographic Information System

SYSTEM DOCUMENTATION

December 2003 Release



Chapter 6.

Appendix 4: Data Licensing and Agreements



Australian Government
Department of Transport
and Regional Services
Geoscience Australia

Chapter
6

Appendix 4: Data Licensing and Agreements

Data Licensing and Agreements

The collection of nearly all the data sets on the four cd-roms comprising the Christmas Island GIS was commissioned by the Territories Office (Commonwealth Government) under a series of consultancy arrangements with various data suppliers over the past fourteen years. The Christmas Island GIS is an assembly of these multiple data collections (each of which may comprise some man-years of work) into a single easy-to-use integrated system and so represents a valuable Commonwealth asset.

Commonwealth Christmas Island GIS data licence

The copyright for all the data in the Christmas Island GIS resides with the Commonwealth (see data acknowledgments on page 7). Legal advice to Geoscience Australia and Territories Office recommends the protection of the Commonwealth's interests in any distribution of the Christmas Island GIS by way of a licence agreement. Following are a one-page licence agreement and an associated covering letter. This licence now also includes the 1:25000 scale topographic and cultural data layers for which a separate AUSLIG licence was previously required. AUSLIG is now the National Mapping Division of Geoscience Australia.

Risks of not licensing the data include: -

- allegations of liability for damages as a result of errors in the data,
- commercialisation of the data,
- proliferation of faceless data variants,
- inequitable government support between competing businesses,
- perceived breaches of privacy, and
- potential future denial of access by the Commonwealth to the data.

Arguments against licensing include: -

- it may in some cases stultify legitimate and effective use of the data for public good purposes, and
- it introduces a cumbersome overhead for both the data supplier and the data user.

The covering letter is only half a page. The Licence Terms are just over one page in length. It is important to retain this brevity. Experience indicates that long-winded licence agreements are often not read and their conditions are consequently at a greater risk of being ignored. Some users are put off using the data when there is a long and complex licence agreement to come to grips with. Consequently an important public-good benefit that might be delivered by the use of the data may never be realised.

An electronic copy of the Commonwealth Christmas Island GIS data licence is stored on the Christmas Island GIS Cd-rom #1 at directory '\cigis\documents\licenses' in file 'cigis_license.doc'. A generic covering letter is also stored in this directory (file 'generic_licensecover.doc' and together the two documents comprise the licensing advice to each stakeholder. The covering letter should be edited to correctly describe the particular proposed licensee and two copies of both documents printed for packaging with the data. One original signed copy of the Commonwealth Christmas Island GIS data licence is to be retained by the licensee and one original signed copy is to be posted back.

Our Reference: CIGIS2003
Contact: Ms. Debra Blaskett

Monday, 16 February 2004.

Organisation name:
Organisation address:

Dear Sir/Madam,

Thank you for your request for Territories Office to supply *Organisation name* with a copy of the December 2003 Christmas Island GIS ('Licensed Data'), which is in the package accompanying this letter. Territories Office offers *Organisation name* a right to use the Data in accordance with the Licence Terms enclosed with this letter. A copy of the Licence Terms is also inside the package.

BEFORE OPENING THE PACKAGE, all of the Licence Terms should be read and accepted by the User, or an authorised representative of the User. Acceptance of the Licence Terms is indicated by the User's authorised signature in the space provided below on both copies of this letter, and returning one copy to Territories Office. A fee waiver is granted for Use by *Private Organisation*, however such Use is limited to work for the Commonwealth. Use of the data by *Private Organisation* for other clients requires a separate negotiation. OR A fee waiver is granted for Use by *Government Organisation*, however provision of new data back to the Christmas Island GIS pool by *Government Organisation* is expected in return.

If the Data is used, then acceptance of the Licence Terms is deemed to have occurred even if the acceptance procedure described in the preceding paragraph has not been followed. If the Licence Terms are unacceptable, then the package, together with both copies of this letter should be immediately returned to Territories Office and the Data must not be Used by any person for any purpose. This data licence is not intended to affect the terms of, or any obligation of the parties under any separate services agreement already in place between DoTaRS and *Organisation name*.

Territories Office grants permission for *Organisation name* to freely distribute hardcopy products or hardcopy digital equivalents (eg bitmap images or powerpoint slides) created from the licensed CIGIS.

Yours Faithfully

Mr. Keith Porritt
Geoscience Australia
representing the Commonwealth of Australia
for Territories Office
Date:

.....
User / User's Authorised Representative
Name:

Position in User's Organisation:

Date:

TERMS OF A LICENCE CONCERNING DIGITAL DATA
from
the Territories Office of the Commonwealth Department of Transport and Regional Services
(‘Licence’)

IMPORTANT NOTES

‘**Territories Office**’ means the Commonwealth of Australia represented by the Territories Office of the Commonwealth Department of Transport and Regional Services.

‘**Data**’ means the Licensed Data, including any copy, reproduction, modification, adaptation, digital manipulation or graphical representation of the Licensed Data made by the User in any form, including electronic or hard-copy form.

‘**Fee**’ means the fee payable to Territories Office for the right to use the data in accordance with this Licence.

‘**including**’ is not a word of limitation.

‘**Licensed Data**’ means Territories Office’s data, including metadata and documentation, supplied by Territories Office under the letter from Territories Office to which these Licence Terms are attached.

‘**Use**’ as a noun means any use or disclosure, and, as a verb, has an equivalent meaning.

‘**User**’ means any person who Uses the Data, or, if the Use is in connection with the person’s employment, the person’s employer.

The Data is intended for use only by people who have professional knowledge of the use and application of geographic information system (GIS) data.

TERMS

The User:

- (a) must pay the Fee to the Commonwealth in accordance with Territories Office’s directions;
- (b) may, on a non-exclusive basis, use and disclose the Data only for the User’s internal business purposes carried out in person by its employees, or by the User’s consultants exclusively for work on the User’s internal business, or, if the User is an individual, the User’s personal use (**‘Purpose’**);
- (c) may make back-up copies of the Data; and
- (d) must not, except as provided under **paragraph (b)**, distribute or transmit the whole or any part of the Data, whether alone or in combination with any other data or information in any form, to any person.

Nothing in this Licence affects ownership of any person’s rights in the Data.

WARRANTY

To the full extent allowed by the applicable law Territories Office excludes from this Licence all warranties, express or implied, including any warranty of fitness of the Data for any purpose. If Territories Office breaches any warranty that, by the applicable law, cannot be excluded, then Territories Office’s sole liability to the User for that breach will be, at its choice, to resupply the Data without additional charge to the User or refund the Fee.

ASSUMPTION OF RISK

The User assumes sole risk and responsibility for its Use of the Data.

Territories Office does not warrant or make any representations:

- (a) that the Data will be complete, accurate, reliable or error free;
- (b) as to the accuracy, reliability or content of any information obtained from Using the Data.

Territories Office disclaims any and all liability for any injury, damage or loss (including, but not limited to, economic loss) howsoever arising out of any Use of the Data.

Territories Office is not responsible for any failure to carry out its obligations under this Licence if that failure is for any cause beyond Territories Office’s reasonable control.

TERMINATION

Territories Office may terminate this Licence immediately by written notice if the User breaches this Licence or for convenience on 30 days notice.

When this Licence ends the User must return or destroy all copies of the Data in its possession or under its control.

APPLICABLE LAW

This Licence will be interpreted according to the laws of the Australian Capital Territory, Australia.

ALTERATION

This Licence be altered only in writing signed by Territories Office and an authorised representative of the User.

WAIVER

Waiver of any provision or right under this Licence:

- (a) must be in writing signed by the party entitled to the benefit of that provision or right; and
- (b) is effective only to the extent set out in the written waiver.

ENTIRE AGREEMENT

This Licence:

- (a) constitutes the entire agreement between Territories Office and the User as to its subject matter; and
- (b) in relation to that subject matter, supersedes any prior understanding or agreement between Territories Office and the User and any prior condition, warranty, indemnity or representation imposed, given or made by Territories Office or the User.

UN CONVENTION

Territories Office and the User agree that the provisions of the United Nations Convention on Contracts for the International Sale of Goods are expressly excluded from this Agreement.

DISPUTE RESOLUTION

The parties (meaning Territories Office and the User) must attempt to resolve any dispute or difference that may arise between them in relation to this Agreement (‘Dispute’) through amicable consultation, based on principles of mutual benefit, equality, cooperation and trust. Accordingly, a party must not start arbitration or court proceedings (except proceedings seeking interlocutory relief) about a Dispute unless it has complied with the following paragraphs (a) - (e):

- (a) A party claiming that a Dispute has arisen must notify the other party to the Dispute giving details of the Dispute (**‘Notification’**);
- (b) On receipt of a Notification each party must negotiate in good faith to resolve the Dispute and, if necessary to resolve the Dispute, involve the Chief Executive Officers or other senior officers of the parties directly in those negotiations;
- (c) If the Dispute involves technical matters and has not been resolved by negotiations under paragraph (b) within a reasonable time, then the parties will refer the Dispute for

- determination by an independent expert agreed by the parties in the technical field the subject of the Dispute;
- (d) If the Dispute is not resolved under **paragraph (b) or (c)** within thirty days (or longer period agreed between the parties), and if the User's principal address is in Australia, then the parties must refer the Dispute for mediation by the Australian Commercial Dispute Centre Limited ('ACDC') for resolution in accordance with the Mediation Rules of the ACDC;
- (e) If the Dispute is not resolved under **paragraph (b) or (c)** within thirty days (or longer period agreed between the parties), and if the User's principal address is not in Australia, then the parties must refer the Dispute to arbitration for resolution in accordance with the UNCITRAL Model Law on International Commercial Arbitration. Notwithstanding any provision of the UNCITRAL rules to the contrary, the parties agree that:
- (i) the number of arbitrators shall be one;
 - (ii) the place of arbitration will be Canberra, Australian Capital Territory, Australia;
 - (iii) all proceedings will be conducted in the English Language;
 - (iv) the applicable law is the law of the Australian Capital Territory; and
 - (v) the determination of the arbitrator shall be final and binding on the parties and the costs of the arbitration shall be borne and paid for as the arbitrator directs.

- (f) If the Dispute is not resolved under **paragraph (d) or (e)** within sixty days after referral (or longer period agreed between the parties) either party may initiate proceedings in a court

FURTHER INFORMATION

Historical information may be contained in the Data, metadata or documentation of the Data. If the User requires further information about the Data or its history, then contact

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Assistant Director,
Territories Office Perth,
Department of Transport and Regional Services.
Ph: (08) 9237-6039
Fax: (08) 9221-8683
Email: deb.blaskett@dotars.gov.au

TO—DOLA Arrangement for cadastre

Through Territories Office, the Commonwealth pays the Western Australian Department of Lands Administration (DOLA) to maintain the cadastre as passed from Australian Land Information Group (AUSLIG) in 1992. A copy of the Arrangement under which Territories Office contract DOLA to do this work is included in prior versions of the CIGIS System Documentation.

CI and Cocos cadastre is owned by the Commonwealth but maintained by DOLA.

Prior to contracting DOLA in the 1990's, the Commonwealth through AUSLIG WA had maintained the cadastre data for Christmas Island and Cocos. Subsequently (in 1992) the Commonwealth Australian Surveying and Land Information Group, West Australian branch (AUSLIG WA) provided DOLA with the cadastre information for the IOTs. Ex-AUSLIG WA senior staff employed by the Commonwealth at the time include Matt Eagan (Ph 08 9268 4570 - now at LandInfo, a subsidiary of SKM), Ian Jackson and Glenn Bush. Matt reports that in the course of the data hand over to DOLA, the Commonwealth never relinquished ownership of the data.

An interesting recent development has been the merging of AUSLIG and AGSO to form Geoscience Australia in November 2001.

External customers seeking the IOT cadastre data from DOLA obtain it through the standard DOLA WA data provision system which includes a standard DOLA cadastre data licence agreement. DOLA staff have speculated that perhaps DOLA might introduce a separate licensing agreement for Christmas and Cocos data. However, it has been canvassed that there is convenience in a standard delivery system and extra cost and confusion could result from trying to run two licensing systems.

The Arrangement between the Commonwealth (represented by Territories Office) and DOLA states in paragraph 4.1 that: -

"4.1 All assets purchased in accordance with this Arrangement and on the basis of reimbursement under this Arrangement, will be and continue to be the property of the Commonwealth."

Christmas Island
Geographic Information System

SYSTEM DOCUMENTATION

December 2003 Release



Chapter 7.

Appendix 5: Ecowise Environmental Data Documentation



Australian Government
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Chapter 7

Appendix 5: Ecowise Environmental Data Documentation

Description of the Water Resources GIS data layers supplied by Ecowise.

Draft
Report
on
Water Resources Component
Christmas Island GIS



by
Vince Hazell
ECOWISE Environmental Pty Ltd
prepared for

Christmas Island Administration
&
the Australian Geological Survey Organisation

Dec 1999

Draft Report Christmas Island Water Resources GIS data

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Abbreviations

AGSO	Australian Geological Survey Organisation
DTRS	Department of Transport and Regional Services
CIGIS	Christmas Island Geographic Information System
AUSLIG	Australian Surveying and Land Information Group.

1. Executive Summary

1.1. Introduction

This document seeks to provide a description of the Water Resources GIS data layers that have been compiled by ECOWISE Environmental as part of the Christmas Island Groundwater investigations and monitoring report (EHYD 99/17). This report was prepared for GHD Pty Ltd and Christmas Island Administration by Tony Falkland, ACTEW Corporation Ltd 1999. The GIS data and mapping developed for this report was compiled by Vince Hazell and Steve Grey from ECOWISE Environmental Pty Ltd.

The following data layers have been collated on a CD in ArcView shapefile format:

- Locations of freshwater Aquifers showing boundaries as best current information will allow.
- Assessment of freshwater Aquifer vulnerability.
- The location of monitoring bores, current water collection locations, caves, non-developed (possible) water collection sites and section data.

Additional data and information on the CD includes:

- Graphical data (. jpeg files) showing section profiles.
- Image files of maps included in the original report.

1.2. Outputs

As required, outputs of this project include:

- Water resources layers with spatial data and attribute data on a CD (entitled Christmas Water Resources CD). This CD will be made available to the Australian Geological Survey Organisation for incorporation into the overall Christmas Island GIS and for subsequent distribution to the Christmas Island Administration, the Department of Transport and Regional Services and other authorised users. Separate copies of the CD can be made available, on request, to the Christmas Island Administration and the Department of Transport and Regional Services.
- This report summarising the data layers on the accompanying CD.

1.3. Recommendations

(a) Need for greater accuracy of some locations

While this project has mapped boreholes and water collection locations as accurately as possible, it is recommended that the location of boreholes and water collection points be obtained more accurately in the field.

(b) Need for updating of water quality data at 2-year intervals

The water quality data obtained from boreholes and other sites (e.g. Water collection sites and monitoring bores) is obtained at regular intervals and databases are updated as part of a regular monitoring program. It is recommended that the water resources information contained in this GIS be updated at appropriate intervals (e.g. every 2 years).

2. Data Location and CD Structure

The Christmas Island Water Resources CD consists of the following files and directories:

- Christmas Island Water Resource.apr
- GIS_Data directory
- Documentation directory

Details of each of these are described below:

2.1. Christmas Island Water Resources.apr

"Christmas Island Water Resources.apr" is an ArcView project, which includes base data as obtained from CIGIS data provided by AGSO.

The project is in the same projection as the base data using GIG85 projection. GIG85 projection is a plane rectangular grid coordinate system with the True Origin at UTM GRID Zone 48 coordinates 570 000mE and 8 840 000 mN (WGS 72). At that point the false origin is 20 000mW of True Origin.

The project is set up with 4 Views:

- (a) Christmas Island Working View. (View of the entire Christmas Island water resources data sets.)
- (b) Christmas Island Aquifer View. (View of the Christmas Island Aquifers).
- (c) Christmas Island Vulnerability View. (View of the Christmas Island Aquifer(s) vulnerability).
- (d) Section View. (View of Christmas Island near Smithson Bight displaying section locations and related monitoring bores).

The sections directory contains two jpeg files that display a cross section of the island with bore site locations included.

There are also six jpeg files in the maps_jpg directory that are images of the maps included in the report.

2.2. Document Directory

The contents of the Documentation Directory are summarised in the table below.

Contents of the Documentation Directory

File Name and Type	Properties/Description
Report.doc	• Summary of Data collection process, and data collected • Outlines the type and location of data on the CD • Outlines the metadata for all shapefiles on the CD
Ground Water Investigation and monitoring report Nov 1999.zip	• Ground Water Investigation and monitoring report Nov 1999
Water Management Plan, Nov 1999.zip	• Water Management Plan, Nov 1999

2.3. GIS_Data Directory

Stores all GIS data for the project. Water resources data and related files developed by ECOWISE Environmental is held in all directories except the land_base directory that stores relevant CIGIS data supplied by AGSO.

The contents of the GIS_data sub-directory are summarised in the table below. Additional metadata for each shapefile, has been recorded in the metadata section of this report.

Contents of the GIS_data sub-directory

Directory	Shapefiles within each subdirectory
Bores&wells	Mb_pre1996.shp mb_install1996.shp non_developed.shp water_collection_location.shp
Caves	caves.shp
Grids	Dtm.e00 hillshade.e00
Land_base	GIGIS shapes files
Legends	Legend (avl) files for shape files
Maps_jpg	6 JPG files of the map documents included in the report documents.
Sections	section1.shp section2.shp section1.jpg section 2.jpg
Water_boundaries\vulnerability	h_brackish_saline.shp h_vulnerability.shp vh_vulnerability.shp vh_vuln_line.shp
Water_boundaries\aquifers	basal_aquifer_brackish.shp basal_aquifer_fresh.shp perched_aquifer_fresh.shp perched_aquifer_line.shp

3. Shapefiles & GRID Metadata

All shapefile data are in GIG85 projection, plane rectangular grid coordinate system with the True Origin at UTM GRID Zone 48 coordinates 570 000mE and 8 840 000 mN (WGS 72) At that point the UTM false origin is 20 000mW or True Origin. Metadata and a description of each shapefile is provided below.

3.1. Bores&wells directory; shapefiles

The "bores&wells" directory contains point locations of monitoring, non developed and water collection sites. The data is described in the following tables.

3.1.1. Mb_pre1996.shp

'Mb_pre1996.shp' file is a point shapefile showing location of the monitoring bores that were installed prior to 1996.

Accuracy: Points have been recorded based on data collected from hand drawn maps and reports and local knowledge. Two sites WB 72 and WB73 were located by way of x and y coordinates supplied by GPS survey. Site WB 30 was located by local knowledge of the sites. Location of bores should fall within accuracy ± 20m.

Field	Properties/Description
Shape	Shapefile type (points)
Bore_hole	Borehole Identification Code
East	Easting
North	Northing
Height	Height above Sea level

3.1.2. Mb_install1996.shp

'Mb_install1996.shp' file is a point shapefile showing location of the monitoring bores that were installed in 1996.

Accuracy: These sites have been located by DGPS survey information collected as part of the reports. The accuracy of these points should fall within $\pm 20\text{m}$.

Field	Properties/Description
Shape	Shapefile type (points)
X-cord	X coordinates of boreholes in UTM48, WGS 84 projection
Y-cord	Y coordinates of boreholes in UTM48, WGS 84 projection
Hight	Height above sea level
Bore ID	Borehole identification code
Chainage	Distance to coast (Chainage)

3.1.3. non_developed.shp

The shapefile 'non_developed.shp' contains point locations of possible areas where freshwater could be collected, but as yet these points have not been developed.

Accuracy: These sites have been located by local knowledge and hardcopy mapping collected as part of the reports. No X and Y coordinate points have been added to the attribute table. The accuracy of these points should fall within $\pm 10\text{m}$.

Field	Properties/Description
Shape	Shapefile type (points)
Id	Identification number
Site_name	Name of site

3.1.4. water_collection_location.shp

'Water_collection.shp' is a shapefile showing locations of freshwater collection.

Accuracy: These sites have been located by local knowledge and hardcopy mapping collected as part of the reports. No X and Y coordinate points have been added to the attribute table. The accuracy of these points should fall within $\pm 10\text{m}$.

Field	Properties/Description
Shape	Shapefile type (points)
Id	Identification number
Site_name	Name of site

3.2. Caves directory; shapefiles

3.2.1. Caves.shp

The 'caves.shp' shapefile shows the location of cave structures on Christmas Island. It also details the current status of the cave in relation to possible future use of the site for water collection purposes.

Accuracy: These sites have been located by local knowledge and hardcopy mapping collected as part of the reports. No X and Y coordinate points have been added to the attribute table. The accuracy of these points should fall within $\pm 10\text{m}$.

Field	Properties/Description
Shape	Shapefile type (points)
Id	Identification number
Site_name	Name of site
Purpose	Use and properties of caves

3.3. Land_base directory; shapefiles

Shapefiles collected in the Land_base directory including 'Tracks.shp', 'Streams.shp', 'Roads.shp', 'National_parks.shp', 'coastpoly.shp', 'vegetation.shp', 'mine_lease.shp' and '10m_contours.shp', are base data layers compiled or collected by AGSO for the Christmas Island Geographic Information System. Data type and accuracy relates directly to initial data compilation and collection, carried out by AGSO in 1996 (see "Geographic Information System for Christmas Island System Documentation" volume 2, AGSO Contact Officer – Keith Porritt).

This data has been included on the CD product to allow users a base level data from which they can gain basic topographic references. Data within the Land_base directory is the property of DTRS, AGSO and AUSLIG

3.4. Sections directory; shapefiles

3.4.1. Section1.shp

The shapefile 'Sections1.shp' shows the cross section passing through boreholes BH3, BH2 and BH1. This section is used to show the salinity and water quality change from the coastline through to the edge of the perched aquifer, based on salinity monitoring at each of these three boreholes.

Accuracy: These sections have been located in relation to the monitoring bores installed in 1996, water collection, water collection sites and non-developed sites. The accuracy of these section points should fall within $\pm 20\text{m}$ of the monitoring bores.

Field	Properties/Description
Shape	Shapefile type (line)
Section	Part of total cross section
Count	Number of sections per polyline
Feature	Name of section

3.4.2. Section2.shp

The shapefile 'Sections2.shp' shows the cross section passing through boreholes BH3, BH2, BH1, Jane up, Jedda Cave and Grant's Well. This section is used to show the salinity and water quality change from the coastline through to the center of Christmas Island, based on salinity monitoring at each of these three boreholes. This section also shows the variation in depth of the volcanic rock base.

Accuracy: The sections shapefiles have been used to extract the bores_pro.shp points from the DTM GRID. The sections are within $\pm 20\text{m}$ of the relative monitoring points that fall along their path.

Field	Properties/Description
Shape	Shapefile type (line)
Section	Part of total cross section
Count	Number of sections per polyline
Feature	Name of section

3.4.3. Section2_pro.shp

The 'Section2_pro.shp' shapefile has been extracted from the 10m, 25,000 scale contours that have been interpolated to create an ArcInfo DTM GRID. This DTM GRID was then used to extract the Section2_pro.shp points based on chainage. This data was used to provide the surface profile seen in the 2 sections, .jpeg graphs. (Refer to the directory, GIS_data/sections.)

Accuracy: These points fall along the section shapefiles that have been located by the locations of the monitoring, water collection and non-developed sites. The sections should fall within $\pm 20\text{m}$ of the

water monitoring, water collection and non-developed sites. The Z value of the points is based on the interpolation of the 10m, 25,000 scale contours supplied with the CIGIS data

Field	Properties/Description
Shape	Shapefile type (points)
Borepro_id	Bore identification number
Fx	X coordinates of boreholes in UTM48, WGS 84 projection
Fy	Y coordinates of boreholes in UTM48, WGS 84 projection
Distance	Distance from coast
Spot	Spot height (m above sea level)

3.5. Water Boundary/Vulnerability directory; shapefiles

3.5.1. h_brackish_saline.shp

The shapefile 'h_brackish_saline.shp' contains polygon data indicating the approximate area where collection or monitoring will most likely provide brackish or saline water due to saltwater intrusion.

Accuracy: The estimated extent of the boundary is based on information from salinity monitoring boreholes and some estimation based on knowledge of freshwater aquifer behavior near the edges of the island. The boundaries are somewhat subjective and are in fact not fixed, as they will move according to wet and dry periods. Hence it is difficult to generate an accuracy estimate. It could be said that the high brackish or saline boundary would normally be within 30m of the boundary shown, but this could be greater during very dry or very wet periods

Field	Properties/Description
Shape	Shapefile type (polygon)
Area	Approximate surface area of brackish, saline water with high vulnerability (square meters)
Perimeter	Approximate perimeter of brackish, saline water with high vulnerability
Acres	Approximate surface area of brackish, saline water with high vulnerability (acres)
Sq_km	Approximate surface area of brackish, saline water with high vulnerability (square kilometers)

3.5.2. vh_vuln_line.shp

The shapefile 'vh_vuln_line.shp' contains line data indicating the approximate boundary of the freshwater aquifer that is of very high risk of contamination and over extraction.

Accuracy: The estimated extent of the boundary is based on information from salinity monitoring boreholes and some estimation based on knowledge of freshwater aquifer behavior on the island. The boundaries are somewhat subjective and are in fact not fixed, as they will move according to wet and dry periods. Hence it is difficult to generate an accuracy estimate. It could be said that the very high vulnerability boundary would normally be within 30m of the boundary shown, but this could be greater during very dry or very wet periods

Field	Properties/Description
Shape	Shapefile type (line)
Id	Identification Number
Area	Approximate surface area of areas with very high vulnerability (square meters)
Perimeter	Approximate perimeter of areas with very high vulnerability
Acres	Approximate surface area of areas with very high vulnerability (Acres)

3.5.3. vh_vulnerability.shp

The shapefile 'vh_vulnerability.shp' contains polygon data indicating the approximate area of the perched aquifer that is at very high risk from water contamination and over extraction.

Accuracy: The estimated extent of the boundary is based on information from salinity monitoring boreholes and some estimation based on knowledge of freshwater aquifer behavior on the island. The boundaries are somewhat subjective and are in fact not fixed, as they will move according to wet and dry periods. Hence it is difficult to generate an accuracy estimate. It could be said that the very high vulnerability boundary would normally be within 30m of the boundary shown, but this could be greater during very dry or very wet periods.

Field	Properties/Description
Shape	Shapefile type (polygon)
Id	Identification Number
Area	Approximate surface area of areas with high vulnerability (square meters)
Perimeter	Approximate perimeter of areas with high vulnerability
Acres	Approximate surface area of areas with high vulnerability (acres)

3.5.4. h_vulnerability.shp

The shapefile 'h_vulnerability.shp' contains polygon data indicating the approximate boundary of the basal aquifer that is at high risk from water contamination and over extraction.

Accuracy: The estimated extent of the boundary is based on information from salinity monitoring boreholes and some estimation based on knowledge of freshwater aquifer behavior on the island. The boundaries are somewhat subjective and are in fact not fixed, as they will move according to wet and dry periods. Hence it is difficult to generate an accuracy estimate. It could be said that the high vulnerability boundary would normally be within 30m of the boundary shown, but this could be greater during very dry or very wet periods

Field	Properties/Description
Shape	Shapefile type (polygon)
Id	Identification number
Area	Approximate surface area of the perched aquifer with very high vulnerability (square meters)
Perimeter	Approximate perimeter of the perched aquifer with very high vulnerability
Acres	Approximate surface area of the perched aquifer with very high vulnerability (Acres)

3.6. Water Boundary/Aquifers directory; shapefiles

3.6.1. Perched_aquifer_fresh.shp

The shapefile 'Perched_aquifer_fresh.shp' contains polygon data indicating the approximate boundary of the freshwater perched aquifer on Christmas Island.

Accuracy: The estimated extent of the boundary is based on information from salinity monitoring boreholes and some estimation based on knowledge of freshwater aquifer behavior on the island. The boundaries are somewhat subjective and are in fact not fixed, as they will move according to wet and dry periods. Hence it is difficult to generate an accuracy estimate. It could be said that the freshwater perched aquifer boundary would normally be within 30m of the boundary shown, but this could be greater during very dry or very wet periods

Field	Properties/Description
Shape	Shapefile type (polygon)
Id	Identification number
Area	Approximate surface area of perched aquifer (square meters)
Perimeter	Approximate perimeter of perched aquifer
Acres	Approximate surface area of perched aquifer (Acres)

3.6.2. Perched_aquifer_line.shp

The shapefile 'Perched_aquifer_line.shp' contains line data indicating the approximate boundary of the perched aquifer on Christmas Island.

Accuracy: The estimated extent of the boundary is based on information from salinity monitoring boreholes and some estimation based on knowledge of freshwater aquifer behavior on the island. The boundaries are somewhat subjective and are in fact not fixed, as they will move according to wet and dry periods. Hence it is difficult to generate an accuracy estimate. It could be said that the very perched aquifer boundary would normally be within 30m of the boundary shown, but this could be greater during very dry or very wet periods

Field	Properties/Description
Shape	Shapefile type (line)
Id	Identification number
Area	Approximate surface area of perched aquifer
Perimeter	Approximate perimeter of perched aquifer
Acres	Approximate surface area of perched aquifer (Acres)

3.6.3. Basal_aquifer_brackish.shp

The shapefile 'Basal_aquifer_brackish.shp' contains line data indicating the approximate boundary of the basal aquifer with brackish or saline water, on Christmas Island.

Accuracy: The estimated extent of the boundary is based on information from salinity monitoring boreholes and some estimation based on knowledge of freshwater aquifer behavior on the island. The boundaries are somewhat subjective and are in fact not fixed, as they will move according to wet and dry periods. Hence it is difficult to generate an accuracy estimate. It could be said that the brackish or saline basal aquifer boundary would normally be within 30m of the boundary shown, but this could be greater during very dry or very wet periods

Field	Properties/Description
Shape	Shapefile type (polygon)
Area	Approximate surface area of basal aquifer, brackish (square meters)
Perimeter	Approximate perimeter of basal aquifer, brackish
Acres	Approximate surface area of perched aquifer, brackish (Acres)
Area	Approximate surface area of basal aquifer, brackish (square km)

3.6.4. Basal_aquifer_fresh.shp

The shapefile 'Basal_aquifer_fresh.shp' contains polygon data indicating the approximate boundary of the fresh water basal aquifer on Christmas Island.

Accuracy: The estimated extent of the boundary is based on information from salinity monitoring boreholes and some estimation based on knowledge of freshwater aquifer behavior on the island. The boundaries are somewhat subjective and are in fact not fixed, as they will move according to wet and dry periods. Hence it is difficult to generate an accuracy estimate. It could be said that the freshwater basal aquifer boundary would normally be within 30m of the boundary shown, but this could be greater during very dry or very wet periods

Field	Properties/Description
Shape	Shapefile type (polygon)
Area	Approximate surface area of basal aquifer, fresh (square meters)
Perimeter	Approximate perimeter of basal aquifer
Acres	Approximate surface area of perched aquifer (Acres)

3.7. Grids directory; export files

The grids directory has two ArcInfo GRIDS that have been compressed as ArcInfo export files. These GRIDS can be imported, viewed and queried within ArcInfo (GRID extension required) or ArcView (requires Spatial Analyst extension). Once imported they can also be viewed as images in ArcView without the Spatial Analyst extension.

3.7.1. DTM.e00 ArcInfo export file

This GRID has been interpolated from the 10m intervals, 25,000 scale contours that are available on the CIGIS data CD product. ECOWISE Environmental have used the contours to create a digital terrain model (DTM) of Christmas Island to aid in the analysis of the water resource information and to create GIS products including the bores_pro.shp. Mapping product has also been created using the DTM in combination with the hillshade GRID for 3D-visualisation effect. Maps displaying this data can be viewed in the maps_jpg directory.

3.7.2. Hillshade.e00 ArcInfo export file

This GRID has been created from the DTM GRID and is a hillshaded representation of the DTM GRID. This GRID has been created and used by ECOWISE Environmental to be used in conjunction with the DTM GRID to provide users with a 3D visualisation of Christmas Island.

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Appendix 6: Christmas Island GIS CD-ROMs



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