

Christmas Island
Geographic Information System
System Documentation
June 2001 Release

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

by Keith Porritt, Andrew Lucas and Martin Sholtez,
AGSO – Geoscience Australia

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AGSO Catalogue #37388

Disclaimer

The data in this GIS were assembled by the Mineral Resources and Advice Project of the Australian Geological Survey Organisation (AGSO). In compiling the product, AGSO has translated and integrated data as received from many other sources. AGSO 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:

Mr. Peter Lawler,
Policy - Indian Ocean Territories,
Department of Territories and Regional Services.
Ph: 02 6274 8023
Fax: 02 6274 8065
Email: peter.lawler@dotrs.gov.au

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Acknowledgments

Christmas Island GIS Team

The Mineral Resources and Advice Project of the Australian Geological Survey Organisation would like to acknowledge the support of Mr. Hugh Moore and Mr. Peter Lawler of Territories Office whose efforts made the undertaking of this work possible.

A number of people from AGSO contributed to the Christmas Island GIS. Dr. William McKay provided management support and advice. For the 2001 release Mr. Martin Sholtez developed a substantial proportion of the HTML documentation and contributed data edits and documentation for a number of datasets. Mr. Andrew Lucas had a substantial input to the development of the original 1996 version of the Christmas Island GIS.

Through this team effort valuable spatial and attribute data, that over time may have become lost, are now 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 thirteen years for nearly all of the data.

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, this 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. A separate licence agreement applies to this data set (see Appendix 5).

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 1996 Census indicated that there were 1906 people ordinarily resident in Christmas Island. 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.

Chapter 1

Introduction

Background

This documentation accompanies the delivery of the Christmas Island Geographic Information System (CIGIS) June 2000 release to the Territories Office, Department of Territories and Regional Services (DoTRS) and also to CIGIS stakeholders under a support and supply arrangement with DoTRS.

The CIGIS was first developed by the Australian Geological Survey Organisation (AGSO) for DoTRS in 1996. Subsequently there were ad hoc updates through follow-on CIGIS 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.

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 to interpret, translate and document the data. AGSO 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 AGSO 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 this document is included with this documentation as Appendix 2.

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. AGSO has made every effort to correct errors in the source data. 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. AGSO 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 Christmas Island Grid 1985 projection (CIG85). As defined on the AUSLIG 1992 1:1000 dyeline plans;

CHRISTMAS ISLAND GRID 1985 (CIG85)

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 (WGS 72). At that point the false origin is 20 000mW and 60 000mS of True Origin.

The surveyor¹ on Christmas Island advised that in 1995 the CIG85 was the grid in use. AGSO have accepted this coordinate system as the basis for the Christmas Island GIS.

CIG85 is merely a shift on UTM. It is important to correctly apply the two shifts that are involved. UTM uses 500 000 and 10 000 000. CIG85 shifts eastings by 550 000 and northings by 8 780 000. To go directly between geographics and CIG85 you need to apply the correct combination of both shifts.

The Western Australian Department of Land Administration (DOLA), who became the custodians of the cadastral data in 1992, devised a new local grid called Christmas Island Grid 1992 (CIG92). However, the Island's surveyor and the mining company had not adopted this new grid. Furthermore all existing data for Christmas Island from either the mine or from AUSLIG was in CIG85 and conversion of all these datasets to CIG92 was beyond the scope of the original project. Projection of source data to CIG85 when required was complex due to spatial inaccuracy in some source data and lack of metadata accompanying most source data.

Since 1997 the surveyor on the Island has successfully produced CIG85 co-ordinates from differential GPS. He has accurately mapped old tracks by driving along them with a GPS recording continuously. The points he has supplied agree perfectly with the tracks as visible on the CIGIS orthophotography. In the near future, it is expected that DOLA will do away with CIG92 and move its cadastral coordinate system for the Island to the Geocentric Datum of Australia 1994 (GDA94) and have a transformation available.

¹ Russell Payne, The Christmas Island Surveying Company Pty Ltd (cisurvey@iocomm.com.au).

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 1: 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 1987.

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, AGSO expects the Christmas Island orthophotography over the Island to generally be within a meter of its true position as determined by the CIG85 projection. 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).

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, AGSO has supplied orthophotography in two reduced size formats:

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

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 'averm21.exe' is on CD2 in folder '\util\arcview\extensions'.



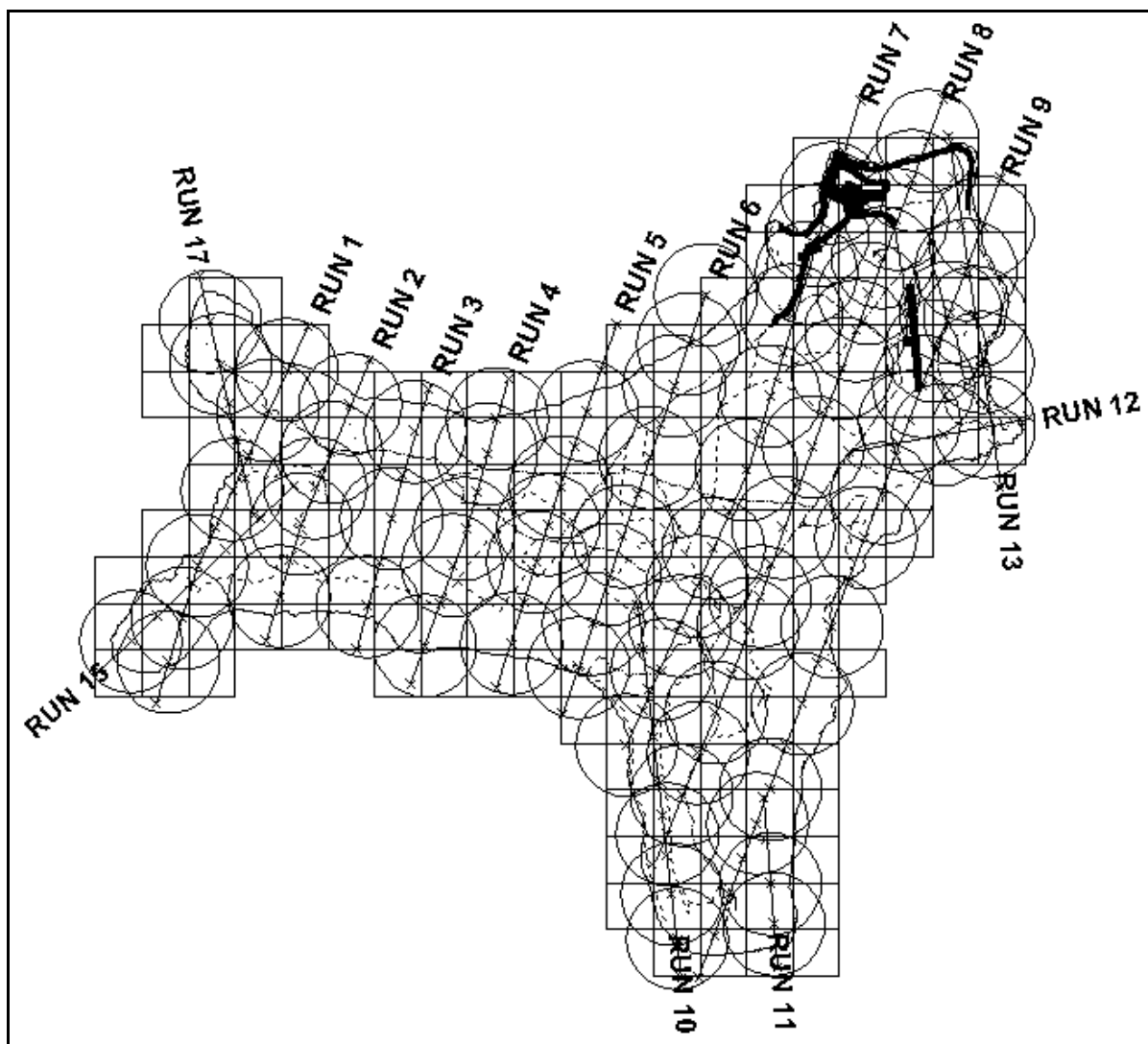


Figure 3: Flight lines and photo circles of the 1987 aerial photographs used for the Christmas Island GIS orthophotography. Flight lines are numbered at one end of the line.

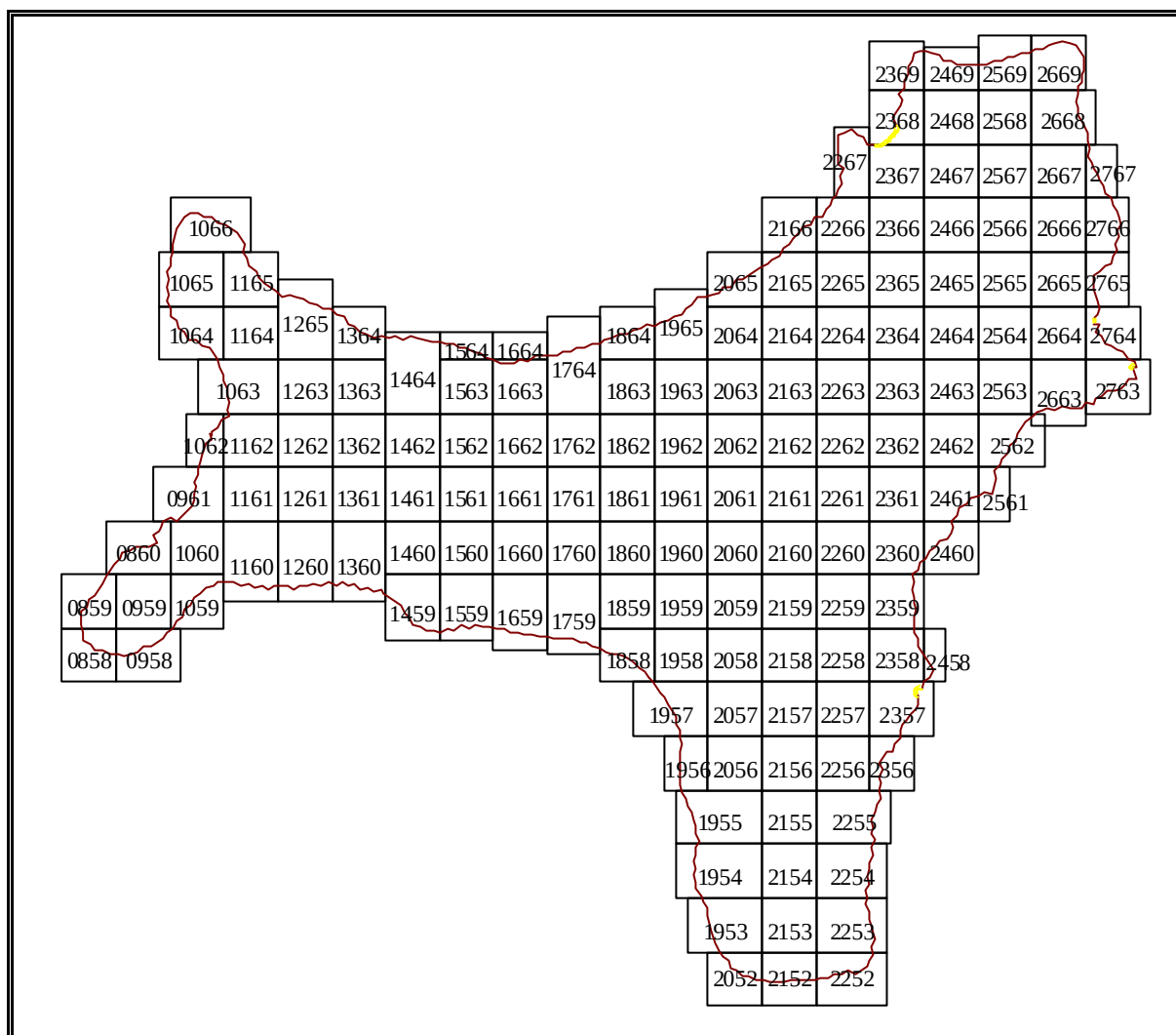


Figure 4: Index of the orthophotography showing the names and extents of each orthophotograph tile. Each '.tif' file is associated with a '.tfw' file which georeferences the image. The index file is stored as a shapefile ('1ktilbnd.shp') for use within ArcView and ArcExplorer projects.

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. AGSO applied a shiny colour drape algorithm to the DEM tiles in ERMMapper® 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.

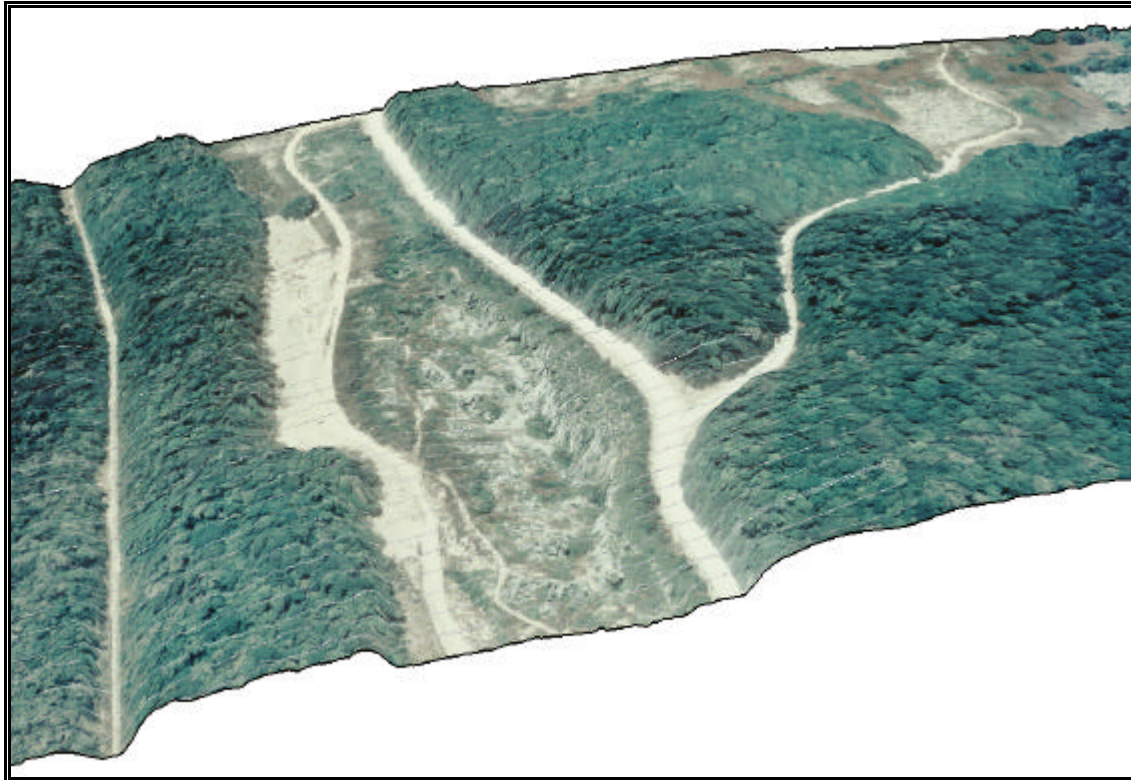


Figure 5: Three-dimensional drape of orthophotography over DEM (South Point area), showing that the DEM surface is not always the ground surface. In this case much of the DEM surface is tree canopy. The DEM cell size over rainforest is 5 metres, while over disturbed areas it is 1 metre.

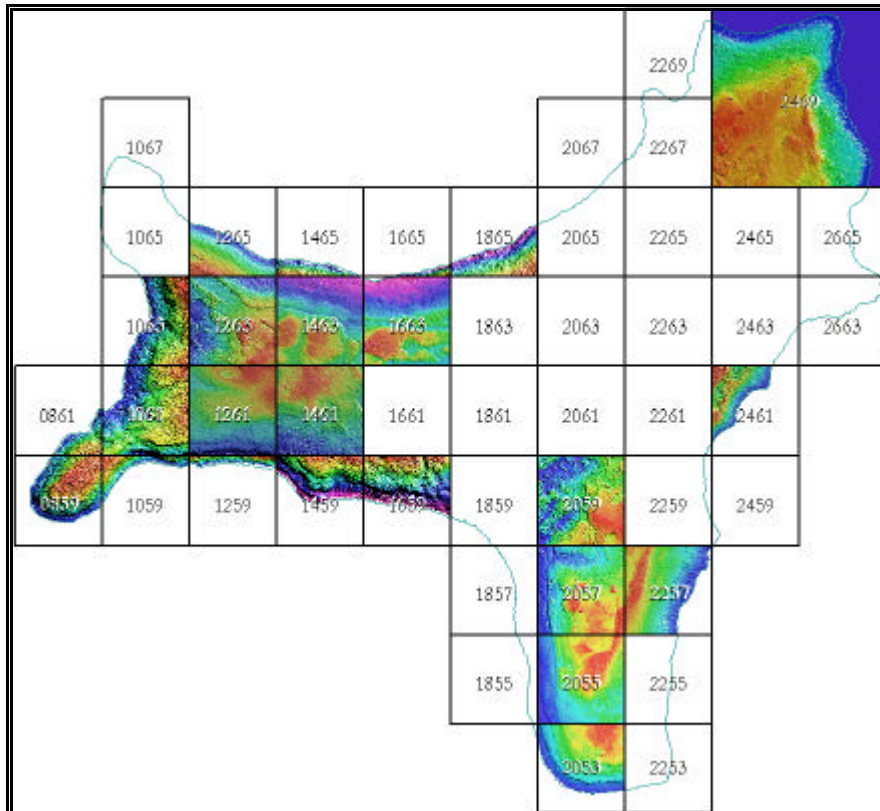


Figure 6: Shiny colour drape DEM tiles supplied with the CIGIS. Further tiles can be generated by AGSO. The colour range for each tile has been generated so as to give a maximum of information, hence colours may not match at adjoining edges.

There is one 4 kilometres by 4 kilometres tile (tile number 2469) at the northeastern 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 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. 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.

Cadastre and Ground Audit

Cadastre

Cadastre was supplied by DOLA as an ESRI shapefile. On-going maintenance of cadastre has been undertaken by DOLA under a Memorandum of Arrangement with Territories Office. The cadastre snapshot packaged on this cd-rom set was extracted from the DOLA database on 22nd May 2001.

An e-mail message accompanying the supplied data implied geographic projection (GDA94). No other metadata was received. Metadata for DOLA cadastre on the WALIS webpages appears not to apply to Indian Ocean Territory cadastre (the geographic extent does not include these territories). AGSO projected the cadastral dataset to CIG85 using the ArcView 3.2a projection utility. Matches between some cadastral boundaries and the 1:25000 AUSLIG data confirmed correct projection.

AGSO converted the shapefile to an ArcInfo coverage in order to run quality assurance tests and to make changes in order to match existing data. Minimal changes were made, including the following:

1. Shifting of all cadastral boundaries by 15.30 metres west and 0.36 metres south except lines based on the 1:25000 coastline (which matched existing data - see Figure 7),
2. Deletion of dangles, and some apparently erroneous polygons and
3. Modification of a portion of coastline consistent with known data (Figure 8).

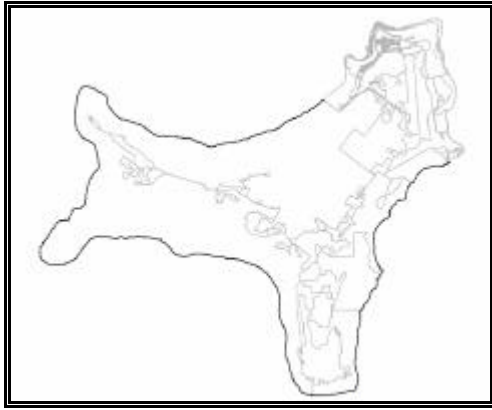


Figure 7: Cadastre boundaries (grey lines) which required a shift subsequent to projection, in order to match existing data.

Issues noted but not modified include very small polygons or very narrow portions of polygons, irregular jags in linework and an apparent buffer shift (see Figure 9).

The majority of attributes in the final cadastre shapefile are from the Ground Audit data, which were joined to the cadastre using the cadastre field A_pin and the Ground Audit field Pin.

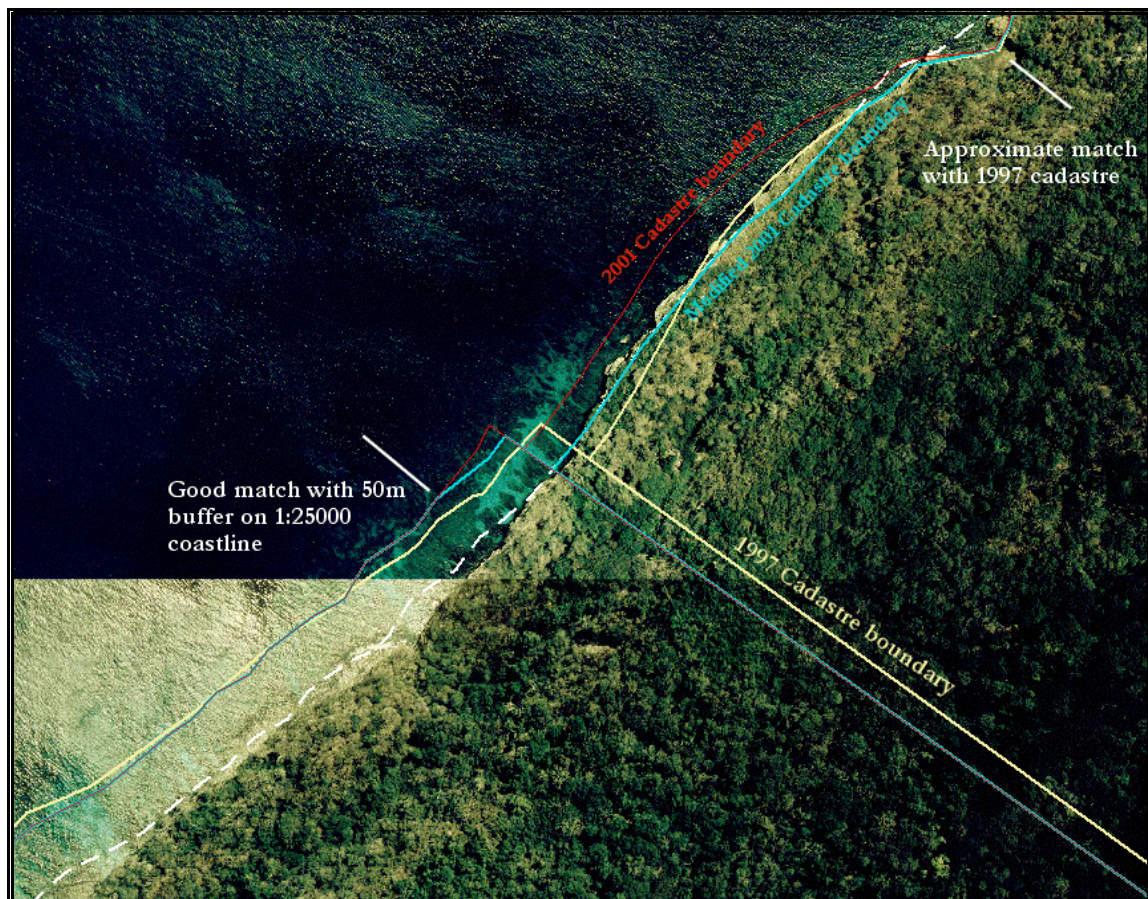


Figure 8: Cadastral boundaries modified by AGSO. The blue boundary is the modified boundary in the CIGIS. The red boundary is 2001 cadastre after receipt, projection and shifting. The yellow boundary is the 1997 cadastre boundaries.

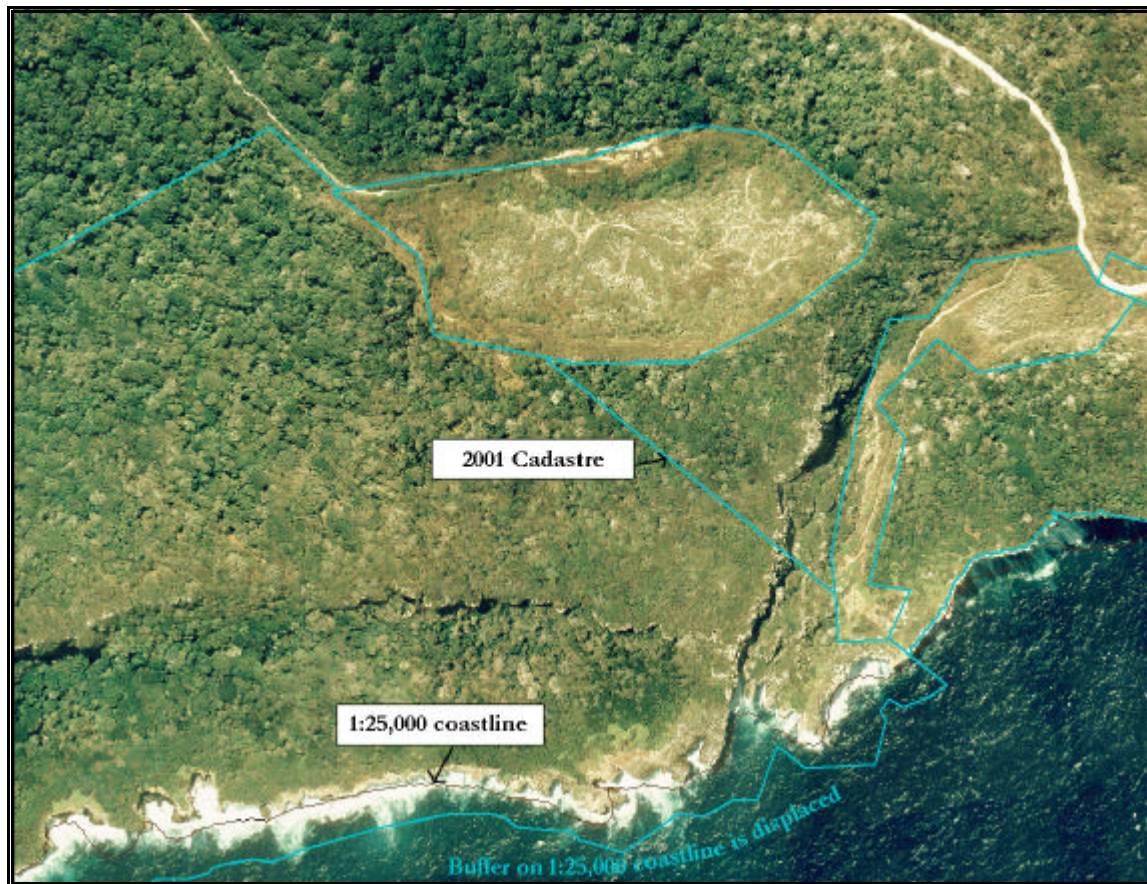


Figure 9: In this area, a cadastral boundary (apparently a 50 metre buffer on the 1:25000 coastline) is displaced.

Ground Audit

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 AGSO 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.

Further work could be done to enhance the logical consistency of the attributes.

AGSO 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.

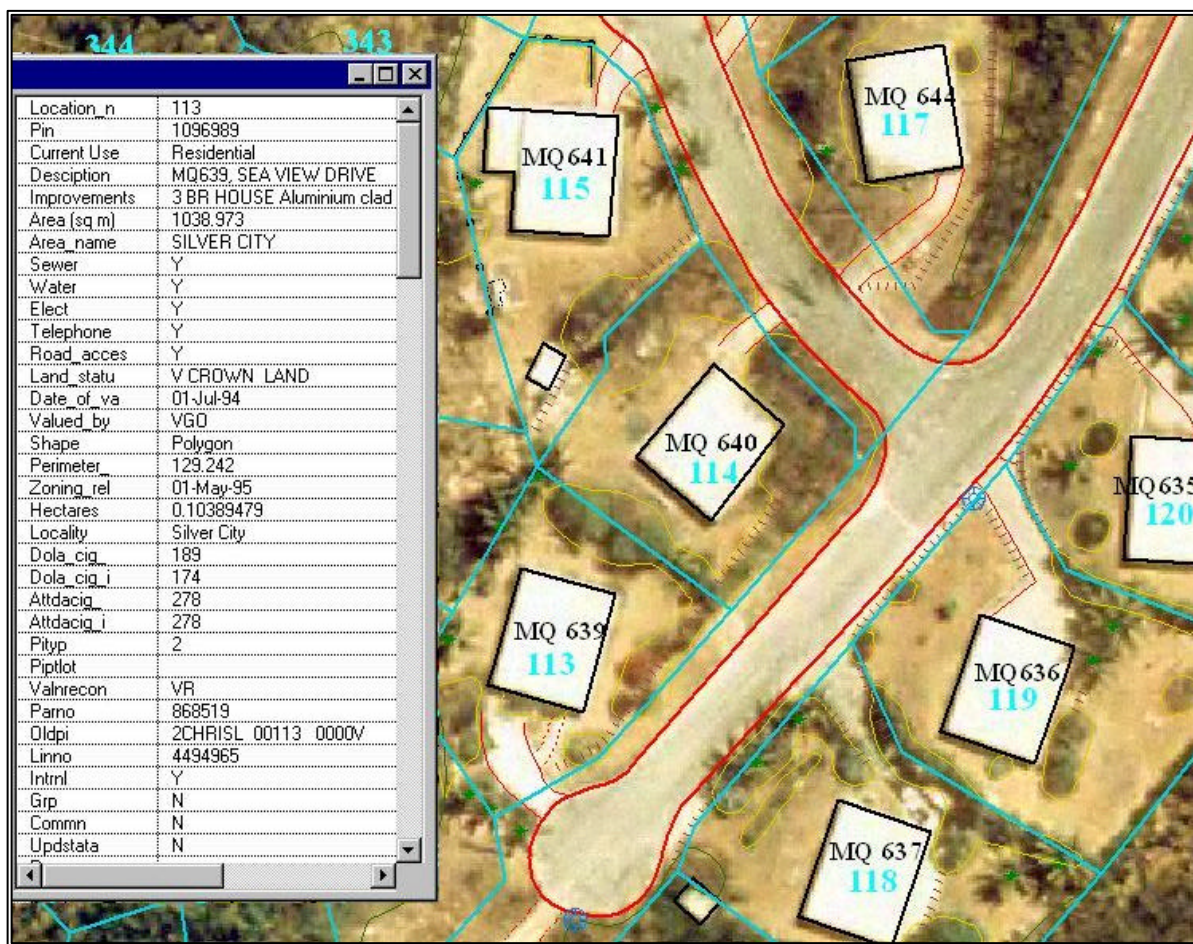


Figure 10: Screen capture of cadastral data including some of the ground audit data relating to Location No 113.

On receipt of the 2001 cadastre, AGSO 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. AGSO 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').

Utilities

Utilities data were supplied to AGSO 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.

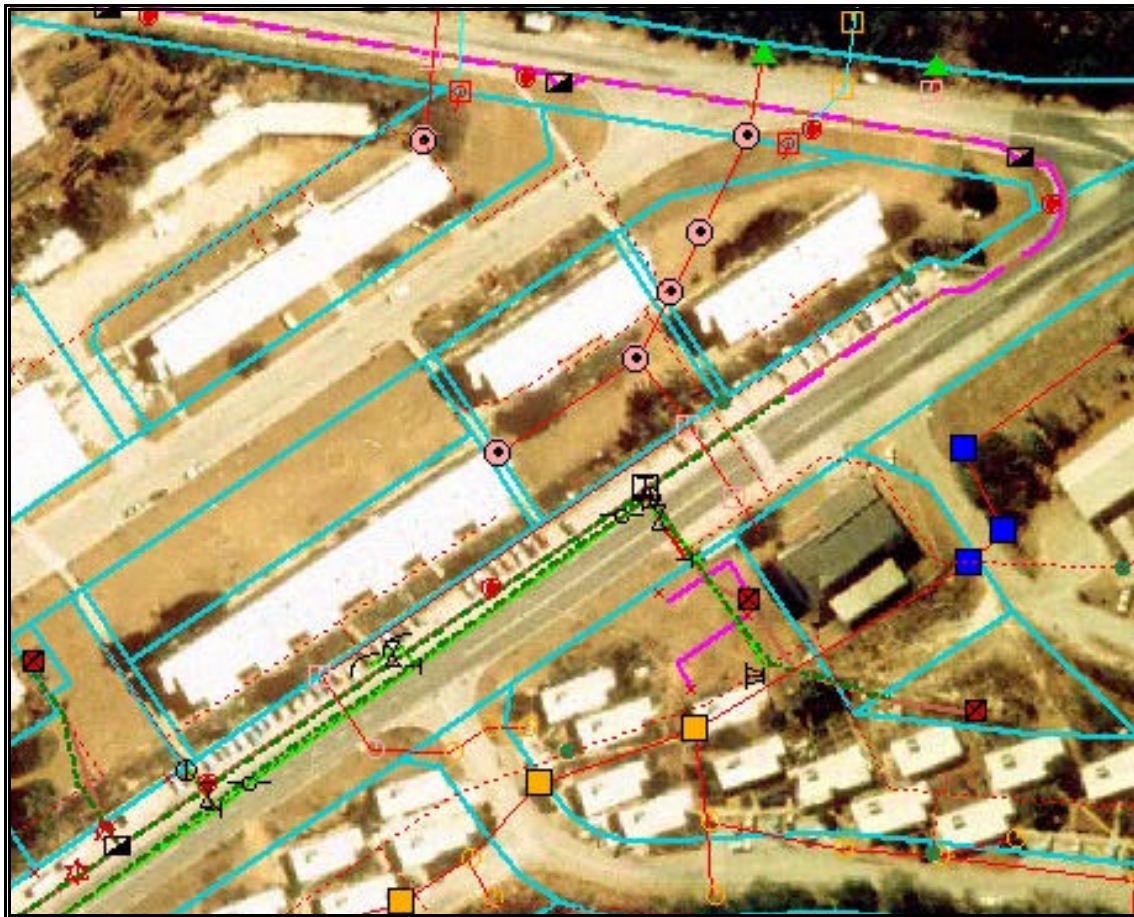


Figure 11: All utilities layers with default symbology in Poon Saan area.

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.

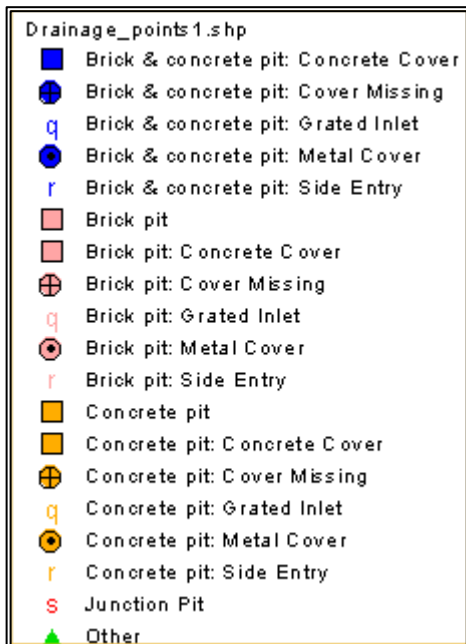


Figure 12: Default drainage symbology if the GHD font is not installed.

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.

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. See appendix 6 for GHD-supplied documentation.

The custom font allowed ArcView to generate point theme legends with custom symbols, as intended by GHD. Examples of these can be seen in Figure 9.

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. AGSO has not incorporated this feature on the enclosed cd-roms.

Some of the GHD enhancements required registry edits, installation of DLLs and ArcView extension (AVX) files. Consequently these particular enhancements were not implemented by AGSO.

The font used for GHD symbology is stored on both CIGIS CDs as 'cigis\ghd\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\ghd', selecting 'GHD Utilities Geocomp Symbols (TrueType)' and pressing 'OK'.

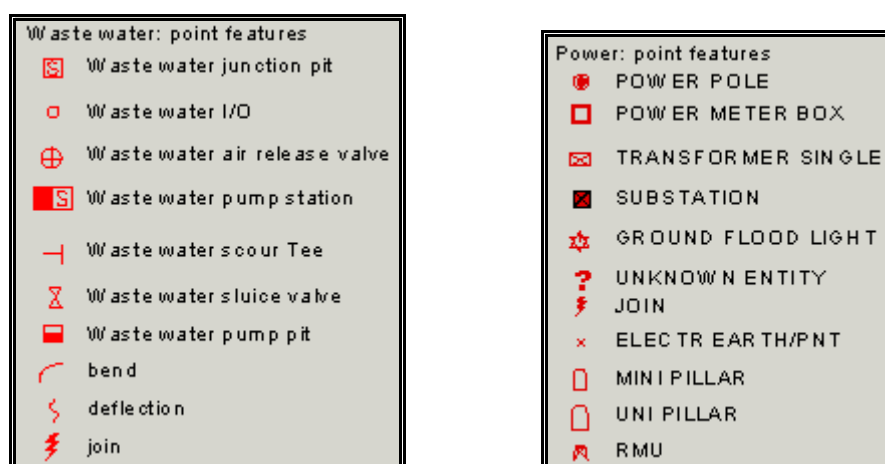


Figure 13: Examples of utilities legends in ArcView after installation of the font containing the GHD symbol set.

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\water_res\source\Documents\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. The following table lists the shapefiles supplied to AGSO by Ecowise.

Directory	Shapefiles within each subdirectory
Bores&wells	Mb_pre1996.shp mb_install1996.shp non_developed.shp water_collection_location.shp
Caves	caves.shp
Legends	Legend (avl) files for shape files
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



Figure 14: 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 AGSO 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.

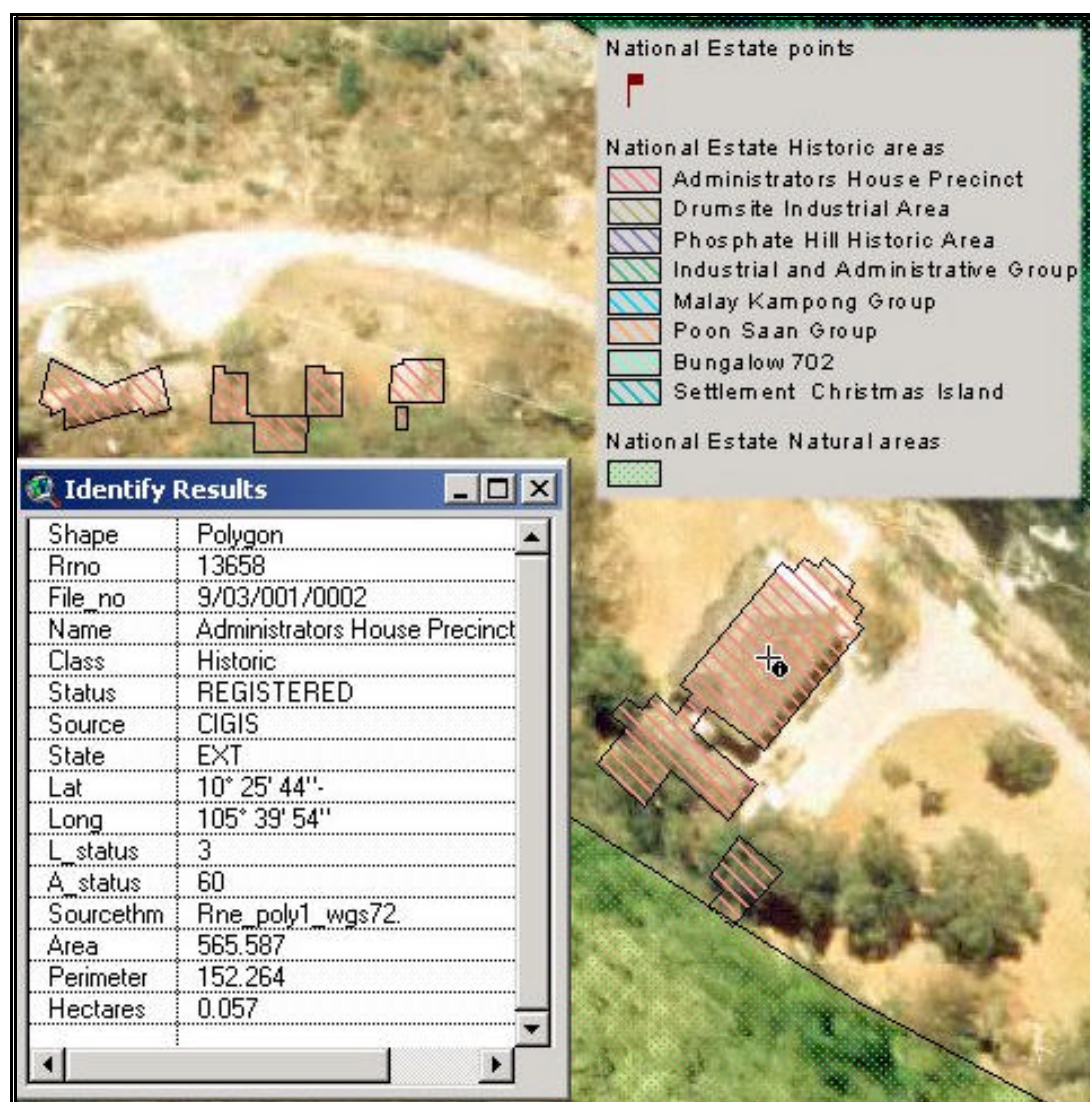


Figure 15: Register of National Estate attributes for the Administrators House are shown in the 'Identify Results' dialog box.

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. AGSO merged all individual polygons that were supplied into the one ESRI shapefile, so as to allow easier access to the data.



Figure 16: 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,
- 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. AGSO have had to re-work the data into its present form.

The AUSLIG data are subject to copyright and AGSO hold a licence. The cost was \$300. Licence / royalty arrangement pro forma were submitted by AGSO 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 AGSO 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.

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.

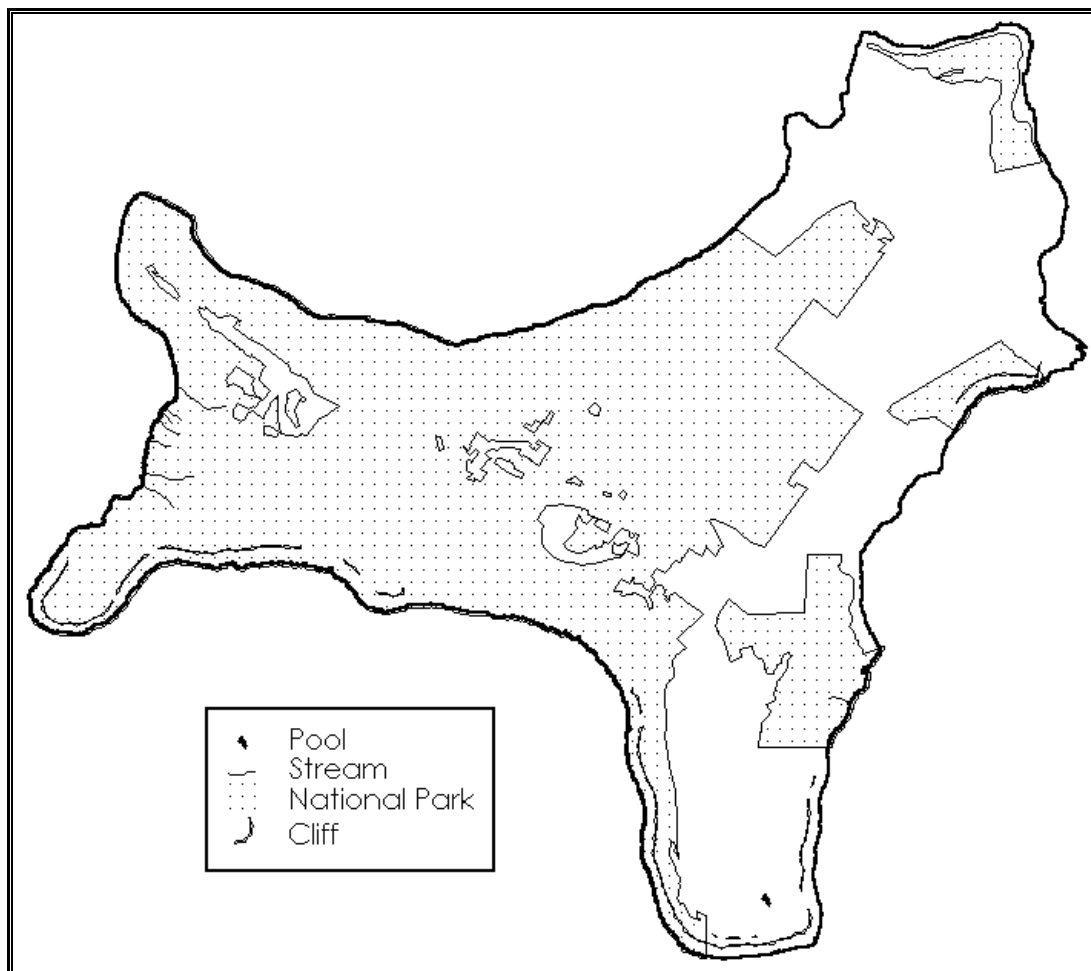


Figure 17: Cliffs, Streams, Pools and National Park (1:25000 data)

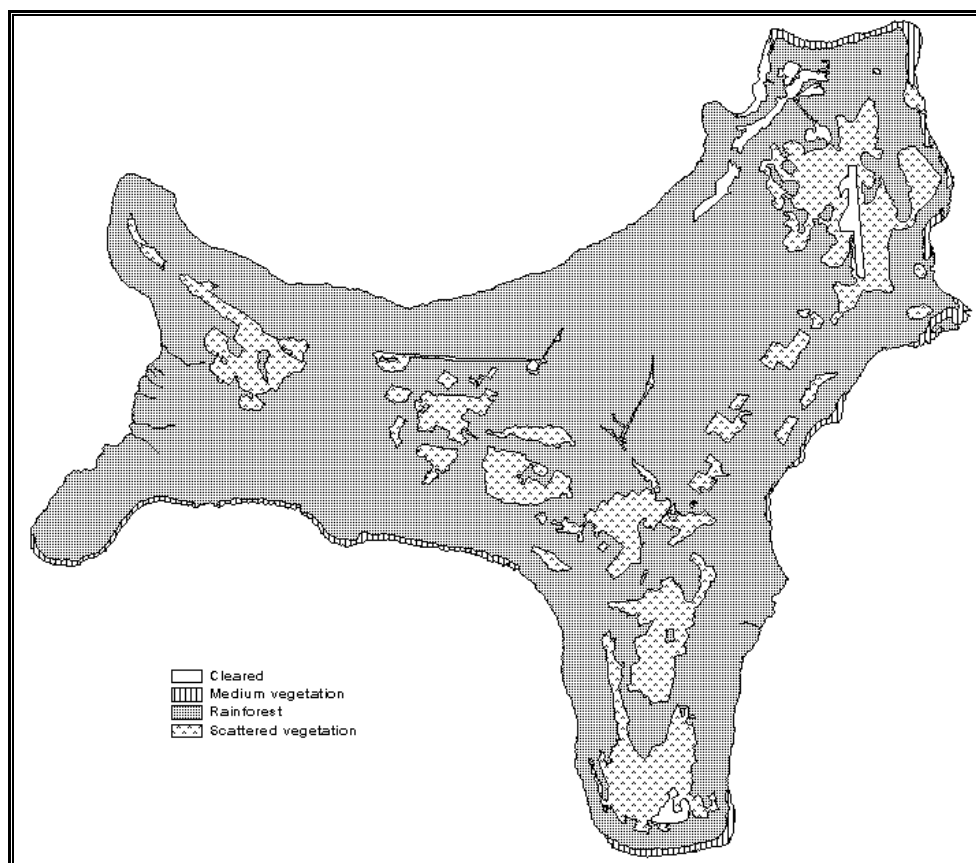


Figure 18: Vegetation of Christmas Island (1:25000 data)

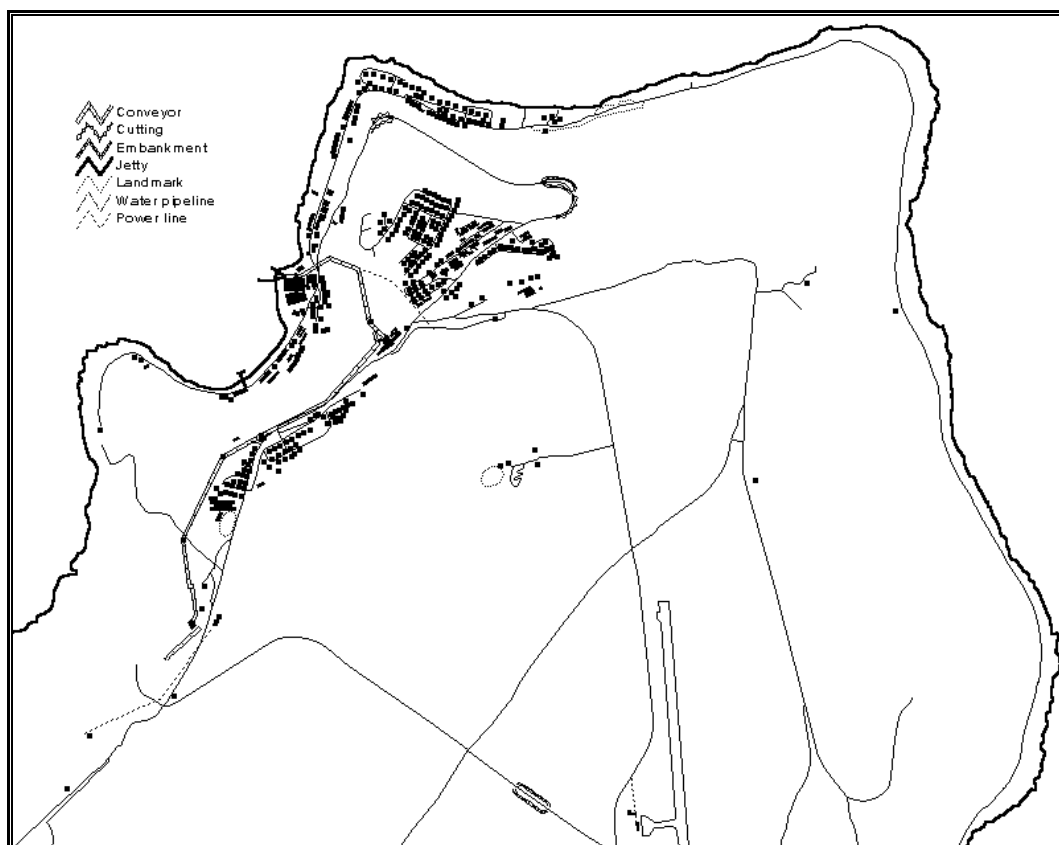


Figure 19: Built Environment (1:25000 data, north-east region)

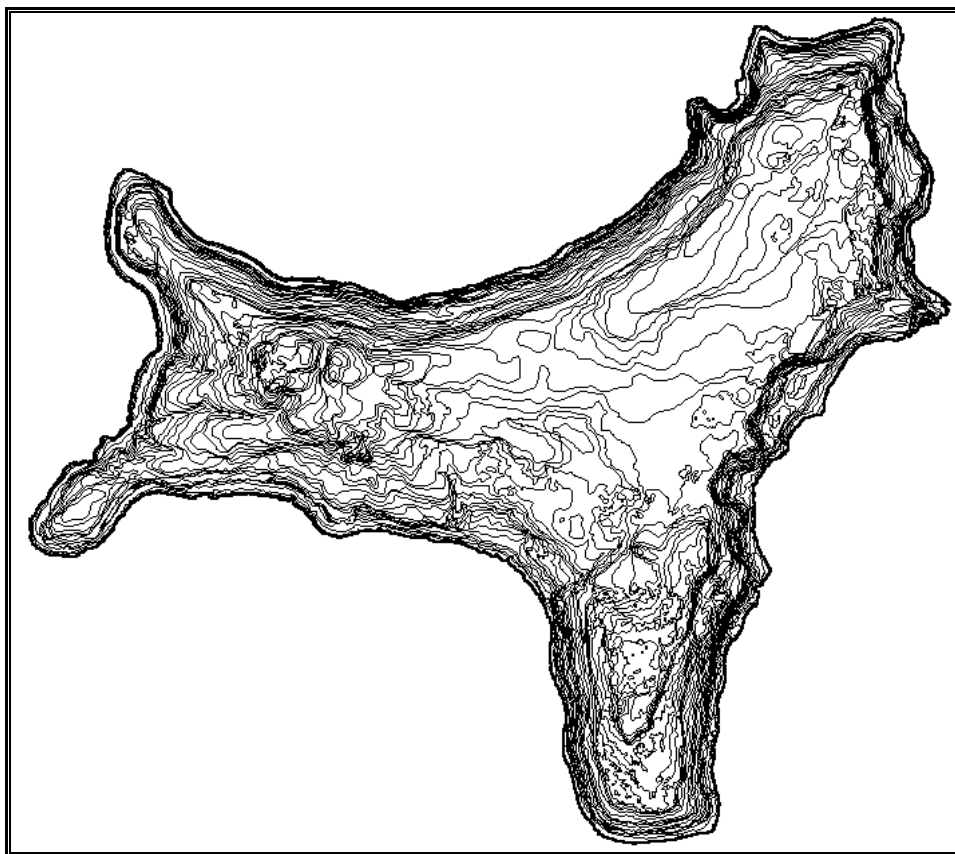


Figure 20: Ten metre contours (1:25000 data)

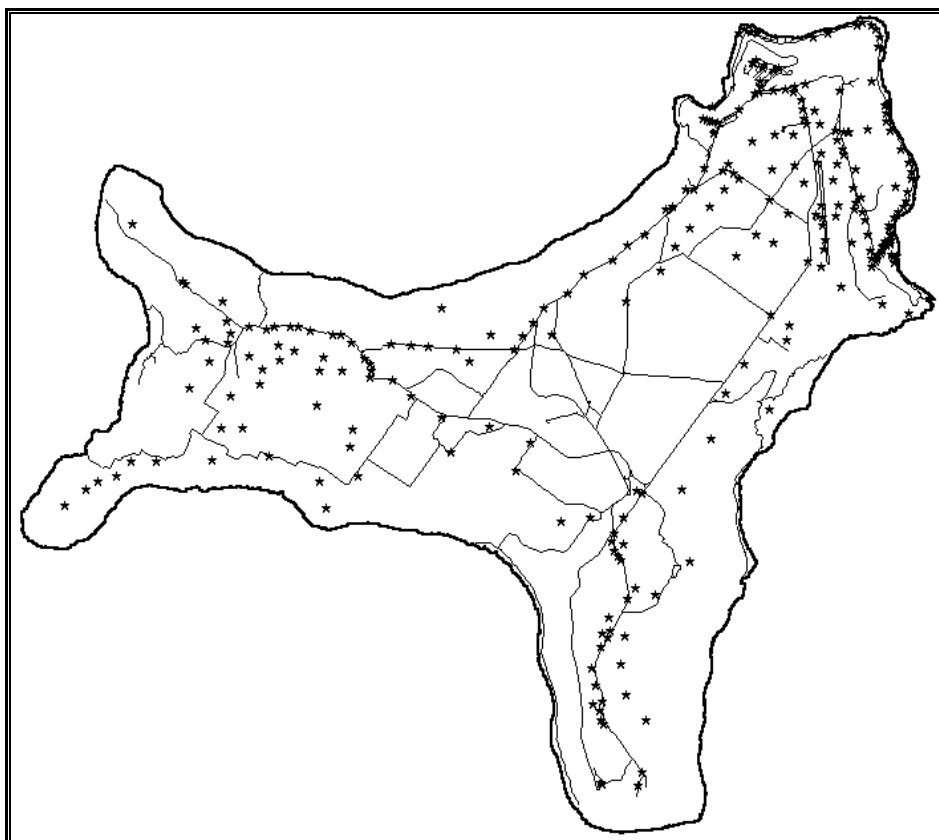


Figure 21: Spot height data points (1:25000 data)

1:1 000 Detailed Topography and Cultural Data



Figure 22: 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 a 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.

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 core data CD in the directory '*cigis/cia/source*':

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.

1:1000 scale National Park boundaries

The national park boundaries in this directory cover the whole of Christmas Island and are the best AGSO 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 AGSO 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. This process is explained in more detail in the 1996 CIGIS System Documentation at Appendix 1.

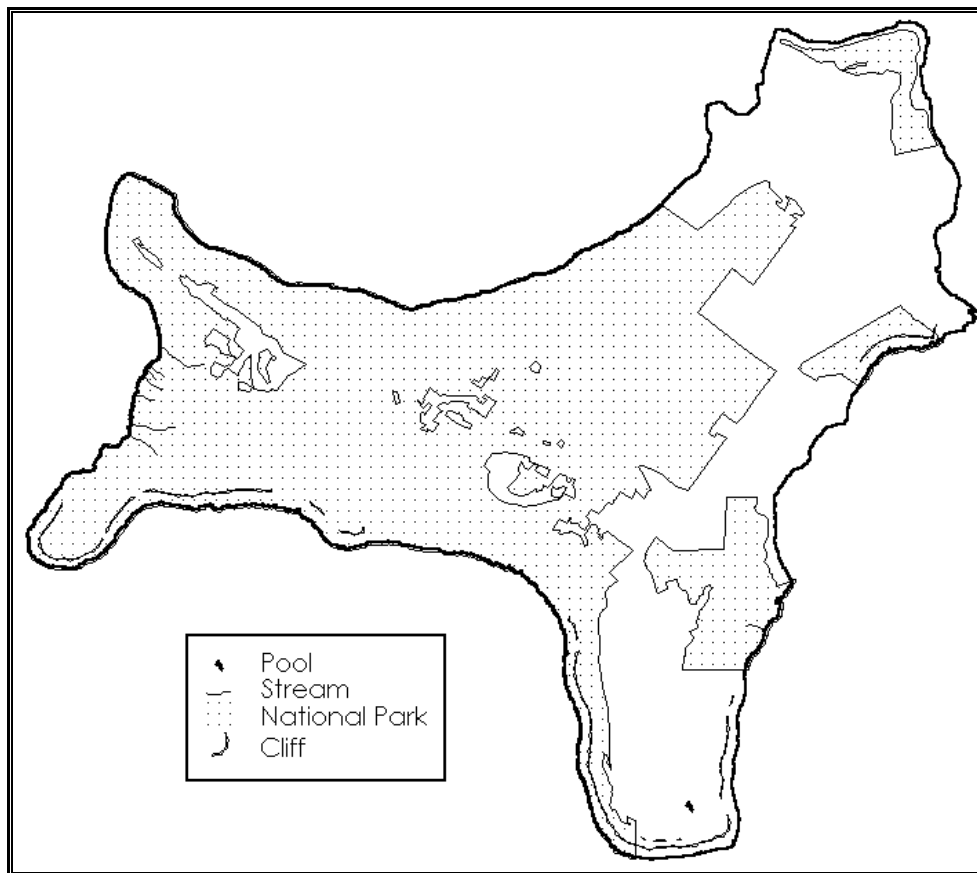


Figure 23: Cliffs, Streams, Pools and National Park (1:25000 data)

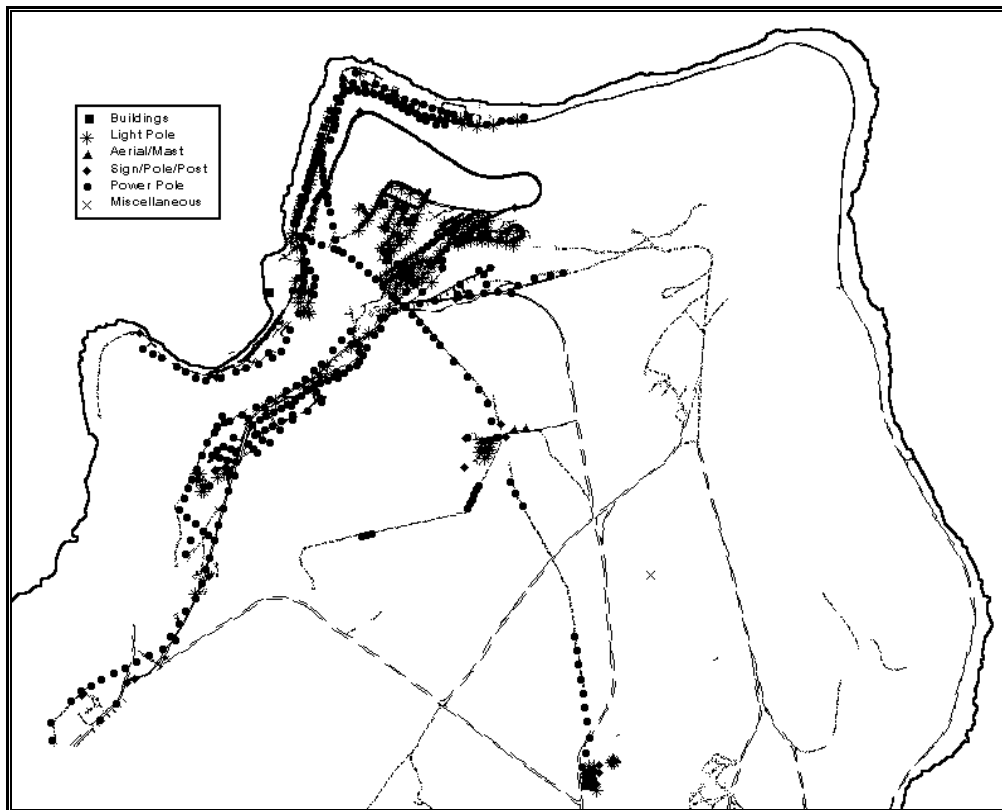


Figure 24: Point infrastructure of north-east region (1:1000 data)

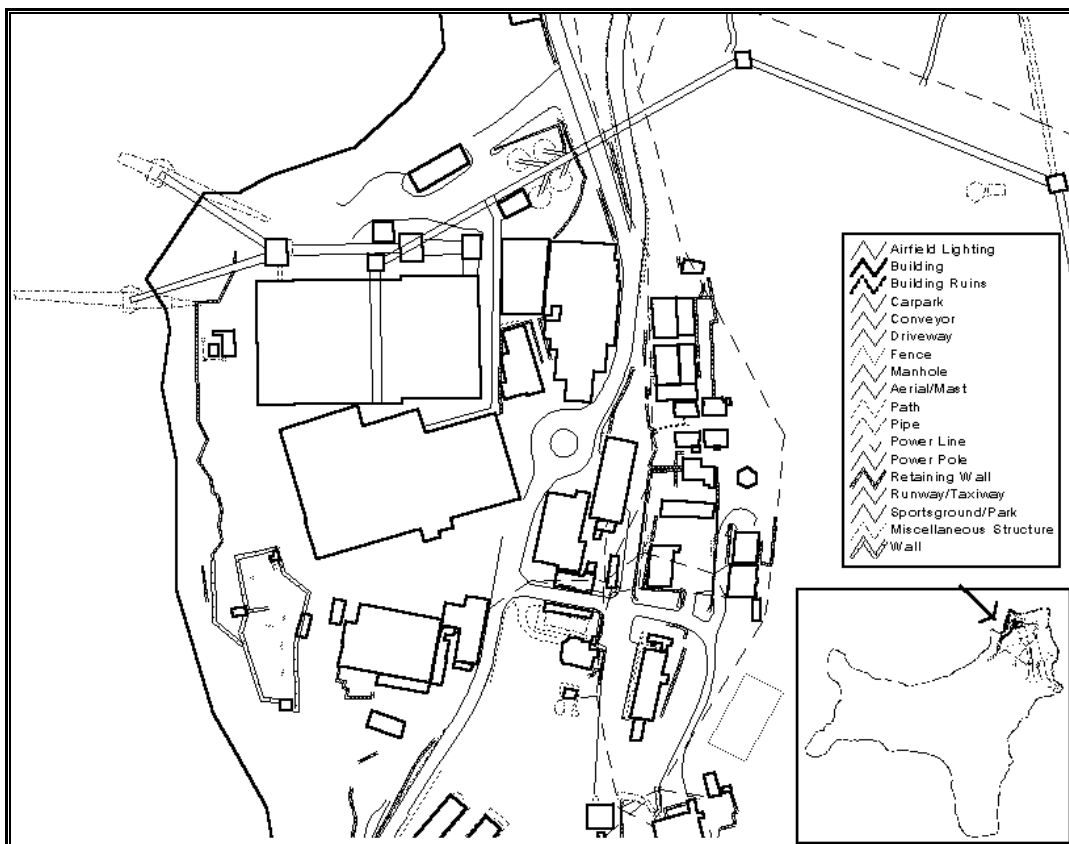


Figure 25: Line Infrastructure of north-east region (1:1000 data, detail of phosphate loading area, Flying Fish Cove)

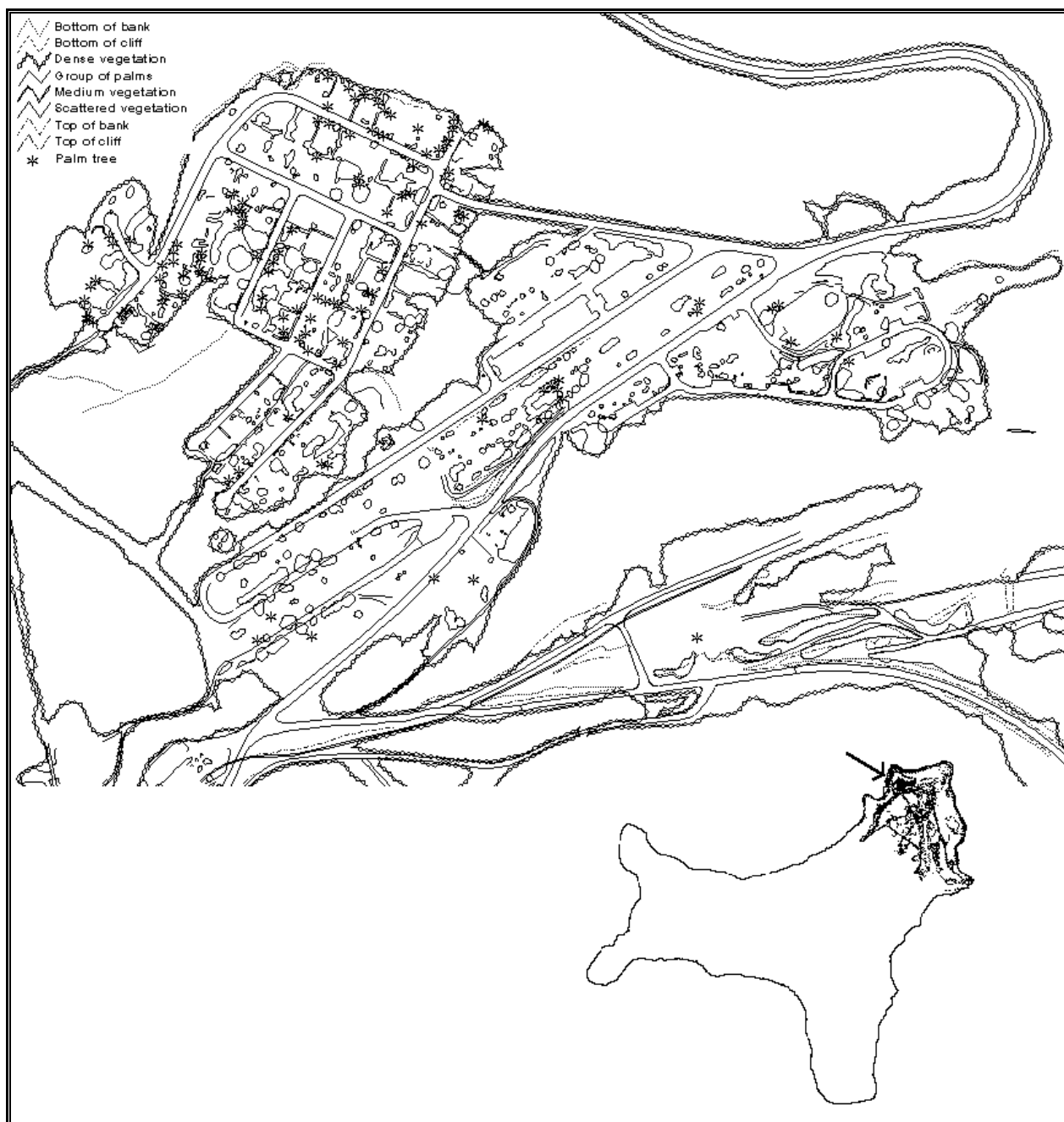


Figure 26: Vegetation of north-east region (1:1000 data, detail of Poon Saan Area with roads added for reference)



Figure 27: One metre contours of north-east region (1:1000 data)



Figure 28: Spot heights for north-east region (1:1000 data)

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.

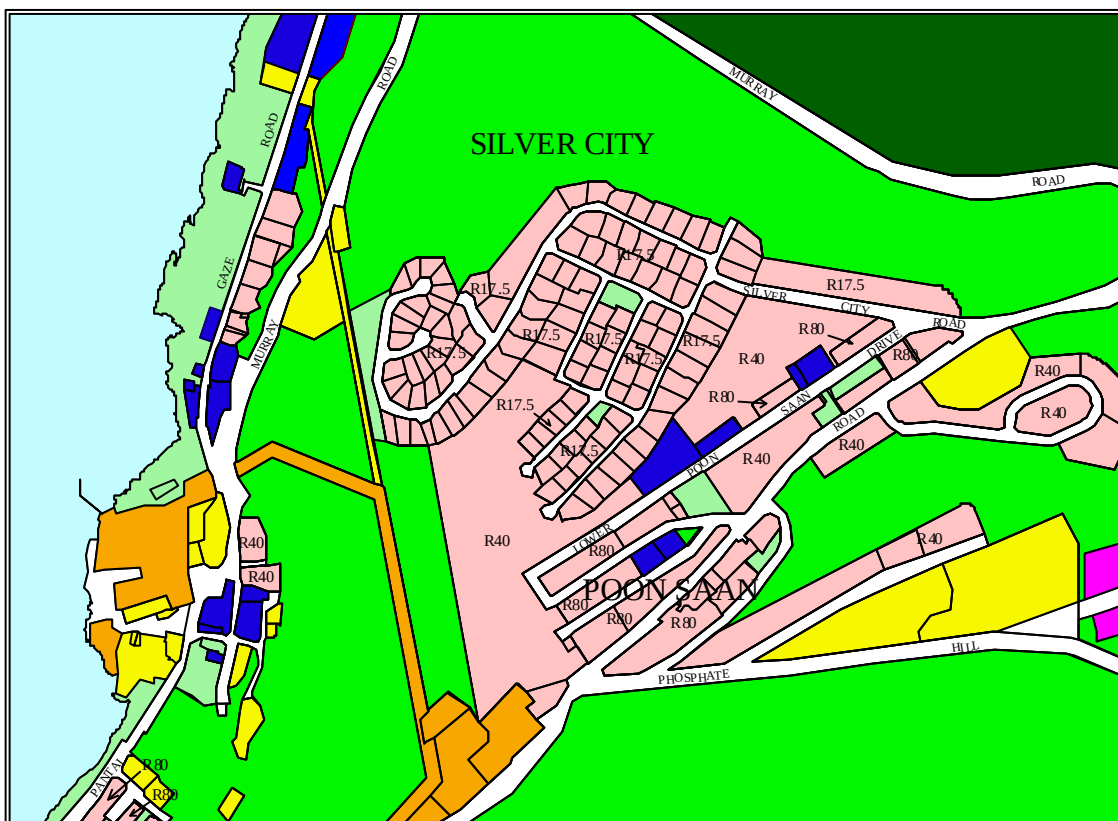


Figure 29: Data from the Christmas Island Town Planning Scheme (TPS) as prepared by the WA Ministry of Planning.

Reprojecting the Ministry of Planning data to Christmas Island Grid 1985 (CIG85) was not straightforward. AGSO 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 townplan 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. AGSO moved five of these points by 20 to 70 metres so that they plot on top of a mast 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 is to be taken seriously and used, a reliable way to select and eliminate these slivers needs to be found (perhaps using the ratio of area and perimeter).

Crazy Ant Grid

An initial version of the crazy ant survey grid was received by AGSO from Dennis O'Dowd at Monash University consulting to Parks Australia North Christmas Island (PANCI). The points coincide with bulldozed drill hole lines of the line and peg grid. The line and peg grid was originally inaccurately located and consequently the initial crazy ant grid was also inaccurately located.

AGSO correctly repositioned the Line & Peg grid through an iterative process resulting in a linear transformation based on a shape file of 14,016 drill hole locations. The Line & Peg grid result has been browsed on screen against the orthophotography at many locations around the Island and the result looks very convincing.

Subsequently the points of the crazy ant grid were mathematically regenerated using the Line & Peg grid as a base. A uniform and regular crazy ant survey grid array was formed so as to take advantage of any perceived benefits such as points co-inciding with Line-Peg intersections, or with even (hundreds) values of Line-Peg numbering.

Exactly the same spatial transformation was applied to the Abbott's Booby data set held in the CIGIS (Abblocln.shp). This transformation is appropriate as both "Line_peg.shp" and "Abblocln.shp" were spatially derived from file "Abbsite.dwg". These new data sets are included on this new release of the CIGIS Cd-rom.

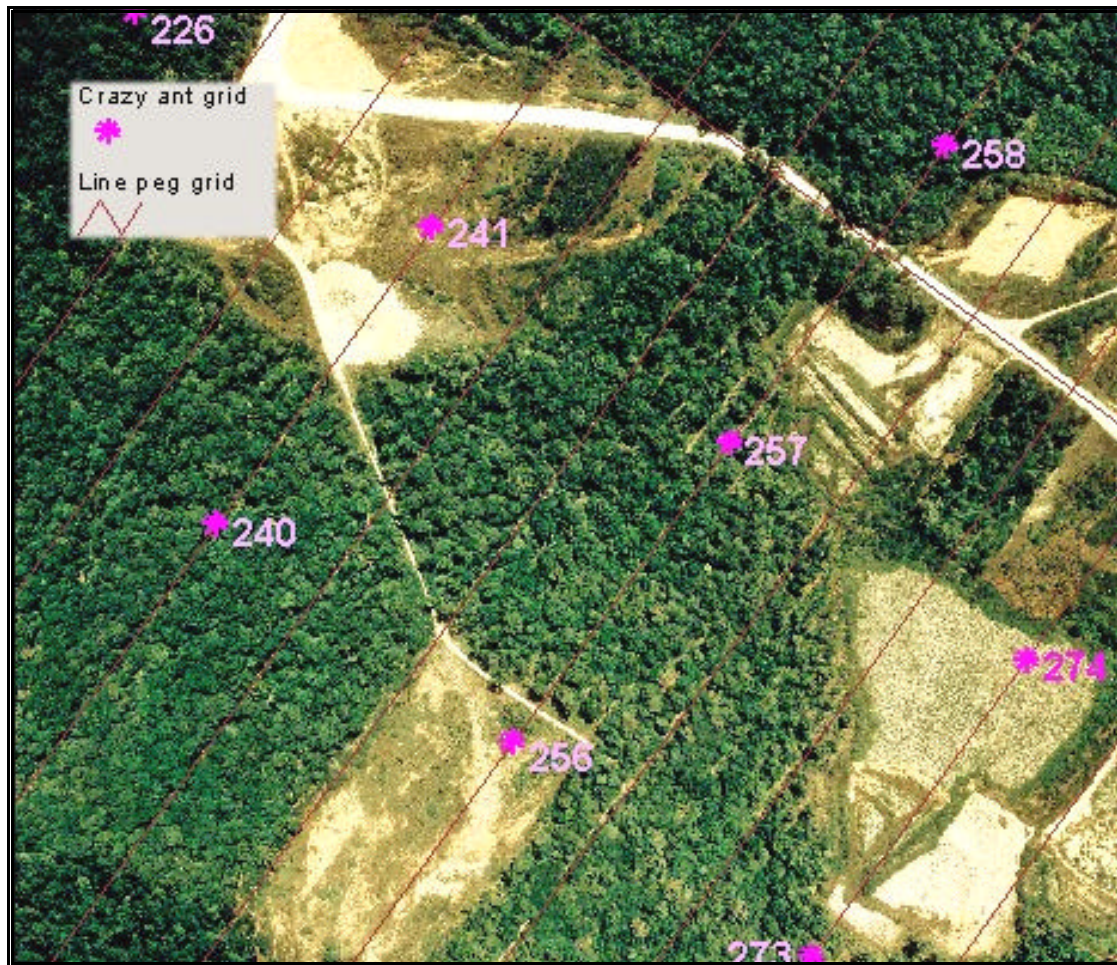


Figure 30: Crazy ant grid with Line & Peg grid in the central district.

A total of 1023 points exist in the crazy ant grid. The value in the field 'CzAnt_ID' has been set to increase in number sequentially along the Lines from NW Point to South Point — they increase with increasing Line values, and on each Line they increase with increasing Peg values.

The field 25k_Veg has the Auslig 1:25,000 vegetation value that applies at the point. 801 of the 1023 points report as being in rainforest according to the Auslig 1:25,000 vegetation data. The respective value for Line, Peg, CIG85east, and CIG85north are also attached as attributes to each point.

The crazy ant grid contains the following fields:

Field	Type	Width	Decimal
CzAnt_ID	FIELD_DECIMAL	4	0
Line	FIELD_DECIMAL	3	0
Peg	FIELD_DECIMAL	3	0
CIG85east	FIELD_DECIMAL	8	2
CIG85north	FIELD_DECIMAL,	8	2
25k_Veg	FIELD_CHAR	10	

Pinnacle Field Boundaries

The production of pinnacle boundaries was first initiated by AGSO in 1996 and AGSO 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 surveyors assistant (James Keogh). James completed the rest of the Island 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.

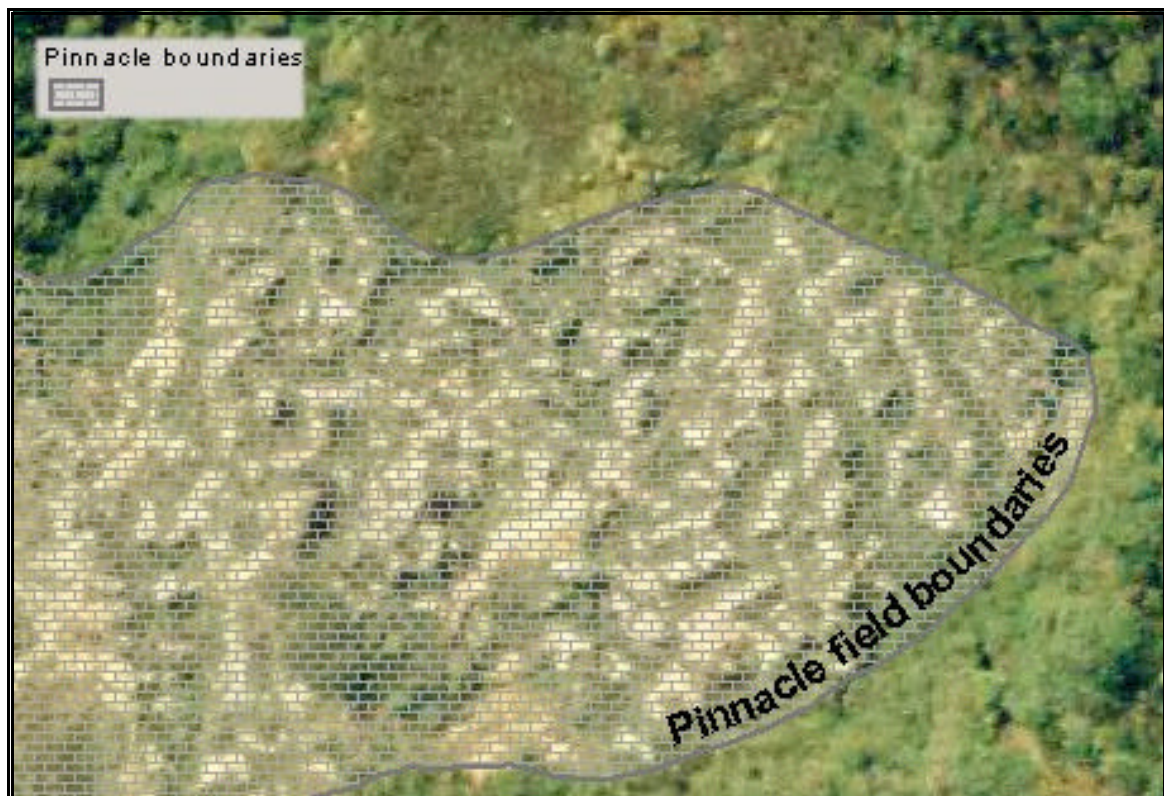


Figure 31: Pinnacle field area east of the airport (50m across N-S). The automated classification process has produced a smooth boundary at this close scale.

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. AGSO built the surveyed points into the polygon shapefile 'ihforedg.shp'. There is possibly other data that may be of value in the source files from which these boundaries were extracted (see directory 'cia\whelans\source' on cd-rom #1).



Figure 32: Limits of the Irvine Hill forest boundaries with orthophotography as a backdrop.

References

- 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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- Australian Estate Management with input from AUSLIG, AVO and AGS, 1996, Indian Ocean Territories Ground Audit Module 1 Final Report. Prepared for the Territories Office, Commonwealth Department of the Environment, Sport, and Territories.
- Department of Land Administration (DOLA), 1992, Christmas Island & Cocos (Keeling) Islands Land Tenure System Project Planning & Detailed Costing Report
- ECOWISE Environmental Pty Ltd, Dec 1999, Draft Report on Water Resources Component Christmas Island GIS, by Vince Hazell, prepared for Christmas Island Administration and the Australian Geological Survey Organisation
- Tony Falkland, ACTEW Corporation Ltd and Rod Usback, Sustainable Environmental Solutions Pty Ltd, Oct 1999, Christmas Island Indian Ocean Water Management Plan, prepared for GHD Pty Ltd and Christmas Island Administration
- 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

AGSO Catalog details for the Christmas Island GIS (#37388)Cat #: 37388 **Flags** Product : Y Publication : N Dataset : N Resource : N WWW : N

Title : Christmas Island GIS

Medium :

Scale :

Contact : Keith Porritt

Type : Data Package

Sub Type : No Subtype Available

Project Id :

Pub'n Source :

Pub'n Year : 2000

Vol / Part :

ISBN :

Abstract : The Christmas Island Geographic Information System (CIGIS) is a collection of spatial data, viewing and analysis tools dealing with Christmas Island. The data include orthophotography, topographic, mining, cultural and environmental features of the island.

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

105.717

Comments :

Data projection is Christmas Island Grid 1985 (CIG85). Data scale is variable, due to the data being collated from various sources.

----- **List of Authors** -----**Name :**

1 Porritt, K.R.

2 Lucas, A.P.

3. Sholtez, M.

Theme :

GIS

culture

information management

topography

mineral exploration

AGSO Catalog Database

AGSO CATALOG - Date Entry Form Note : Please use the % sign for wildcard sear

Catalog # 37388 Entered 24-JUL-2001 By ALUCAS Updated 24-JUL-2001 By ALUCAS

Title Christmas Island GIS

Type Data Package Subtype Scale 1:

Source

Scientific Project Financial Code 22502

Abstract The Christmas Island Geographic Information System (CIGIS) is a collection of spatial data, viewing and analysis tools dealing with Christmas Island. The data include orthophotography, topographic, mining, cultural and environmental

Pub Year 2000 Vol/Part (DR Map ID) Medium

Comments Data projection is Christmas Island Grid 1985 (CIG85). Data scale is variable, due to the data being collated from various sources.

Contact Keith Porritt

Flags
☒ Product ☐ Dataset ☐ Publication ☐ Resource ☐ Web Visible

Authors
 Porritt, K.R. 1
 Lucas, A.P. 2
 Sholtez, M. 3

Themes
 GIS
 culture
 information management
 mineral exploration

Web Links

Legend
☐ Display only
☐ Mandatory
☐ Standard Text

Other Functions
 Print Entry

Additional Links
 Click on highlighted link to view entries
☐ Files ☐ Images
☐ Documents ☐ Spatial

Approval Forms
 Print Approval Forms

Note : Only records that are not released or web visible that you yourself have entered are visible through this form. To view all records, select the Query and Administrators form from the Main Menu.

Record: 2/2 Insert

Figure 33: Christmas Island GIS AGSO Catalog entry — #37388

Chapter
3

Appendix 1: cd-rom HTML documentation

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



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Some Quick Links

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[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.

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JUMP MENUS

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Select Metadata

ArcExplorer Projects:

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Documents found on the CIGIS

- [2001 CIGIS System Documentation \(New Release\)](#)

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

- [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 and focusses 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

- [Notification of Satellite Launching Facility](#)

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

- [1997 CIGIS Cadastre Documentation](#)

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

- [1996 CIGIS System Documentation \(Previous Release\)](#)

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.

- [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.

- Some useful websites partly stored on this CD are:

- [Northern Forum 2nd Christmas Island Consultation](#)
- [Christmas Island Shire](#)
- [Christmas Island Tourism](#)
- [APSC](#)
- [Australian Spatial Data Directory \(ASDD\)](#)
- [WALIS](#)



Christmas Island GIS GETTING STARTED

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In order to have this product fully functional you will need be using a suitable computer running a Microsoft Windows Operating System (Windows 95 or greater) and the following:-

- [ESRI ArcExplorer GIS v2](#) (Environmental Systems Research Institute Inc).
- [Microsoft Internet Explorer v3.0](#) or greater,
- [Adobe Acrobat Reader v4.05](#) or greater

Items 2 and 3 are likely to be already installed on your computer. Any of the three can be installed now by following these instructions.

Step 1. Install Software

- [ESRI ArcExplorer GIS v2](#)
- [Microsoft Internet Explorer v5.5](#)
- [Adobe Acrobat Reader v4.05](#)

Step 2. View Data

- [View Christmas Island Data using ArcExplorer](#)

NOTE: Installation of software may require administrative privileges for Windows NT. Users of Windows NT 4.0 may need to contact their system administrator for installation. NT users will also require Service Pack 3 or greater.

Installation of ESRI's ArcExplorer

ArcExplorer software is a lightweight GIS data explorer developed by ESRI. ArcExplorer version 2 has been supplied on this CD-ROM, it is also available as a free download from ESRI's ArcExplorer Web site. Navigate to the /software/arcexplorer directory and double click the "aeclient.exe" or select this hyperlink to begin installation and follow prompts. [ArcExplorer v2](#)

Read ArcExplorer's [License](#) Agreement.

If you have Internet access the latest version can be obtained from here.



"The GIS by ESRI emblem is a trademark provided under license from Environmental Systems Research Institute, Inc."

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Installation of Microsoft's Internet Explorer

Internet Explorer v5.5 is Microsoft's web browser and has been supplied on this CD-ROM, either navigate to the /software/ie5 directory and double click the "ie5setup.exe" or select this hyperlink to begin installation and follow prompts.

[Internet Explorer v5.5](#)

If you have Internet access the latest version can be obtained from here.

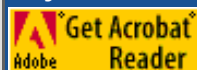


[Back to Install list](#)

Installation of Adobe's Acrobat Reader

Adobe® Acrobat® Reader is free, and freely distributable software that lets you view and print Adobe Portable Document Format (PDF) files on all major computer platforms. Adobe Acrobat Reader provides a standard for reading documents and images regardless of word processor, spreadsheet or graphics package origin. Version 4 has been supplied on this CD-ROM, it is also available for free downloads from Adobe's , either navigate to the /software/acrobat_reader directory and double click the "rs405eng.exe" or select this hyperlink to begin installation and follow prompts. [Acrobat Reader v4.05](#).

If you have Internet access the latest version can be obtained from here.



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Christmas Island GIS METADATA LIST

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Important! Supplied metadata for all data was either absent, informal or incomplete. In attempting to supply metadata according to the [ANZLIC Core Metadata](#) standards, many elements are filled according to AGSO's understanding. As this is the first year of support for the CIGIS, metadata should be considered as a preliminary version only.

Imagery:

Digital Elevation Model

[Digital Elevation Model Tiles](#)

Orthographic Photography

[Orthophotography Data](#)

Vector:

1:1000 Data

[1:1000 Topography and Culture](#)

1:25000 Data

[1:25000 Topography and Culture](#) (AUSLIG licence fee applicable)

Control Data

[Department of Land Administration \(DOLA\) Survey Control Dataset](#)

[Aerial Photography Control Points](#)

[Flight Lines and Photocentres dataset](#)

[Aerial Photograph Circles dataset](#)

Ground Audit Data

[Cadastre dataset](#)

Planning

[Mine Lease Boundaries](#)

[Pinnacle Land Boundaries](#)

[Town Plan](#)

[Utilities](#)

[Field Rehabilitation Survey](#)

[Old Maps of Christmas Island](#)

	Other datasets available	Crazy Ant Survey Irvine Hill Forest Boundary Digital Elevation Model Contours dataset Abbot's Booby Bird dataset Water Resources Register of National Estate Site Pictures dataset Line/Peg Grid dataset
--	--------------------------	---



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Directory Structure CD-ROM 1.

CD-ROM 1 is an autorun CD that utilises a freeware GIS system known as ArcExplorer. This CD can be used as a stand alone CD-ROM as it contains all the vector data and orthophotography needed for the GIS.

NB. All feature data directories, where applicable, contain a source folder. This folder contains the feature data "as recieved" by AGSO.

\ (Root)

index.htm (Autorun start page)

+---**CIGIS** (GIS data compiled by AGSO)

+---**Anca**

+---**Auslg25k**

+---**Cadaastre**

+---**Cia**

+---**Demtiles**

+---**documents**

+---**Dola**

+---**EnvAust**

+---**Etc**

+---**ghd**

+---**Orthphto**

+---**prl**

+---**Tileplan**

+---**Util**

+---**Water_res**

+---**Web**

Directory Structure CD-ROM 2.

This CD-ROM contains a high resolution low file size ECW image of the whole of Christmas Island that has been derived from the orthophotography. To use this image with the GIS ArcView software is required. Pre made projects have been included on this CD-ROM that contain the ECW image in a 'ready to run form'.

For more details regarding the ECW creation please refer to the 2001 CIGIS System Documentation.

NB. This CD-ROM directory contains only feature data to support the ArcView projects

+---**CIGIS**

+---**Anca**

+---**Auslg25k**

+---**Cadaastre**

+---**Cia**

+---**Demtiles**

+---**Dola**

+---**EnvAust**

+---**Etc**

+---**ghd**

+---**Orthphto**

+---**Sitepics**

+---**Tileplan**

	+---Util +---Water_res
--	---



Christmas Island GIS ACKNOWLEDGMENTS

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The Mineral Resources and Advice Group of the Australian Geological Survey Organisation 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), 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 AGSO.

For further information, [Keith Porritt](#) regarding the data integration.



Christmas Island GIS COPYRIGHT

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(C) Commonwealth of Australia 1987-2000.

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.

Apart from any fair dealings for the purposes of study, research, criticism or review, as permitted under the Copyright Act, no part may be reproduced by any process without written permission other than the following exception.

DoTRS grant you permission to use and transmit maps, metadata sheets and data query results from the CD-ROM as unaltered and complete bitmap images and text in both hardcopy or electronic form for the purposes of dissemination of information about Christmas Island. Such information dissemination does not require the above mentioned written permission but is required to include identification of source. Accordingly DoTRS or AGSO logos are not to be removed from captured pages or maps.

Copyright is the responsibility of the Secretary, Department of Transport and Regional Services. Inquiries should be directed to:-

Mr. Peter Lawler,
Policy - Indian Ocean Territories,
Department of Transport and Regional Services.

Ph: 02 6274 8023

Fax: 02 62748065

Email: peter.lawler@dotrs.gov.au

The GIS datasets were recast and assembled by the [Mineral Resources and Advice Group](#) of the Australian Geological Survey Organisation 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 following metadata pages:

- [1:1000 Topographic data](#) based on 1987 aerial photography.
- [Orthophotography](#) created from the 1987 aerial photography.
- [2001 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.



Christmas Island GIS DISCLAIMER

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The material on this CD-ROM is provided for general information only and should not be relied upon for any particular purpose. Please contact the Department of Transport and Regional Services before taking any action based on material on this website. Maps and images on this CD-ROM are not intended for navigation or to precisely locate any particular feature. Contact is:-

**Mr. Peter Lawler,
Policy - Indian Ocean Territories,
Department of Transport and Regional Services.**

Ph: 02 6274 8023

Fax: 02 62748065

Email: peter.lawler@dotrs.gov.au

The data were assembled by the [Mineral Resources and Advice Group](#) of the Australian Geological Survey Organisation (AGSO). In compiling this product AGSO has translated and integrated data as received from other sources. AGSO has not undertaken any comprehensive check as to the accuracy or completeness of these externally supplied datasets. Consequently AGSO 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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[Contacts](#)
Peter Lawler

ph: +61 2 6274 8023

fax: +61 2 6274 8065

peter.lawler@dotrs.gov.au
OR
Deb Blaskett

ph: +61 8 9237 6039

fax: +61 8 9221 8683

deb.blaskett@dotrs.gov.au

Bill McKay
Project Leader

+61 2 6249 9003

bill.mckay@agso.gov.au
Keith Porritt
Principal Computer Geologist

+61 2 6249 9479

keith.porritt@agso.gov.au
Andrew Lucas
GIS Geologist

+61 2 6249 9635

andrew.lucas@agso.gov.au
Martin Sholtez
GIS & Web Developer

+61 2 6249 9025

martin.sholtez@agso.gov.au

Home Page: <http://www.agso.gov.au>
Postal Address:

Australian Geological Survey Organisation

GPO Box 378

Canberra

ACT 2601 AUSTRALIA

Telephone:

Domestic: 02 6249 9111

International: +61 2 6249 9111

Facsimile:

Domestic: 02 6249 9999
International: +61 2 6249 9999

Physical Location:

Cnr Jerrabomberra Ave and Hindmarsh Drive
Symonston
ACT 2609

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



Christmas Island GIS GIS - ArcExplorer

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Premade ArcExplorer projects:

--[Drumsite](#)

This project is located over the Drumsite area.

--[Kampong](#)

This project is located over the Kampong area.

--[Incline Top](#)

This project is located over the Incline Top area.

--[Rocky Point](#)

This project is located over the Rocky point area.

--[Seaview](#)

This project is located over the seaview area.

--[Silver City](#)

This project is located over the Silver City area.

--[Taman](#)

This project is located over the Taman area.

--[Wharf](#)

This project is located over the Wharf.

--[Abbots Booby nest Sites](#)

This project shows a zoomed in section of some of the Abbots Booby bird area.

--[Space Centre](#)

This project shows a suggested area of Christmas Island that could be used for the proposed space centre.

--[Sample of Digitising](#)

This project is an example of digitising, it shows a stockpile area that was manually digitised using ArcView.

--[Ground Audit](#)

This project shows the Christmas Island cadastre which contains ground audit information.

--[Town Plan](#)

This project highlights the propsed Christmas Island town plan.

--[Master](#)

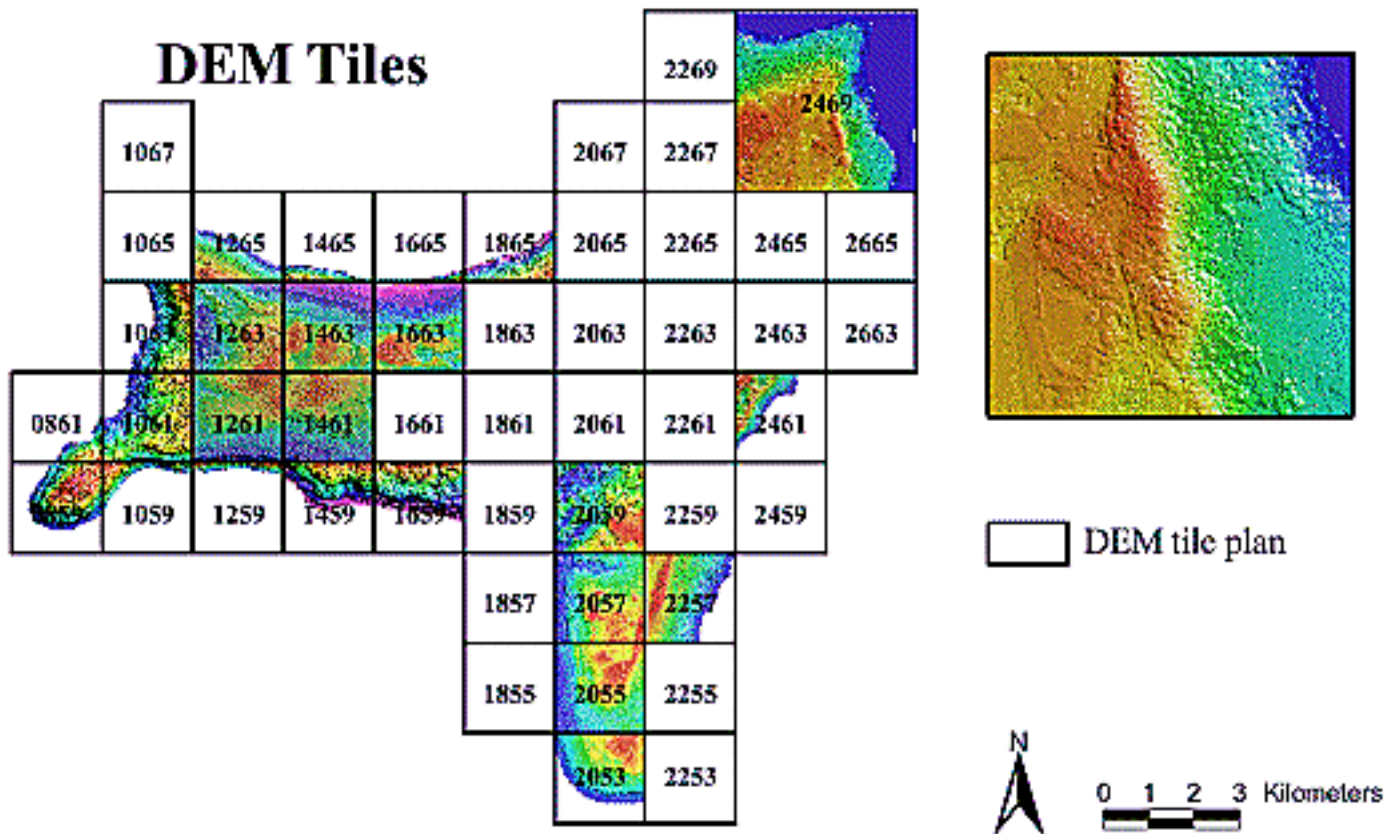
This project contains all the layers that can be used to create other projects by removing the themes not required.

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.



Dataset

Title

DEM Tiles

Custodian

Australian Geological Survey Organisation

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 Names

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(s)

DIGITAL - TIFF/TFW

Available Format Type(s)

DIGITAL - TIFF/TFW

Access Constraint

Restricted

Data Quality

Lineage

The DEM has had a shiny colour drape algorithm applied in ERMMapper® 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.

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 DEM tiles can be generated by AGSO upon request on a cost recovery basis.

Contact Information

Metadata contact

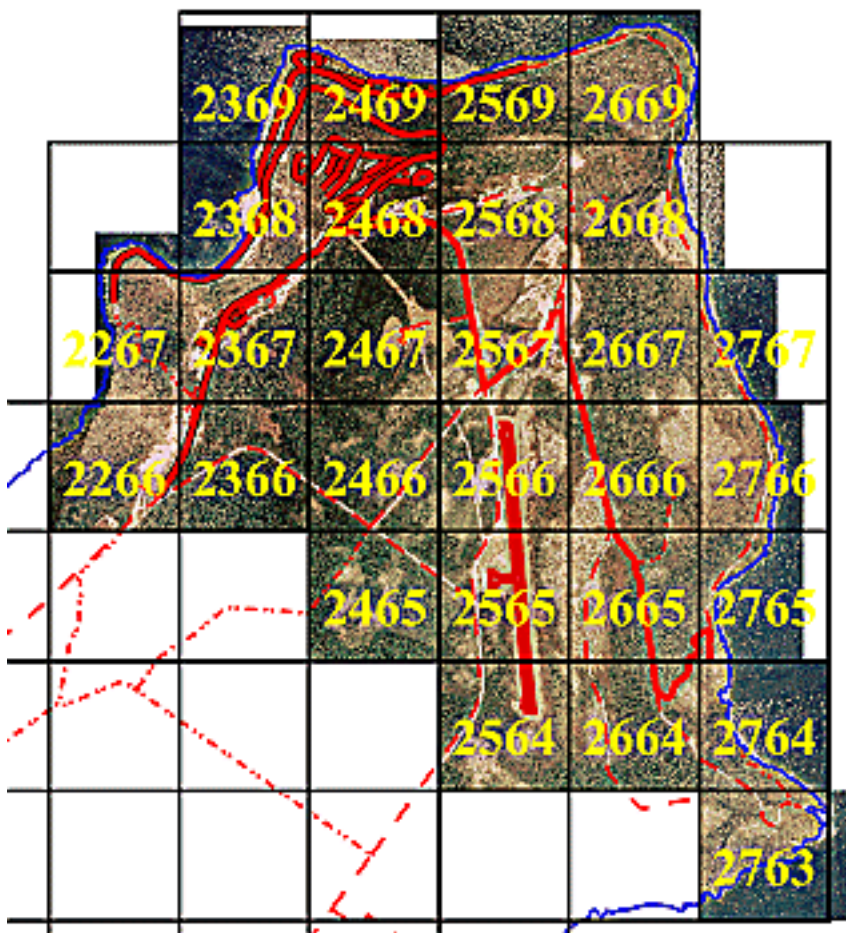
Organisation:	Australian Geological Survey Organisation
Address:	Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City:	SYMONSTON ACT 2609
Telephone:	(02) 6249 9479
Facsimile:	(02) 6249 9983
Email:	Keith.Porritt@agso.gov.au

Additional Metadata

Metadata Access

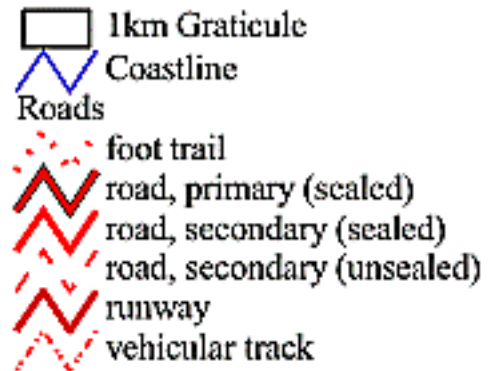
Restricted.

1 August 2000



Orthophotography

North-east sample of 28 of the 157
1km X 1km orthophotography tiles



0 1 2 3 Kilometers

Dataset

Title

Orthophotography of Christmas Island

Custodian

Australian Geological Survey Organisation

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 Names

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 Frequency

Parks Australia North Christmas Island (PANCI) are endeavoring to refly the aerial photography. So far, over two dry seasons in the last few years half of the island has been reflown. Processing to orthophotography has been held off until the flying is complete.

Access

Stored Data Format(s)

DIGITAL - TIFF/TFW

Available Format Type(s)

DIGITAL - TIFF/TFW

Access Constraint

Restricted

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:

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

View the associated metadata sheets:

- [Flight Lines and Photocentres](#)
- [Aerial Photograph Circles](#)

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

Metadata contact

Organisation: Australian Geological Survey Organisation (AGSO)
Address: Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City: SYMONSTON ACT 2609
Telephone: (02) 6249 9479
Facsimile: (02) 6249 9917
Email: Keith.Porritt@agso.gov.au

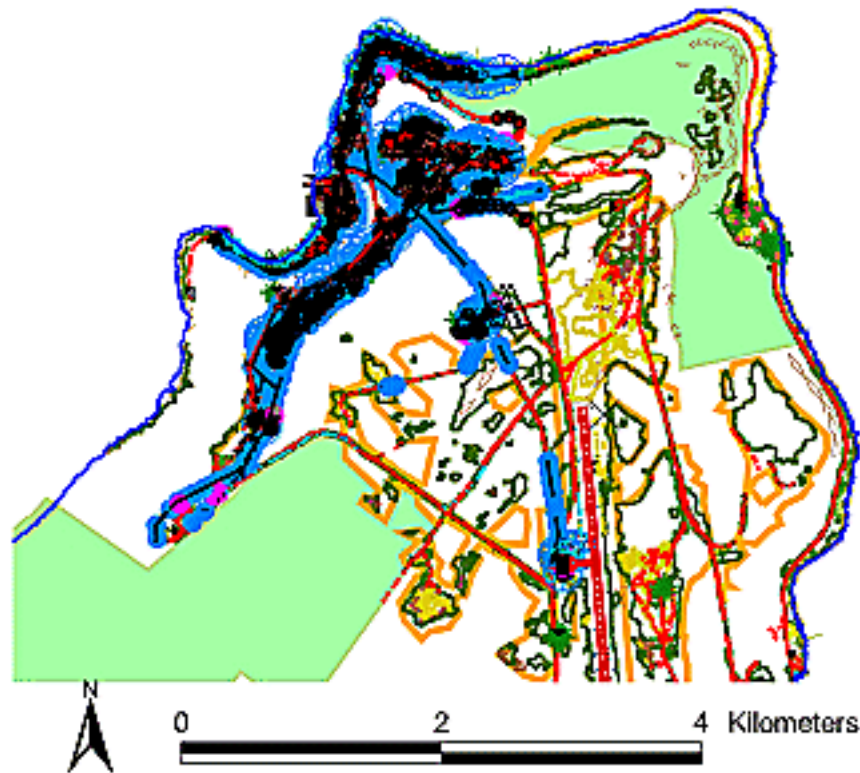
Additional Metadata

Metadata Access

Restricted.

1 August 2000

1:1000 Topographic data



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 it contains similar features to the AUSLIG 1:25000 data but has more detail and is more precisely located.

Search Word(s)

1:1000 Topography and Culture

BOUNDARIES Administrative

BOUNDARIES Cultural

BOUNDARIES Mining

BOUNDARIES National Parks

CONTOURS Topographic

HUMAN ENVIRONMENT Structures and Facilities

VEGETATION Boundaries

WATER Hydrology

Geographic Extent Names

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(s)

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(s)

DIGITAL - ArcView Shapefiles: Point, Line, Polygon

DIGITAL - MapInfo files: Point, Line, Polygon

Access Constraint

Restricted

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 in this 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 ausligwa coverages);
5. Uunsplit 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 us 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 necessarily left as an Arc coverage.

Positional 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 a 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. 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 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. AGSO recognises that further work could be undertaken to yield a more up to date and error free data set.

Contact Information

Metadata contact

Organisation:	Australian Geological Survey Organisation
Address:	Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City:	SYMONSTON ACT 2609
Telephone:	(02) 6249 9479
Facsimile:	(02) 6249 9917
Email:	Keith.Porritt@agso.gov.au

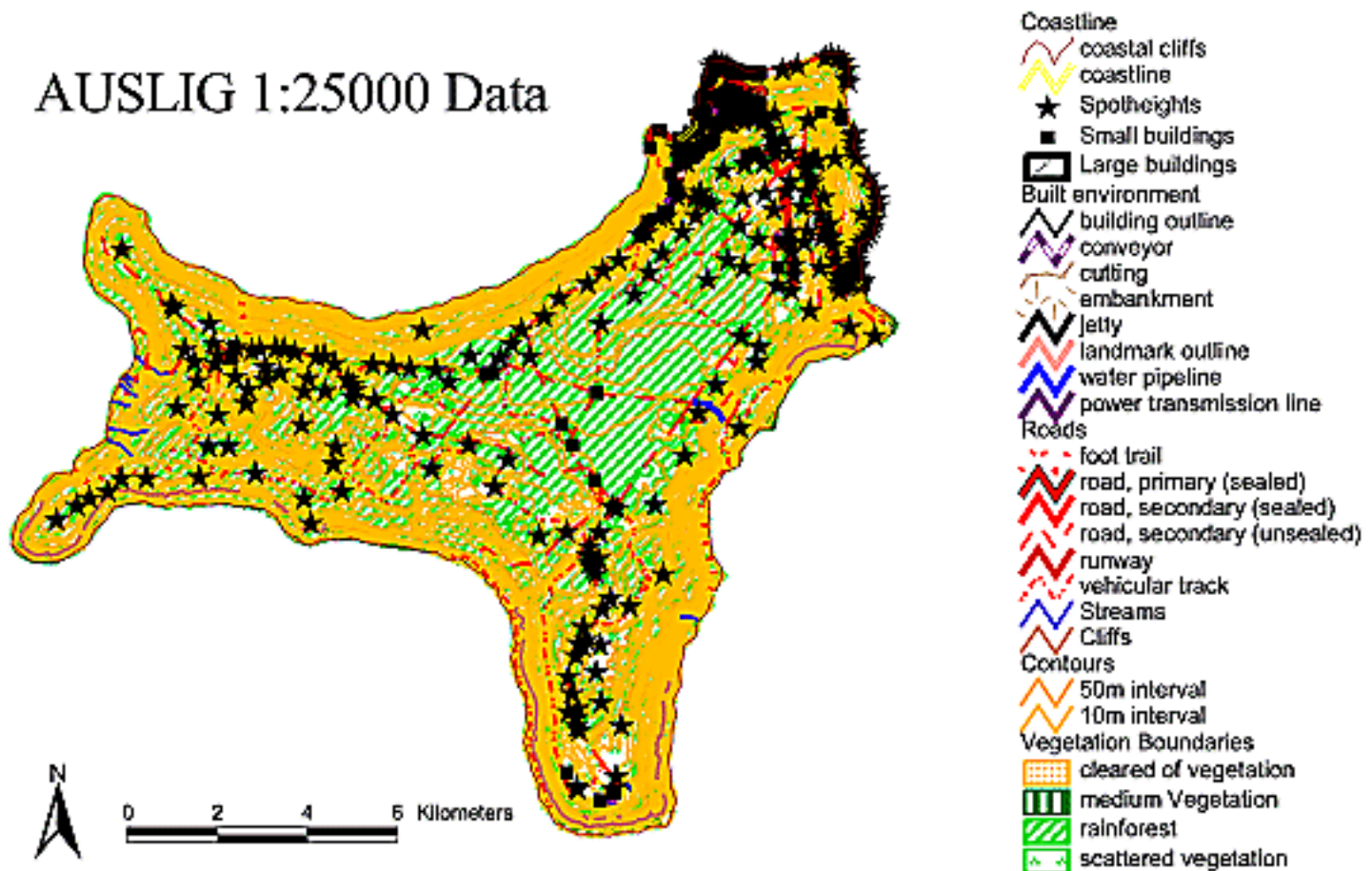
Additional Metadata

Metadata Access

Restricted.

1 August 2000

AUSLIG 1:25000 Data



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

Dataset

Title

AUSLIG data

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 Names

Christmas Island Edition 2 1995 1:25000

for the Australian Nature Conservation Agency

AUSLIG Mapsheet 94/068

Data Currency

Beginning date

01JAN1988

Ending date

01JAN1995

Dataset Status

Progress

Complete

Maintenance and Update Frequency

Not Planned

Access

Stored Data Format(s)

DIGITAL - Arc/Info format in the Christmas Island Grid projection. ArcView3.1 shapefiles

Available Format Type(s)

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.

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. AGSO 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

Metadata contact

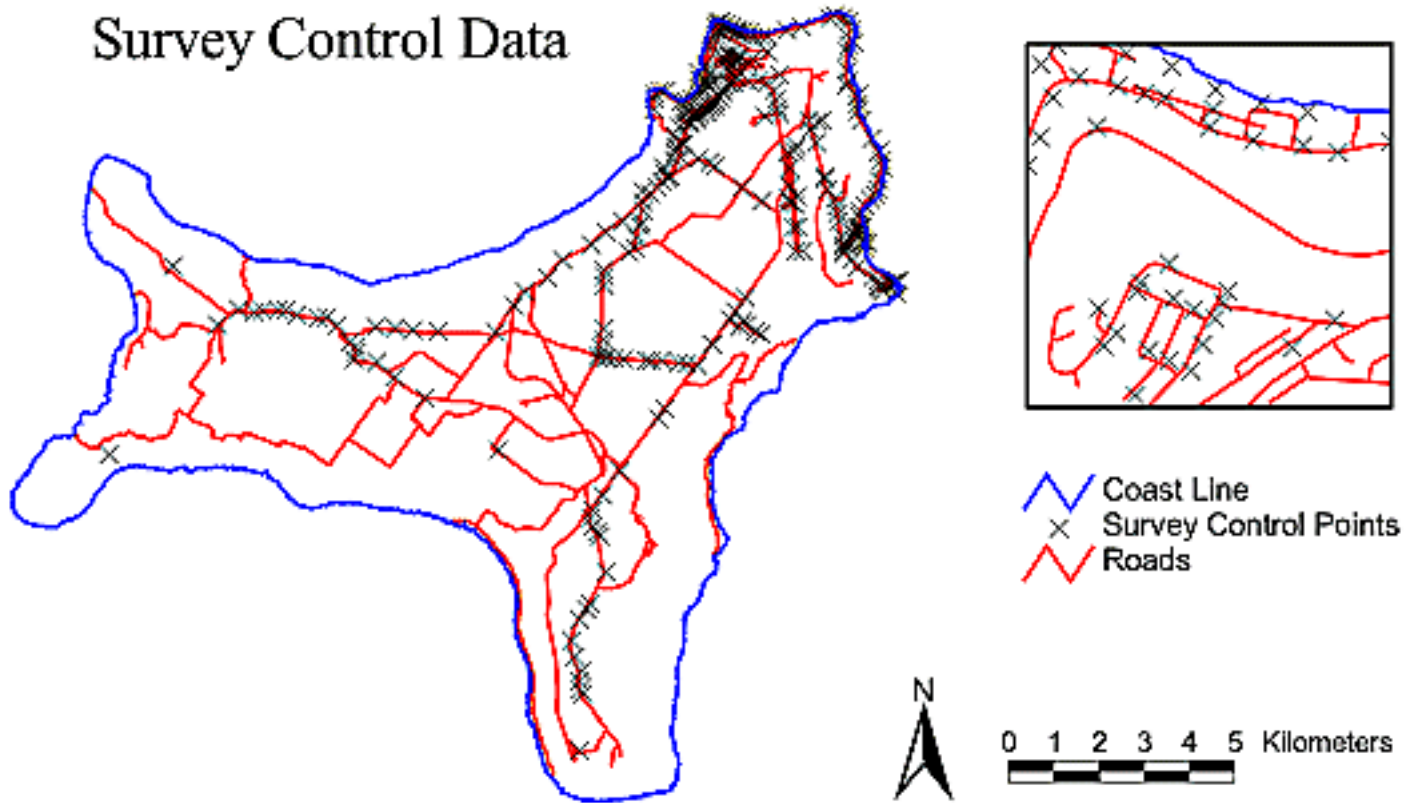
Organisation: AUSLIG
Address: PO Box 2, Beloconnen 2616
Suburb or City: A.C.T. Australia
Telephone: (02) 6201 4222
Facsimile: (02) 6201 4381
Email: datasales@auslig.gov.au

Additional Metadata

Metadata Access

Restricted.

1 August 2000



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 Names

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(s)

DIGITAL - ArcView3.1 point data shapefile. 260 survey points

Available Format Type(s)

DIGITAL - ArcView3.1 point data shapefile. 260 survey points

Access Constraint

Restricted

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. The name of the final CIG85 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

Metadata contact

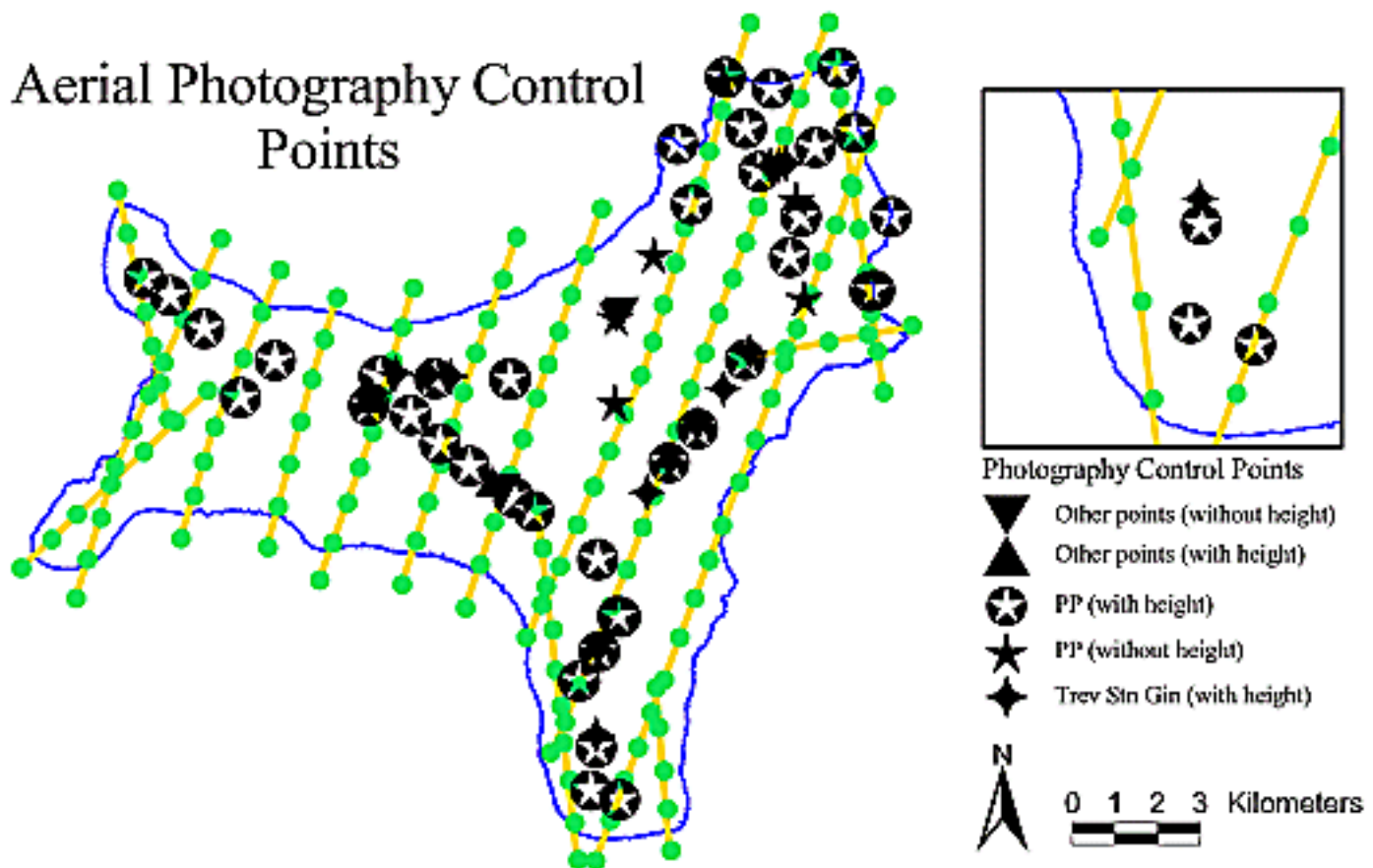
Organisation: Department of Land Administration (DOLA)
Address: Midland Square (PO Box: 2222)
Suburb or City: Midland Western Australia 6056
Telephone: (08) 9273 7209
Facsimile: (08) 9273 7656
Email: sales@dola.wa.gov.au

Additional Metadata

Metadata Access

Restricted.

1 August 2000



Dataset

Title

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 Names

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 Format(s)

DIGITAL - ArcView3.1 shapefile

Available Format Type(s)

DIGITAL - ArcView3.1 shapefile

Access Constraint

Restricted

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" and "Height". Eastings and northings are in CIG85. 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.

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" and "Height".

Logical consistency

All the data in this shapefile is concerned with the survey control points.

Completeness

AGSO recognises that there is still more work that can be done to yield an up to date and error free data set.

Contact Information

Metadata contact

Organisation:	AUSLIG
Address:	PO Box 2, Beloconnen 2616
Suburb or City:	A.C.T. Australia
Telephone:	(02) 6201 4222
Facsimile:	(02) 6201 4381
Email:	datasales@auslig.gov.au

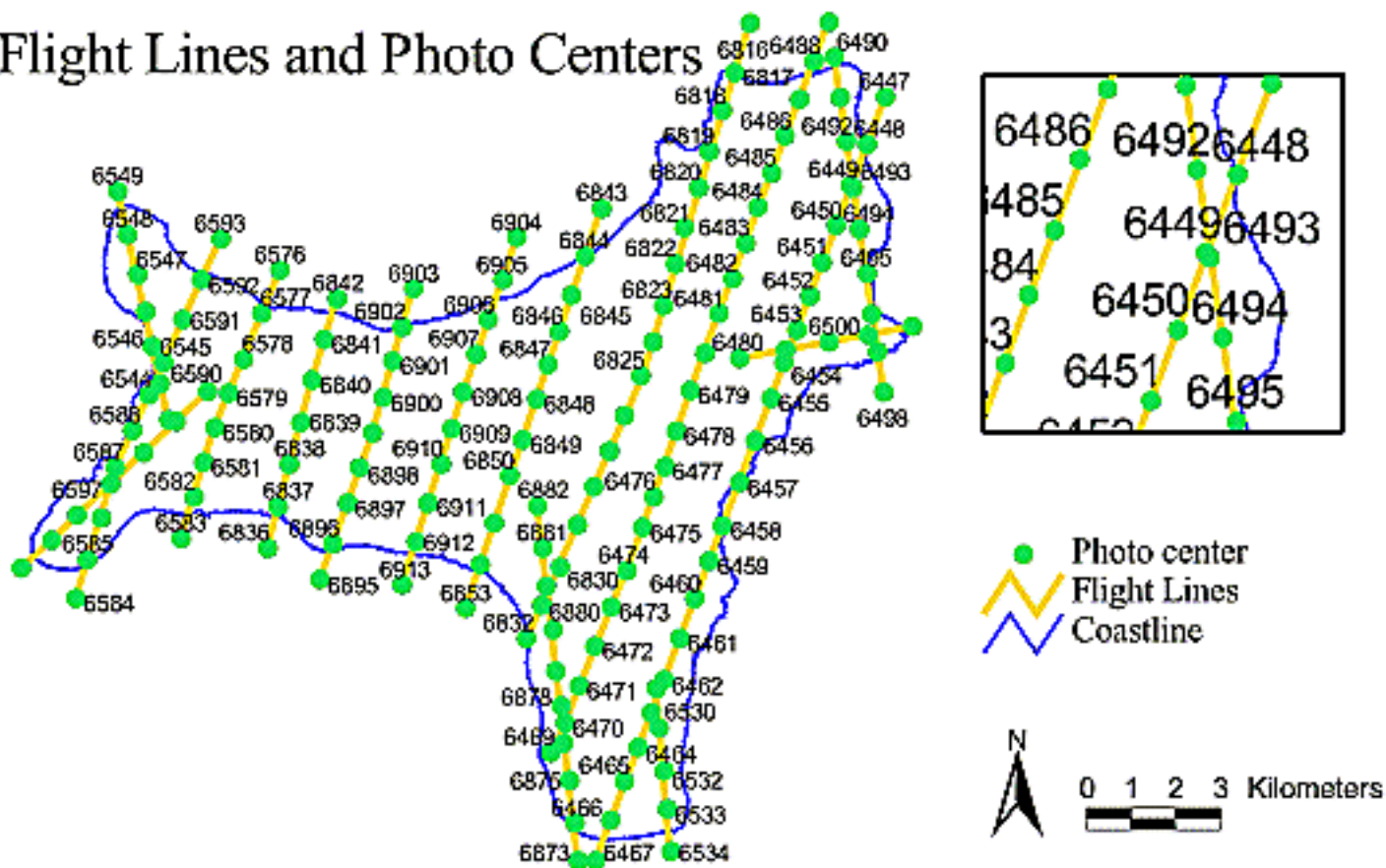
Additional Metadata

Metadata Access

Restricted.

1 August 2000

Flight Lines and Photo Centers



Dataset

Title

Aerial Photography Plan Data - Flight lines and photograph centres

Custodian

Australian Geological Survey Organisation

Jurisdiction

Australia, ACT

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 Names

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(s)

DIGITAL - ArcView3.1

Available Format Type(s)

DIGITAL - ArcView3.1

Access Constraint

Restricted

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.

Positional accuracy

They are only intended to be approximate and have proven adequate for our purposes.

Attribute accuracy

Not documented.

Logical consistency

Consistency.

Completeness

AGSO recognises that there is still more work that can be done to yield an up to date and error free data set.

Contact Information

Metadata contact

Organisation:	Australian Geological Survey Organisation
Address:	Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City:	SYMONSTON ACT 2609
Telephone:	(02) 6249 9479
Facsimile:	(02) 6249 9983
Email:	Keith.Porritt@agso.gov.au

Additional Metadata

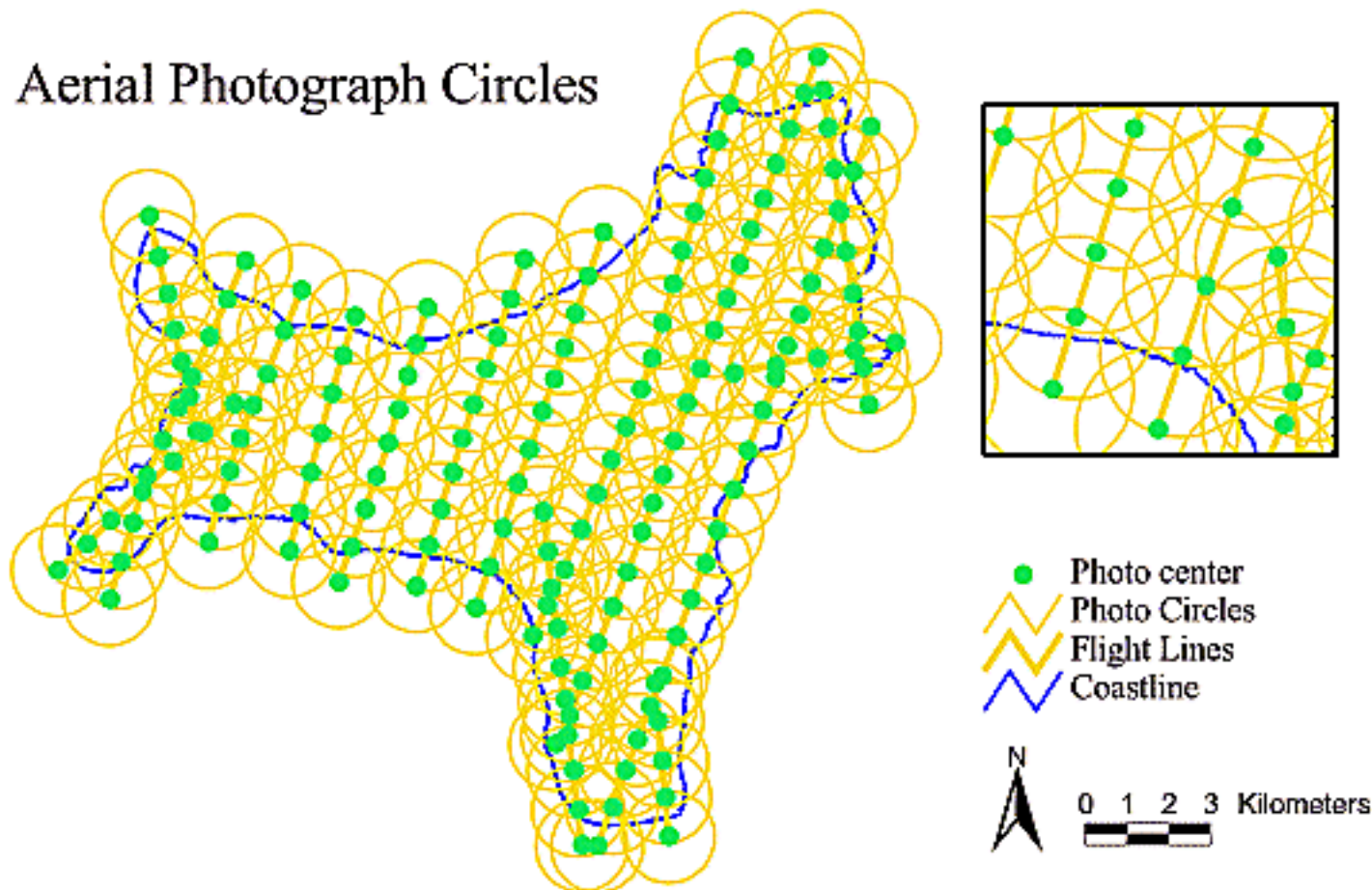
Metadata Access

Restricted.

1 August 2000

[INDEX](#)

Aerial Photograph Circles



Dataset

Title

Aerial Photography Plan Data - Photograph Circles

Custodian

Australian Geological Survey Organisation

Jurisdiction

Australia, ACT

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 Names

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(s)

DIGITAL - ArcView3.1

Available Format Type(s)

DIGITAL - ArcView3.1

Access Constraint

Restricted

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.

Positional accuracy

They are only intended to be approximate and have proven adequate for our purposes.

Attribute accuracy

Not documented.

Logical consistency

Consistency.

Completeness

AGSO recognises that there is still more work that can be done to yield an up to date and error free data set.

Contact Information

Metadata contact

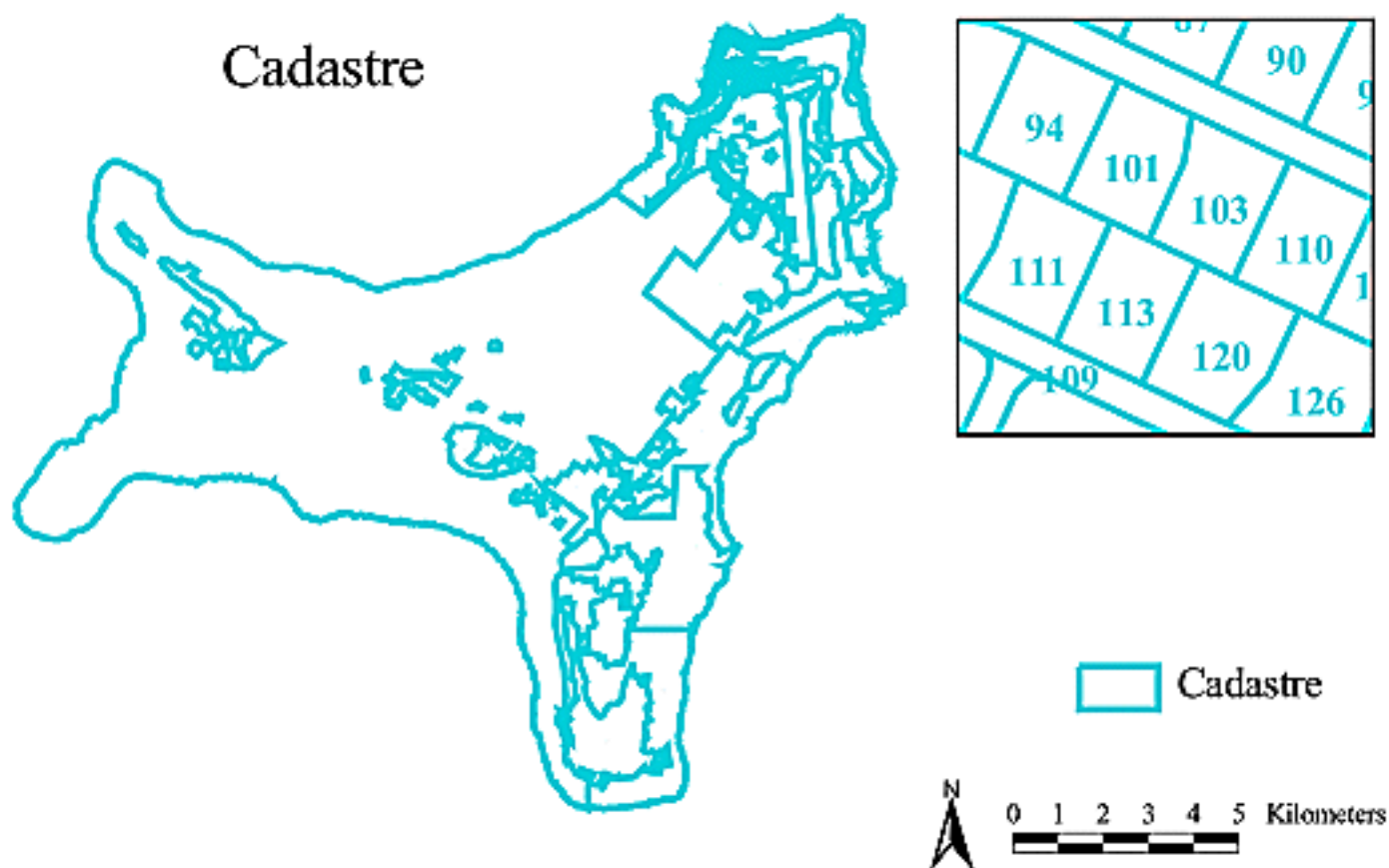
Organisation: Australian Geological Survey Organisation
Address: Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City: SYMONSTON ACT 2609
Telephone: (02) 6249 9479
Facsimile: (02) 6249 9983
Email: Keith.Porritt@agso.gov.au

Additional Metadata

Metadata Access

Restricted.

1 August 2000



Dataset

Title

Cadastral

Custodian

Department Of Land Administration (DOLA)

Jurisdiction

Western Australia

Description

Abstract

The cadastral directory contains an array of file sources from Australian Surveying & Land Information Group, Canberra (AUSLIG) and the Department Of Land Administration, Western Australia (DOLA). Data was received in various formats, which led to tedious conversion work. The data sourced from AUSLIG was DOLA data, on which much time and effort had been spent reworking the data to yield more useable information. The data received from DOLA seemed to lack many records in the table which was used to link the attribute data to the coordinate data, and

this resulted in many of the records having entries in only a few fields. [A link to the DOLA source metadata can be found here](#)

Search Word(s)

Search

Geographic Extent Names

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

Progress

Maintenance and Update Frequency

maintenance

Access

Stored Data Format(s)

DIGITAL - Format

Available Format Type(s)

DIGITAL - Format

Access Constraint

Restricted

Data Quality

Lineage

The data used in the production of the final cadastral dataset was from two sources. The polygon data was obtained from AUSLIG, who reworked the data, originally supplied by DOLA. This is

the most complete set of the polygon cadaastre data found by MREB. The attribute data is that supplied by DOLA in their NORM format in various tables. The AUSLIG spatial data, including a reworked version of a table containing the polygon centroid coordinates was supplied in a CIG85 projection. All other data was supplied in a UTM projection. All cadaastre attribute data was supplied in ASCII format, with the spatial components supplied in '.dgn' format. A data listing of the source data is available at Appendix1.

Data was supplied by AUSLIG on a 3 1/4 inch diskette, containing the significant files as '.e00' extension. This allowed importing into Arc/Info using the Arc import command. The AUSLIG data was originally supplied by DOLA in the mid-1980's and has been processed further to match the same AUSLIG control as used for AUSLIG orthophotos. A version of the AUSLIG data was also supplied in dgn format. This was probably the original data prior to reworking by AUSLIG. A 'ppar.txt' file was also supplied, which contained coordinate data for the centroid of each polygon (land parcel).

Positional accuracy

By overlaying the final cadaastre dataset on the orthophoto, comparison can be made as to how the polygons fit in with the land parcels. Using this method, the accuracy is reasonable even at very large scales. It is recommended, however, that the data should not be viewed at scales of less than 1:2000, as beyond this, accuracy may become unacceptable. The cadastral data provided in the CIGIS is for use as an spatial data analysis tool, and should in no way be used to make legal decisions in cases such as property boundary disputes.

Attribute accuracy

Close examination of the data will show that not all polygons have complete records in the attribute table. In many cases, the polygon does not have a owner's name or property name in the attribute table. As many tables have been joined to create this final table ('attdacig') many records may have been clipped along the way. The aim of the joins was to preserve the polygon centroid points, regardless of the other data. To determine how many record contained all the property owner's names as well as coordinates for the polygon centroid, a table was created with the join preserving owner's names over any other data. Only 68 points were produced using this method. The final method was that which yielded all points, some with property owner's names.

Logical consistency

Consistency.

Completeness

AGSO 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

Metadata contact

Organisation: Department of Land Administration (DOLA)
Address: Midland Square (PO Box: 2222)

Suburb or City: Midland Western Australia 6056
Telephone: (08) 9273 7209
Facsimile: (08) 9273 7656
Email: sales@dola.wa.gov.au

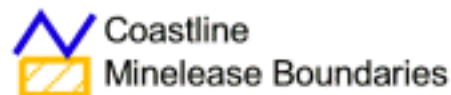
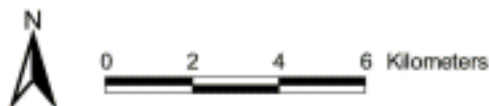
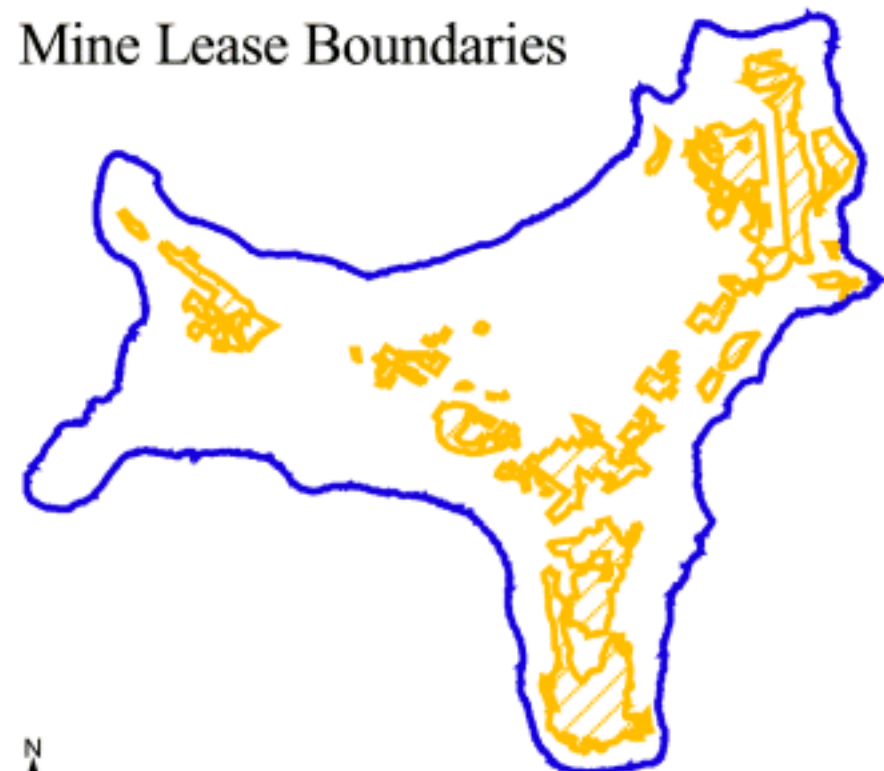
Additional Metadata

Metadata Access

Restricted.

1 August 2000

Mine Lease Boundaries



Dataset

Title

Mine Lease Boundaries

Custodian

Australian Geological Survey Organisation

Jurisdiction

Australia

Description

Abstract

Mining lease boudaries were supplied to AGSO as many small polygons. AGSO 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:

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 Names

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(s)**

DIGITAL - ESRI Shapefiles: Point, Line, Polygon

Available Format Type(s)

DIGITAL - ESRI Shapefiles: Point, Line, Polygon

Access Constraint

Restricted

Data Quality

Lineage

This metadata element is in progress

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. AGSO 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

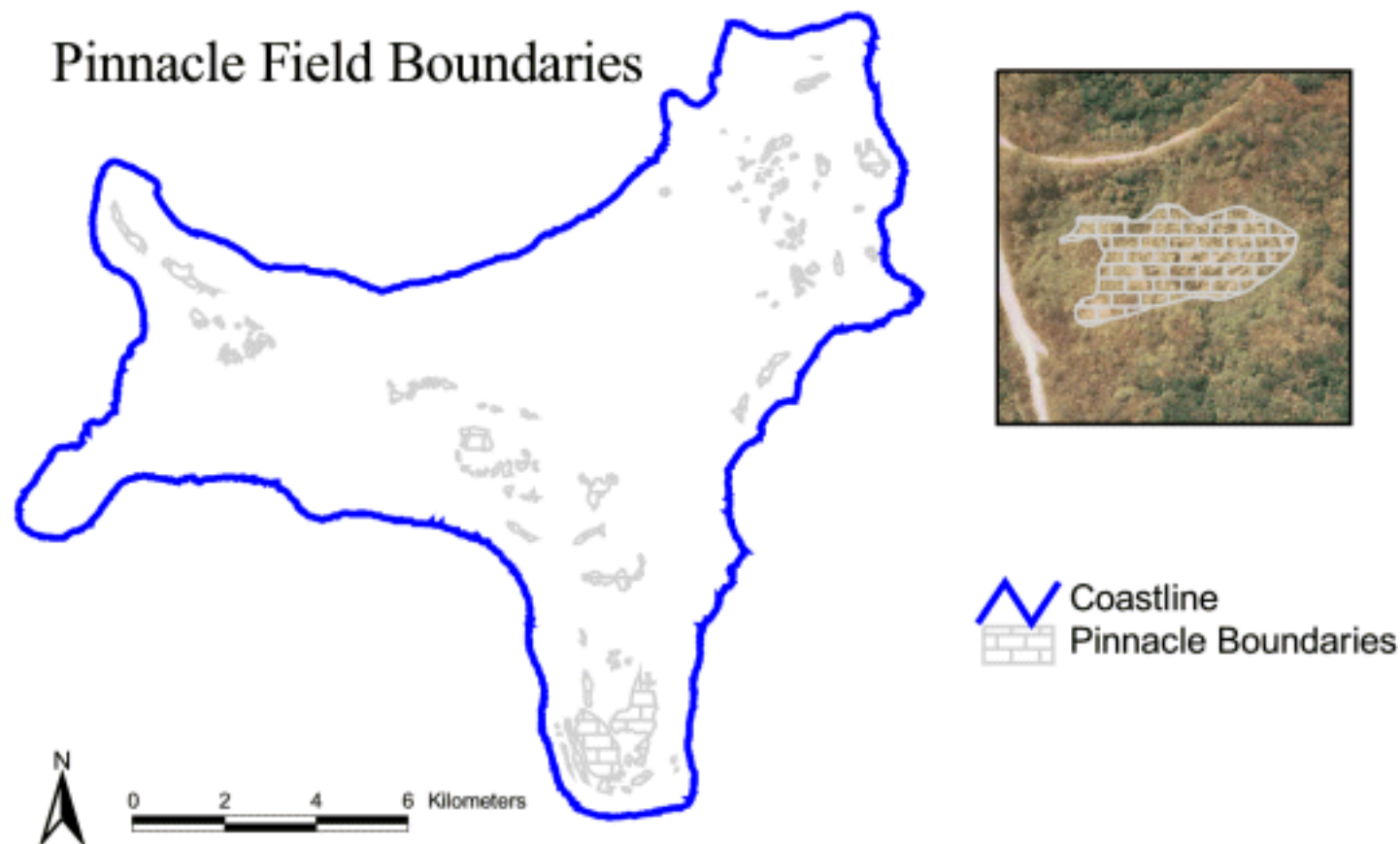
Metadata contact

Organisation: Australian Geological Survey Organisation
Address: Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City: SYMONSTON ACT 2609
Telephone: (02) 6249 9479
Facsimile: (02) 6249 9917
Email: Keith.Porritt@agso.gov.au

Additional Metadata

Metadata Date

2001-07-09



Dataset

Title

Pinnacle Field Boundaries

Custodian

AGSO - 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 AGSO 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 orthophotography 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 Names

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(s)

DIGITAL - ESRI Shapefiles: Polygon

Available Format Type(s)

DIGITAL - ESRI Shapefiles: Polygon

Access Constraint

Restricted

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).

AGSO 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 "heads - up" 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.

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 heads-up digitising at a screen scale. So 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 off the orthophotography so 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. AGSO recognises that further work could be undertaken to yield a more up to date and error free data set.

Contact Information

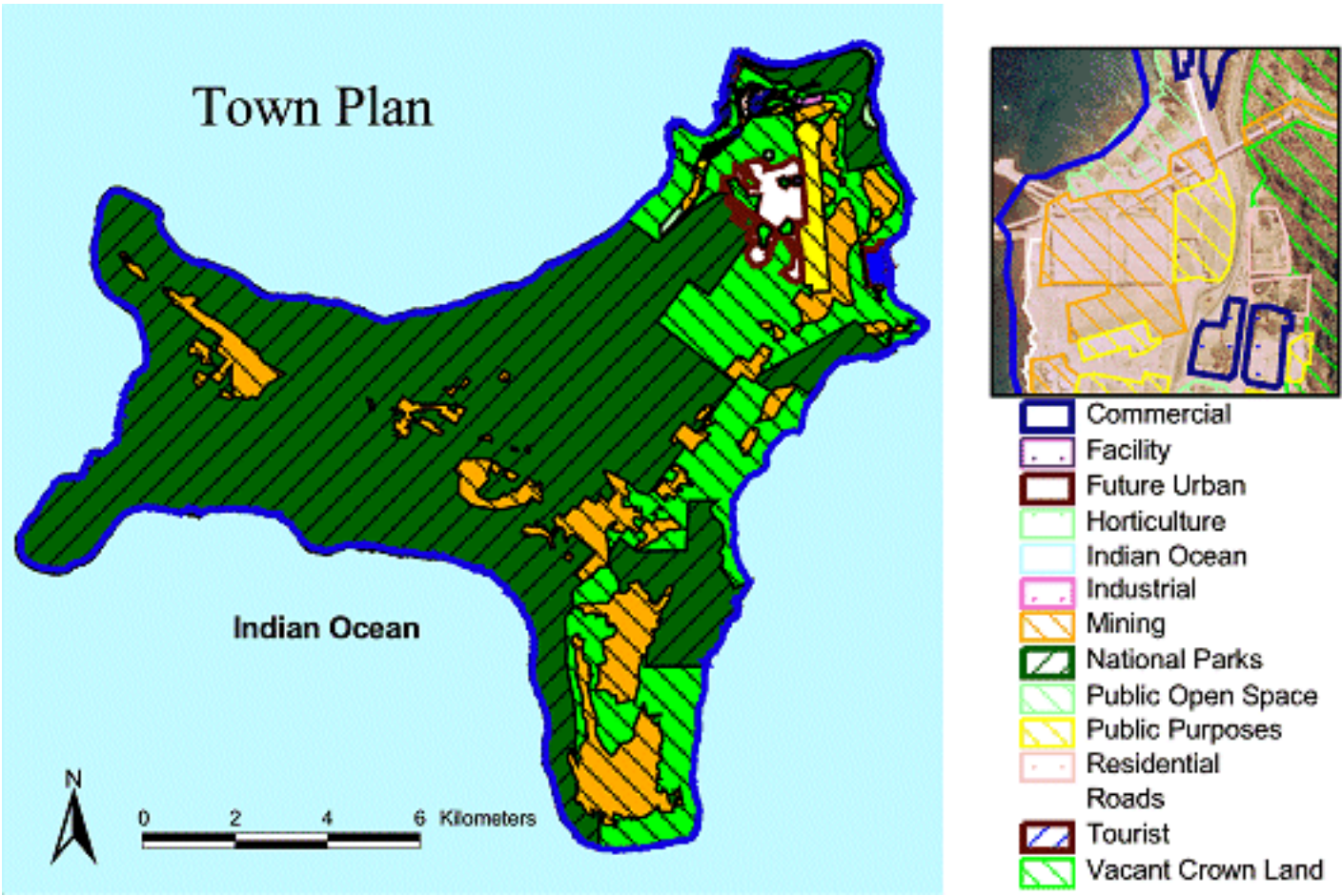
Metadata contact

Organisation: Australian Geological Survey Organisation
Address: Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City: SYMONSTON ACT 2609
Telephone: (02) 6249 9479
Facsimile: (02) 6249 9917
Email: Keith.Porritt@agso.gov.au

Additional Metadata

Metadata Date

2001-07-09



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:

Field	Type	Width	Decimal
Shape	FIELD_SHAPEPOLY	8	0

Zone	FIELD_CHAR	24	0
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

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.

Search Word(s)

BOUNDARIES Administrative

HUMAN ENVIRONMENT Planning

HUMAN ENVIRONMENT Structures and Facilities

HUMAN ENVIRONMENT Urban Design

LAND Use

UTILITIES

Geographic Extent Names

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(s)

DIGITAL - Arc/Info files: Point, Line, Polygon

DIGITAL - ESRI Shapefiles: Point, Line, Polygon

Available Format Type(s)

DIGITAL - ESRI Shapefiles: Point, Line, Polygon

Access Constraint

Restricted

Data Quality

Lineage

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.

AGSO recognises that further work could be undertaken to yield a more up to date and error free data set.

Contact Information

Metadata contact

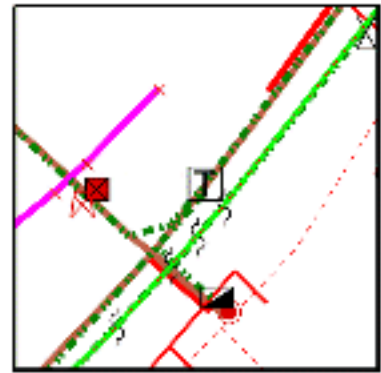
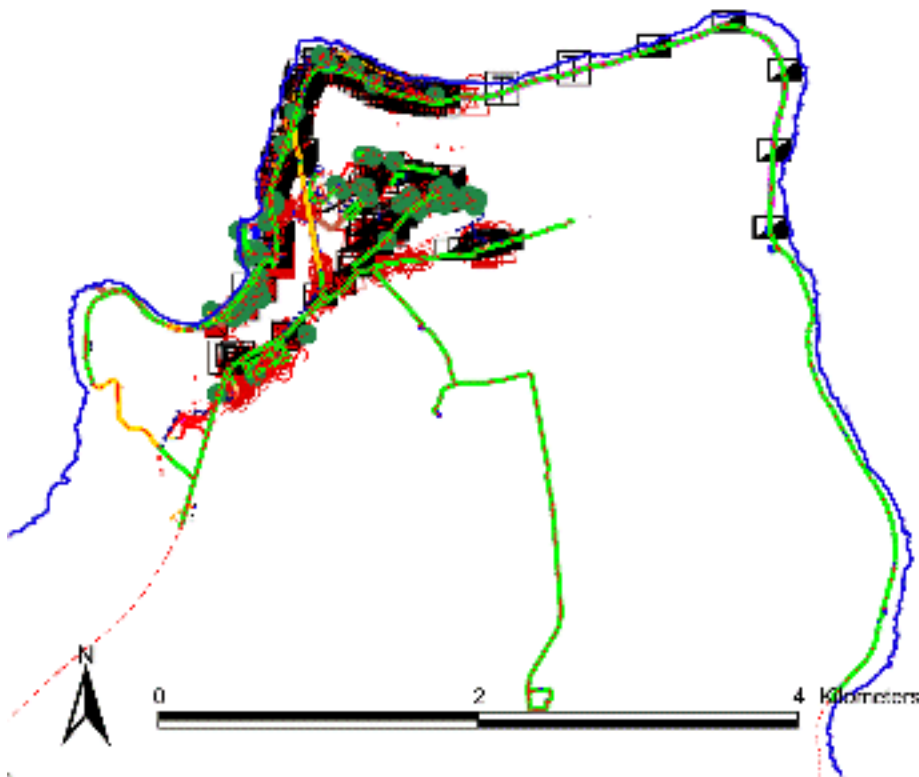
Organisation: Australian Geological Survey Organisation
Address: Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City: SYMONSTON ACT 2609
Telephone: (02) 6249 9479
Facsimile: (02) 6249 9917
Email: Keith.Porritt@agso.gov.au

Additional Metadata

Metadata Date

2001-07-09

Utilities



Waste Water

- Cast iron pipe
 - Ductile iron cement lined pipe
 - High density polyethylene pipe
 - PVC pipe
 - Vitrified clay pipe
 - Housing service connection pipe
- ### Telstra Cabling
- Telstra
 - Telstra Conduit
 - Telstra Duct
 - Tel Cable

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 AGSO).

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

LAND Use

UTILITIES

WASTE Water

WATER Waste

Geographic Extent Names

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

Progress

Complete

Maintenance and Update Frequency

As Required

Access

Stored Data Format(s)

DIGITAL - ESRI Shapefiles: Point, Line, Polygon

DIGITAL - CAD generated files (DWG,DXF,DGN): Point, Line, Polygon

Available Format Type(s)

DIGITAL - ESRI Shapefiles: Point, Line, Polygon

Access Constraint

Data Quality

Lineage

Utility data were supplied to AGSO via a GHD Utilities CD-ROM on 25 May 2001. Data were sourced by GHD and supplied to AGSO 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. AGSO has converted this Access 2000 database into a Access '97 database to allow greater useage.

Positional accuracy

Through use of the GHD data accuracy has been noted to be very good. Spatially the data coincides very closely with the orthophotography and the AGSO 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 spatial and attribute data has been viewed and used many times, through the uses it appears that the data attributes match and supplement the spatial data.

Completeness

The data is concerned with the north east portion of Christmas Island and is mostly complete for that area. AGSO recognises that further work could be undertaken to yield a more up to date and error free data set.

Contact Information

Metadata contact

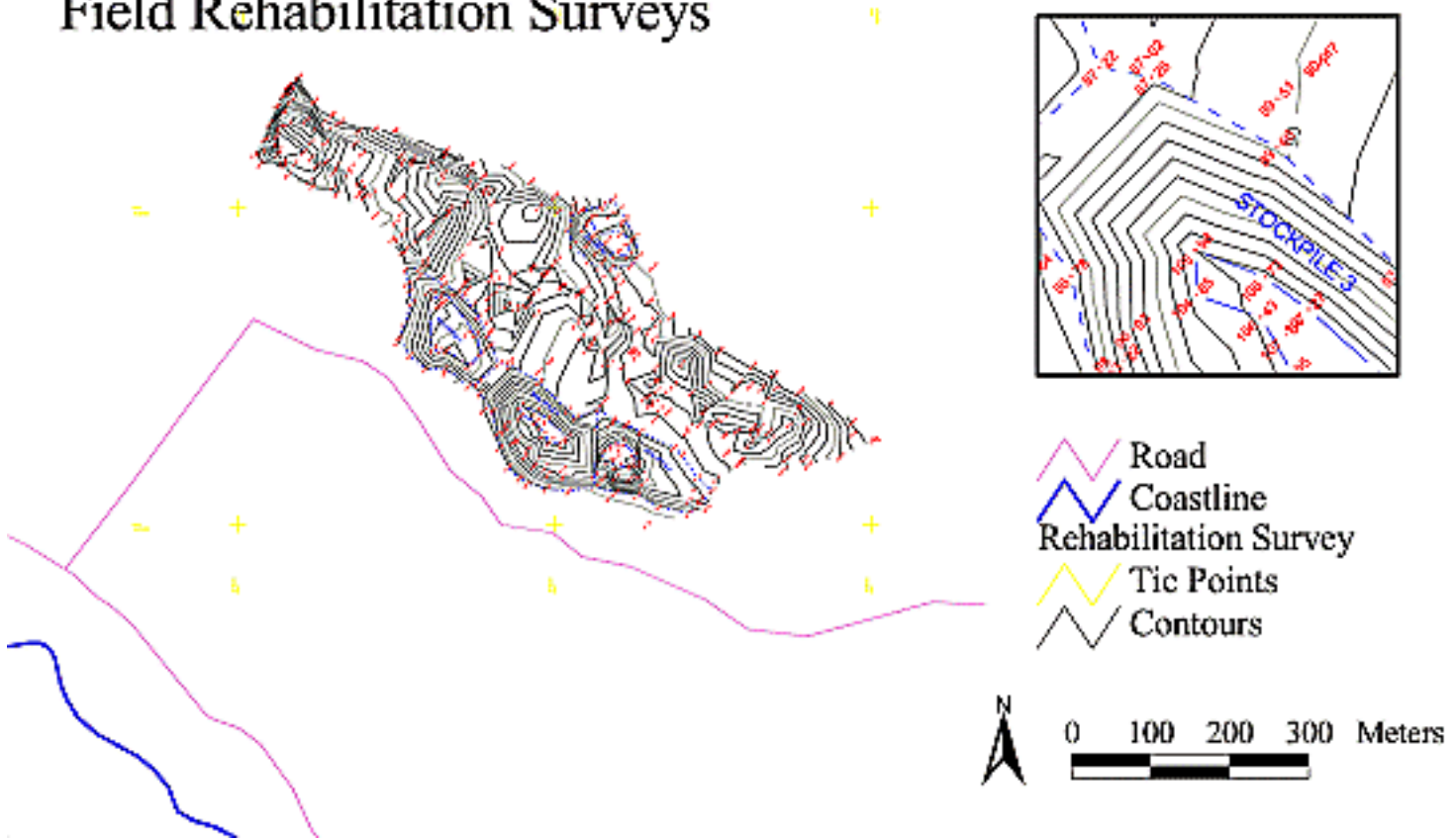
Organisation:	Australian Geological Survey Organisation
Address:	Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City:	SYMONSTON ACT 2609
Telephone:	(02) 6249 9479
Facsimile:	(02) 6249 9917
Email:	Keith.Porritt@agso.gov.au

Additional Metadata

Metadata Date

2001-07-09

Field Rehabilitation Surveys



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

Christmas Island Edition 2 1995 1:25000

for the Australian Nature Conservation Agency

AUSLIG Mapsheet 94/068

Data Currency

Beginning date

01JUL1985

Ending date

11NOV1992

Dataset Status

Progress

Not Known

Maintenance and Update Frequency

As Required

Access

Stored Data Format(s)

DIGITAL - Autocad® Release 7 DWG files.

Available Format Type(s)

DIGITAL - Autocad® Release 7 DWG files.

Access Constraint

Restricted

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.

Positional accuracy

The positional accuracy of this data is not well known. AGSO 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 has undertaken considerable work to translate these mapping lines into a form suitable for GIS use. However, AGSO recognises that still more work is necessary to yield an up to date and error free data set.

Contact Information

Metadata contact

Organisation:	Parks Australia North
Address:	PO Box 837
Suburb or City:	Christmas Island 6798
Telephone:	(08) 9164 8055
Facsimile:	(08) 9164 8755
Email:	David.Slip@ea.gov.au

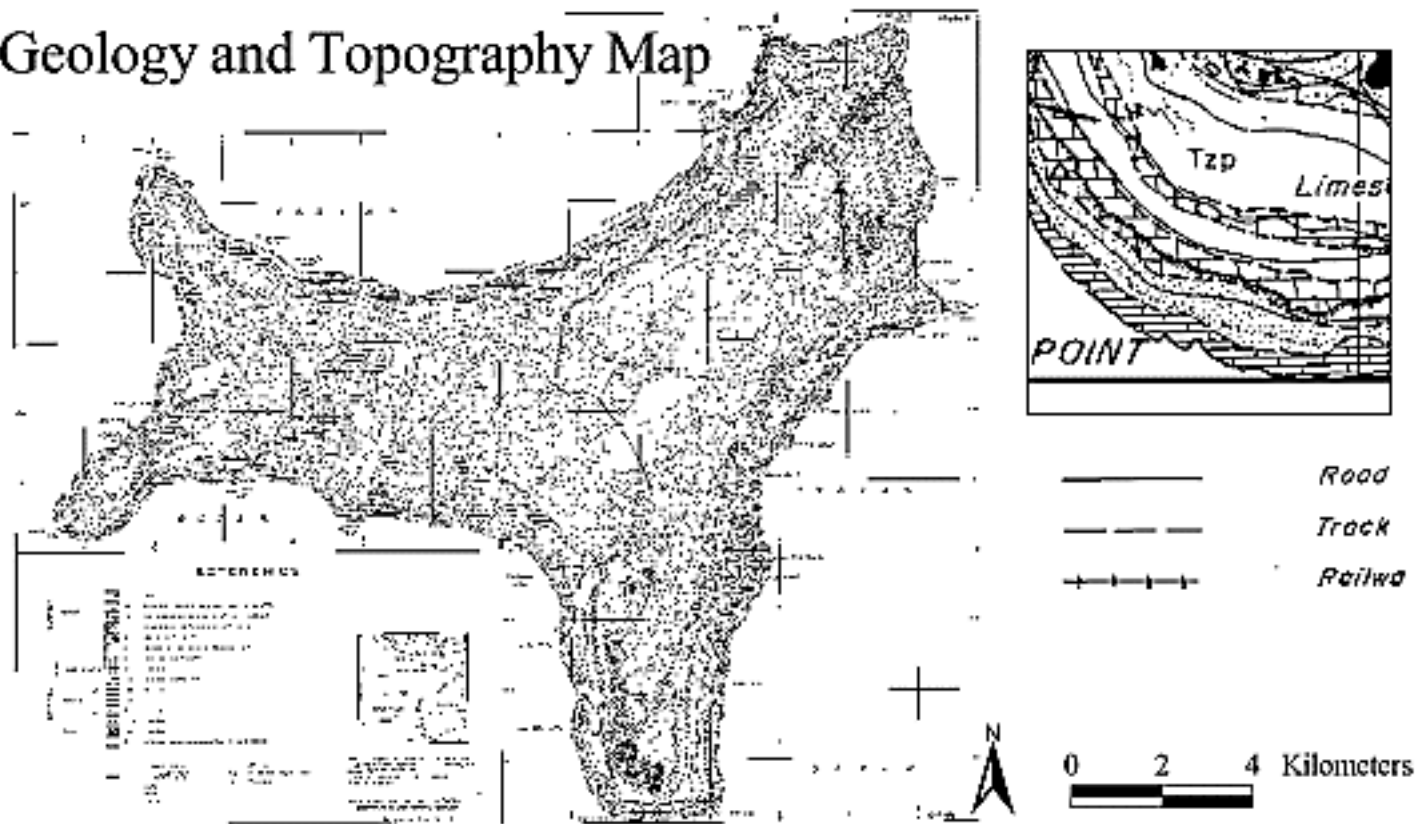
Additional Metadata

Metadata Access

Restricted.

1 August 2000

Geology and Topography Map



Dataset

Title

Old Geology and Vegetation Maps

Custodian

Australian Geological Survey Organisation

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

Old Maps

map.

Search Word(s)

GEOSCIENCES Map

GEOSCIENCES Geology

VEGETATION Map

VEGETATION Location

Geographic Extent

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(s)

NONDIGITAL - Paper map

Available Format Type(s)

DIGITAL - Raster TIF format from scanning of the paper map

NONDIGITAL - Paper map obtained from ANCA

Access Constraint

Restricted

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.

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 has found that no changes or ammendments have taken place.

Contact Information

Metadata contact

Organisation:	Australian Geological Survey Organisation
Address:	Cnr Jerrabomberra Ave and Hindmarsh Drive
Suburb or City:	SYMONSTON ACT 2609
Telephone:	(02) 6249 9479
Facsimile:	(02) 6249 9983
Email:	Keith.Porritt@agso.gov.au

Additional Metadata

Metadata Access

Restricted.

1 August 2000

Chapter 5

Appendix 3: Ground Audit Listing

Table 1: The following spreadsheet lists 15 fields of Ground Audit data that displayed first in the attribute table. Records are sorted by the 'Location Number' field. Page order for columns is 'Down, then over'.

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
001	1097146	LGE G995885	CASINO, GOLF COURSE ROAD	
002	1096839	CHRISL 00002	ANCA Nursery	
003	1096840	L 3116 10918	ANCA Offices	
006	1096813	CHRISL 00006		
007	1096814	CHRISL 00007	MQ746	
008	1096815	CHRISL 00008	MQ742	
009	1096816	CHRISL 00009	MQ743	
010	1096817	CHRISL 00010	MQ746	
011	1096818	CHRISL 00011		
012	1096819	CHRISL 00012	MQ740	
013	1096820	CHRISL 00013		
014	1096821	CHRISL 00014		
015	1096822	CHRISL 00015	MQ736	
016	1096823	CHRISL 00016	MQ737	
017	1096824	CHRISL 00017	MQ738	
018	1096825	CHRISL 00018	MQ731	
019	1096826	CHRISL 00019		
020	1096827	CHRISL 00020	MQ733	
021	1096828	CHRISL 00021	MQ734	
022	1096829	CHRISL 00022	MQ730	
023	1096830	CHRISL 00023	MQ752	
024	1096831	CHRISL 00024	MQ748	
025	1096832	CHRISL 00025	MQ749	
026	1096846	CHRISL 00026	MQ706 LAM LOK LOH	2 BR HOUSE, approx 45 year old brick/asbestos, detached carport and garage all in fair condition.
027	1096847	CHRISL 00027	MQ707	
028	1096848	V CROWN LAND	MQ708 LAM LOK LOH	2 BR HOUSE brick/asbestos 45 yrs, fair condition.
029	1096849	CHRISL 00029	MQ709 LAM LOK LOH	2 BR HOUSE brick/asbestos, approx 45 yrs, detached carport/garage all in fair condition
030	1096850	CHRISL 00030	MQ720	
031	1096851	L 3116 10924		
032	1096852	CHRISL 00032	MQ711JALAN KETAM MERAH, Drumsite.	2 BR HOUSE, approx 45 yrs old brick/asbestos , detached garage, all in fair condition
033	1096853	CHRISL 00033	MQ712 Jalan Ketam Meran, (Cnr Golden Bosun), Drumsite.	3 BR HOUSE, rendered brick/asbestos approx 40 yrs.
034	1096854	V CROWN LAND	MQ713 JALAN KETAM MERAH	3 BR HOUSE, Rendered brick/asbestos approx 40 yrs.
035	1096855	CHRISL 00035		
036	1096856	L 3116 11164	MQ719	
037	1096857	CHRISL 00037		
038	1096858	CHRISL 00038		
039	1096859	CHRISL 00039	MQ716	
040	1096860	CHRISL 00040	MQ715	
041	1096861	CHRISL 00041	MQ721	
042	1096862	CHRISL 00042	MQ722 JALAN KETAM MERAH	2 BR HOUSE, (3 bedroom), iron clad/ iron roof approx 30 yrs, carport. In fair condition.
043	1096863	CHRISL 00043	MQ703	
044	1096864	CHRISL 00044	MQ704	
045	1096865	CHRISL 00045	MQ705 Lot45 Tong Yan Loh, Unit 77	2 Units
047	1096896	CHRISL 00047	Port Facilities - Jalan Pantai	Phosphate loading cantilevers
048	1096895	CHRISL 00048	Port Facilities - Jalan Pantai	Phosphate loading cantilevers
049	1097101	V CROWN LAND	Drier No. 1 site	
050	1097102	V CROWN LAND	Drier No. 1 site	
051	1097091	V CROWN LAND	Drumsite workshops	
052	1097087	CHRISL 00052		
053	1096838	CHRISL 00053	MINES OFFICE. Loc 53	Mines office
054	1096844	V CROWN LAND	Lot 54 Gaze Road, Settlement	Workshop (blacks)
055	1096843	CHRISL 00055		
056	1096841	V CROWN LAND		
057	1096842	V CROWN LAND	FUEL FARM, SMITH POINT	A small brick pump station and three fuel tanks.
058	1096962	CHRISL 00058	MQ699	
059	1096961	V CROWN LAND	MQ698, SEA VIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
060	1096960	CHRISL 00060	MQ697	
061	1096959	CHRISL 00061	MQ696	
062	1096958	CHRISL 00062	MQ695	
063	1096957	CHRISL 00063	MQ694	
064	1096954	CHRISL 00064	MQ596, LOWER POON SAAN DRIVE.	3 BR HOUSE. Aluminium clad and roofed home approximately 20 years old.
065	1096955	CHRISL 00065	MQ597	
066	1096956	CHRISL 00066	MQ598	

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
001	R1062	868347	CL0199200579	Casino	471725.025	47.17250249	47.20265374		105.70309990	-10.45590963	L 3116 109	WATERFALL
002		868271	CL0199200578	Nursery	5700.650	0.57006501	0.57109229		105.66949370	-10.43243868	L 3116 109	DRUMSITE
003		868270	CL0199200578	Offices	4680.813	0.46808133	0.46848076		105.66999300	-10.43288558	L 3116 109	DRUMSITE
006		868242	CL0199200605		793.437	0.07934370	0.07940449		105.66983670	-10.43388234	L 3116 109	DRUMSITE
007		868244	CL0199300050	Residential	1045.525	0.10455249	0.10463573		105.66955510	-10.43378347	L 3116 110	DRUMSITE
008		868246	CL0199300051	Residential	857.241	0.08572415	0.08576375		105.66979700	-10.43412175	L 3116 110	DRUMSITE
009		868247	CL0199300052	Residential	1071.289	0.10712888	0.10720738		105.66951040	-10.43404027	L 3116 110	DRUMSITE
010		868250	CL0199200656	Residential	768.359	0.07683592	0.07684377		105.66924890	-10.43399256	L 3116 109	DRUMSITE
011		868251	CL0199200599		818.649	0.08186489	0.08196743		105.66914070	-10.43431768	L 3116 109	DRUMSITE
012		868254	CL0199300053	Residential	870.261	0.08702605	0.08708011		105.66940760	-10.43437416	L 3116 110	DRUMSITE
013		868256	CL0199200653		935.016	0.09350162	0.09361927		105.66967830	-10.43446230	L 3116 109	DRUMSITE
014		868514	CL0199400556		871.680	0.08716795	0.08717737		105.66960900	-10.43469820	L 3116 113	DRUMSITE
015		868259	CL0199200672	Residential	846.588	0.08465885	0.08470492		105.66934200	-10.43462792	L 3116 110	DRUMSITE
016		868260	CL0199400557	Residential	722.846	0.07228460	0.07231482		105.66909540	-10.43457057	L 3116 113	DRUMSITE
017		868262	CL0199200585	Residential	954.679	0.09546790	0.09553152		105.66886010	-10.43447966	L 3116 109	DRUMSITE
018		868264	CL0199200654	Residential	882.391	0.08823909	0.08833314		105.66873290	-10.43480155	L 3116 109	DRUMSITE
019		868265	CL0199200595		865.804	0.08658040	0.08665203		105.66899330	-10.43487404	L 3116 109	DRUMSITE
020		891845	CL0199300054	Residential	872.786	0.08727859	0.08733451		105.66924750	-10.43495976	L 3116 110	DRUMSITE
021		868268	CL0199200671	Residential	1013.321	0.10133212	0.10145063		105.66948510	-10.43503680	L 3116 110	DRUMSITE
022		868573	CL0199300055	Residential	696.132	0.06961321	0.06961904		105.66855330	-10.43492423	L 3116 110	DRUMSITE
023		868236	CL0199200636	Residential	924.805	0.09248045	0.09253309		105.66999650	-10.43332527	L 3116 109	DRUMSITE
024		868238	CL0199200592	Residential	823.514	0.08235135	0.08233951		105.66994360	-10.43355696	L 3116 109	DRUMSITE
025		868240	CL0199200594	Residential	1082.195	0.10821954	0.10827026		105.66969060	-10.43345988	L 3116 109	DRUMSITE
026	R0369V	825709		Residential	1027.767	0.10277666	0.10283219		105.67173830	-10.43250811		DRUMSITE
027		868286	CL0199200616	Residential	1071.005	0.10710046	0.10713327		105.67140510	-10.43268907	L 3116 109	DRUMSITE
028	R0370X	825709		Residential	1053.800	0.10538000	0.10545695		105.67114850	-10.43283236		DRUMSITE
029	R0496V	868289		Residential	1288.308	0.12883079	0.12890616		105.67087660	-10.43299645		DRUMSITE
030		868277	CL0199300056	Residential	1553.531	0.15535314	0.15553328		105.67059650	-10.43339572	L 3116 110	DRUMSITE
031		868291	CL0199200584		1051.854	0.10518541	0.10522531		105.67098590	-10.43327361	L 3116 109	DRUMSITE
032	R0481M	868292		Residential	1277.600	0.12775998	0.12783399		105.67126620	-10.43311663		DRUMSITE
033	R0492S	868293		Residential	1164.047	0.11640469	0.11647588		105.67154920	-10.43295373		DRUMSITE
034	R0368E	868302		Residential	1011.550	0.10115498	0.10121895		105.67188330	-10.43277265		DRUMSITE
035		868303	CL0199200646		1671.308	0.16713081	0.16727085		105.67220060	-10.43259916	L 3116 109	DRUMSITE
036		868280	CL0199300399	Residential	1438.842	0.14388421	0.14394618		105.67083420	-10.43369378	L 3116 111	DRUMSITE
037		868283	CL0199200658		1123.215	0.11232153	0.11237804		105.67121970	-10.43385860	L 3116 109	DRUMSITE
038		868285	CL0199200591	No details available	1680.160	0.16801603	0.16811710		105.67136160	-10.43358171	L 3116 109	DRUMSITE
039		868294	CL0199200661	Residential	1190.000	0.11899998	0.11909911		105.67166560	-10.43335020	L 3116 110	DRUMSITE
040		868296	CL0199200612	Residential	1065.712	0.10657124	0.10659126		105.67192370	-10.43319041	L 3116 109	DRUMSITE
041		868298	CL0199200608	Residential	745.089	0.07450893	0.07452908		105.67216220	-10.43303181	L 3116 109	DRUMSITE
042	R0379H	868301	CL0199400036	Residential	1010.735	0.10107354	0.10104812		105.67244340	-10.43284798	L 3116 112	DRUMSITE
043		868310	CL0199200589	Residential	1044.199	0.10441988	0.10450634		105.67256510	-10.43206196	L 3116 109	DRUMSITE
044		868309	CL0199300057	Residential	1121.622	0.11216218	0.11229747		105.67229730	-10.43220675	L 3116 110	DRUMSITE
045		868306	CL0199300058	Residential	1186.548	0.11865484	0.11876040		105.67201040	-10.43236093	L 3116 110	DRUMSITE
047		868337		Port operations	1042.166	0.10421661	0.10435521	018572	105.67123470	-10.42424676		PORT
048		825709		Port operations	904.187	0.09041872	0.09047930	018572	105.67112770	-10.42475716		PORT
049		825709		Industry	2459.465	0.24594647	0.24604878		105.67609350	-10.42714376		DRUMSITE
050		825709		Industry	7222.508	0.72225081	0.72273249	018571	105.67694740	-10.42736739		DRUMSITE
051		825709		Light industrial	11615.711	1.16157106	1.16232333	018571	105.67570270	-10.42946120		DRUMSITE
052		825709			38204.080	3.82040796	3.82310037	018571	105.67373400	-10.43034971		DRUMSITE
053		825709		Offices	1277.796	0.12777961	0.12794170		105.67051660	-10.43453462		DRUMSITE
054		868576		Light industrial	1044.198	0.10441978	0.10451477		105.66865510	-10.44044559		DRUMSITE SOUTH
055		868577			77.246	0.00772455	0.00771947		105.66842770	-10.44035691		DRUMSITE SOUTH
056		825709			3287.876	0.32878763	0.32849767		105.66291240	-10.43365273		SMITH POINT
057	R1059	825709		Oil storage - Fuel Farm	2371.652	0.23716517	0.23734521		105.66265010	-10.43230036		SMITH POINT
058		868686	CL0199200657	Residential	1062.623	0.10626226	0.10631138		105.67847200	-10.42032613	L 3116 109	SILVER CITY
059	R0388S	868687		Residential	1040.551	0.10405509	0.10415437		105.67873530	-10.42043249		SILVER CITY
060		868657	CL0199300059	Residential	1035.739	0.10357388	0.10359016		105.67898430	-10.42053532	L 3116 110	SILVER CITY
061		868654	CL0199300093	Residential	1140.939	0.11409394	0.11412570		105.67922340	-10.42062986	L 3116 110	SILVER CITY
062		868653		Residential	1200.984	0.12009837	0.12023647		105.67946330	-10.42072851		SILVER CITY
063		825709		Residential	1146.855	0.11468551	0.11475686		105.67968830	-10.42081733		SILVER CITY
064	R0073L	868649	CL0199400111	Residential	1113.929	0.11139289	0.11154034		105.68016410	-10.42082192	L 3116 112	SILVER CITY
065		868650		Residential	1607.987	0.16079870	0.16096131		105.68008840	-10.42105172		SILVER CITY
066		868651		Residential	1273.546	0.12735462	0.12739200		105.68000130	-10.42126953		SILVER CITY

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
067	1096976	V CROWN LAND	MQ680, PAI CHIN LU/LOWER POON SAAN DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
068	1096973	CHRISL 00068	MQ681	
069	1096972	CHRISL 00069	MQ682	
070	1096969	V CROWN LAND	MQ683, PAI CHIN LU	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
071	1096968	V CROWN LAND	MQ684, PAI CHIN LU	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
072	1096966	CHRISL 00072	MQ685	
073	1096965	CHRISL 00073	MQ686	
074	1096963	CHRISL 00074	MQ687	
075	1096964	CHRISL 00075	MQ688	
076	1096967	CHRISL 00076	MQ689	
077	1096970	CHRISL 00077	MQ690	
078	1096971	CHRISL 00078	MQ691	
079	1096974	CHRISL 00079	MQ692, SEA VIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
080	1096975	CHRISL 00080	MQ693, SEA VIEW DRIVE LOWER POON SAAN DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
081	1097021	CHRISL 00081		
082	1097022	CHRISL 00082	MQ665	
083	1097023	CHRISL 00083	MQ664	
084	1097024	CHRISL 00084	MQ663	
085	1097025	CHRISL 00085	Recreation Reserve - Child Playground	
086	1097026	L 3116 11060	MQ662	
087	1097027	CHRISL 00087	MQ661	
088	1097028	CHRISL 00088	MQ660	
089	1097029	CHRISL 00089	MQ659	
090	1097030	L 3116 10995		
091	1097031	CHRISL 00091		
092	1097032	CHRISL 00092	MQ656	
093	1097033	CHRISL 00093	MQ655	
094	1097034	CHRISL 00094	MQ654	
095	1097035	CHRISL 00095	MQ653	
096	1097036	CHRISL 00096	MQ652	
097	1097037	CHRISL 00097	MQ651	
098	1097038	CHRISL 00098	MQ603	
099	1097039	CHRISL 00099	MQ604	
100	1097040	CHRISL 00100		
101	1096979	CHRISL 00101	MQ610	
102	1096981	CHRISL 00102	MQ609	
103	1096982	L 3116 10941		
104	1096983	CHRISL 00104	MQ607, LOWER POON SAAN ROAD	3 BR HOUSE, Aluminium clad and roofed dwelling, approx 30 years old.
105	1096984	CHRISL 00105	MQ606, LOWER POON SAAN ROAD	3 BR HOUSE Aluminium clad and roofed dwelling, approx 30 years old.
106	1096985	CHRISL 00106	MQ614	
107	1096986	CHRISL 00107	MQ613	
108	1096987	V CROWN LAND	WOMENS REFUGE CENTRE, JALAN PERAK	A concrete rendered and corrugated asbestos roof dwelling approximately 40 years old, in fair condition.
109	1096988	CHRISL 00109	MQ612	
110	1096980	R 44651	MQ611, KINDERGARTEN, JALAN PERAK	Two iron/iron transportable buildings which are adjoined by a covered verandah area 25 yrs old, fair condidtion.
111	1097098	CHRISL 00111	CHRISTMAS ISLAND NATIONAL PARK - North East Section	
112	1097147	V CROWN LAND	CHRISTMAS ISLAND NATIONAL PARK - Hosnies Springs Section	
113	1096989	CHRISL 00113	MQ639, SEA VIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
114	1096990	CHRISL 00114	MQ640, SUNSET PLACE/SEAVIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
115	1096991	CHRISL 00115	MQ641	
116	1096992	CHRISL 00116	MQ643	
117	1096993	CHRISL 00117	MQ644, SUNSET PLACE/SEAVIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
118	1096994	CHRISL 00118	MQ637, SEA VIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
119	1096995	CHRISL 00119	MQ636, SEA VIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
120	1096996	CHRISL 00120	MQ635	
121	1096997	CHRISL 00121	MQ634, SEA VIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
122	1096998	CHRISL 00122	MQ633, SEA VIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
123	1096999	CHRISL 00123	MQ632, SEA VIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
124	1097000	V CROWN LAND	MQ631, PAI CHIN LU/SEAVIEW DRIVE	3 BR HOUSE Aluminium clad and roofed home approximately 20 years old.
125	1097001	CHRISL 00125	MQ630	
126	1097002	CHRISL 00126	MQ629	
127	1097003	CHRISL 00127	MQ628	
128	1097004	CHRISL 00128	MQ627	
129	1097005	CHRISL 00129	MQ626	

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
067	R0485G	825709		Residential	1035.014	0.10350138	0.10353951		105.67931930	-10.42154528		SILVER CITY
068		868660	CL0199200651	Residential	1259.140	0.12591397	0.12592218		105.67906780	-10.42144058	L 3116 109	SILVER CITY
069		868662	CL0199200660	Residential	1196.586	0.11965858	0.11976436		105.67880840	-10.42131001	L 3116 110	SILVER CITY
070	R0387F	825709		Residential	1072.495	0.10724946	0.10733436		105.67856290	-10.42119981		SILVER CITY
071	R0482A	825709		Residential	1105.290	0.11052902	0.11063718		105.67832870	-10.42109236		SILVER CITY
072		868666	CL0199200638	Residential	1112.630	0.11126298	0.11137144		105.67809030	-10.42098341	L 3116 109	SILVER CITY
073		868667	CL0199200669	Residential	1373.707	0.13737071	0.13748894		105.67782210	-10.42085954	L 3116 110	SILVER CITY
074		868670	CL0199200614	Residential	1309.335	0.13093348	0.13103119		105.67806240	-10.42061552	L 3116 109	SILVER CITY
075		868672	CL0199200667	Residential	1101.234	0.11012336	0.11021467		105.67834660	-10.42071769	L 3116 110	SILVER CITY
076		868673	CL0199200610	Residential	1012.253	0.10122534	0.10126526		105.67857550	-10.42082811	L 3116 109	SILVER CITY
077		868675	CL0199200659	Residential	1061.885	0.10618847	0.10626941		105.67880370	-10.42092644	L 3116 109	SILVER CITY
078		868678	CL0199300061	Residential	1048.962	0.10489621	0.10494460		105.67903180	-10.42103559	L 3116 110	SILVER CITY
079	R0491F	868679		Residential	880.592	0.08805924	0.08809541		105.67924080	-10.42113348		SILVER CITY
080	R0494K	868680		Residential	1090.528	0.10905280	0.10913863		105.67945440	-10.42123518		SILVER CITY
081		868452	CL0199200590		882.650	0.08826504	0.08831229		105.67749700	-10.42389415	L 3116 109	SILVER CITY
082		868455	CL0199200670	Residential	786.467	0.07864666	0.07873234	018574	105.67767710	-10.42370491	L 3116 110	SILVER CITY
083		868456	CL0199200649	Residential	800.783	0.08007827	0.08006428		105.67784870	-10.42352316	L 3116 109	SILVER CITY
084		868459	CL0199300062	Residential	679.837	0.06798366	0.06796627		105.67801290	-10.42332996	L 3116 110	SILVER CITY
085		886518		Public recreation - Reserve	661.471	0.06614708	0.06620186		105.67819180	-10.42312831		SILVER CITY
086		868441	CL0199300063	Residential	962.632	0.09626320	0.09629466		105.67845030	-10.42321809	L 3116 110	SILVER CITY
087		868443	CL0199200647	Residential	1029.125	0.10291252	0.10301270		105.67827140	-10.42341549	L 3116 109	SILVER CITY
088		868444	CL0199300064	Residential	777.522	0.07775217	0.07784557		105.67809530	-10.42362224	L 3116 110	SILVER CITY
089		868446	CL0199200641	Residential	744.354	0.07443542	0.07442460		105.67792190	-10.42381217	L 3116 109	SILVER CITY
090		868448	CL0199200655		686.629	0.06866292	0.06866083		105.67774750	-10.42399140	L 3116 109	SILVER CITY
091		868450	CL0199200596		893.268	0.08932676	0.08933678		105.67754910	-10.42416853	L 3116 109	SILVER CITY
092		868431	CL0199200598	Residential	1162.200	0.11621995	0.11628509		105.67785170	-10.42439963	L 3116 109	SILVER CITY
093		868432		Residential	997.758	0.09977583	0.09985696		105.67804970	-10.42422255		SILVER CITY
094		868434	CL0199300065	Residential	1135.924	0.11359238	0.11366976		105.67823060	-10.42405646	L 3116 110	SILVER CITY
095		868435		Residential	1268.754	0.12687542	0.12696667		105.67841900	-10.42388163		SILVER CITY
096		868437	CL0199200587	Residential	1185.690	0.11856904	0.11861063		105.67859310	-10.42369599	L 3116 109	SILVER CITY
097		868438	CL0199200673	Residential	1179.019	0.11790190	0.11802932		105.67876580	-10.42350711	L 3116 110	SILVER CITY
098		868640	CL0199200600	Residential	1511.330	0.15113295	0.15126554		105.67937100	-10.42252529	L 3116 109	SILVER CITY
099		868637	CL0199200662	Residential	1444.300	0.14443002	0.14450058		105.67924710	-10.42275749	L 3116 110	SILVER CITY
100		868636	CL0199200665		1276.308	0.12763076	0.12772532		105.67909000	-10.42298486	L 3116 110	SILVER CITY
101		868463	CL0199300316	Residential	1001.132	0.10011317	0.10017009		105.67913330	-10.42191842	L 3116 111	SILVER CITY
102		868466	CL0199300066	Residential	985.957	0.09859574	0.09862582		105.67902960	-10.42219330	L 3116 110	SILVER CITY
103		868468	CL0199200601		970.268	0.09702682	0.09709640		105.67887760	-10.42241079	L 3116 109	SILVER CITY
104	R0077N	868469		Residential	896.673	0.08966734	0.08972545		105.67880300	-10.42266761		SILVER CITY
105	R0076S	868470		Residential	898.546	0.08985456	0.08991115		105.67868310	-10.42292796		SILVER CITY
106		886516	CL0199400555	Residential	790.818	0.07908181	0.07911422		105.67843530	-10.42284558	L 3116 113	SILVER CITY
107		868472	CL0199200642	Residential	1069.388	0.10693881	0.10702718		105.67855340	-10.42258350	L 3116 109	SILVER CITY
108	R0459A	868474		Local community facilities - Women's	536.888	0.05368884	0.05368653		105.67864080	-10.42231954		SILVER CITY
109		868475	CL0199200620	Residential	915.708	0.09157078	0.09164816		105.67878850	-10.42208023	L 3116 109	SILVER CITY
110	R0458M	825709		Local community facilities - Kinderg	790.029	0.07900289	0.07902257		105.67890040	-10.42181533		SILVER CITY
111		825709		National Park	2362799.344	236.27993440	236.43736371	018577	105.69559050	-10.41864511		NATIONAL PARK
112		868233		National Park	2010342.162	201.03421620	199.73521479		105.69278960	-10.47390168		NATIONAL PARK
113	R0093B	868519		Residential	1038.579	0.10385794	0.10389417		105.67629190	-10.42243608		SILVER CITY
114	R0094U	825709		Residential	1096.970	0.10969697	0.10979731		105.67646970	-10.42218307		SILVER CITY
115		868517	CL0199300067	Residential	1051.671	0.10516715	0.10526166		105.67630500	-10.42192588	L 3116 110	SILVER CITY
116		868513	CL0199300068	Residential	1364.457	0.13644566	0.13645943		105.67657420	-10.42148633	L 3116 110	SILVER CITY
117	R0095D	825709		Residential	1428.598	0.14285984	0.14301944		105.67676920	-10.42179201		SILVER CITY
118	R0091W	825709		Residential	1453.723	0.14537233	0.14540490		105.67668570	-10.42269973		SILVER CITY
119	R0090H	825709		Residential	1514.058	0.15140584	0.15143531		105.67688800	-10.42247675		SILVER CITY
120		868510	CL0199200644	Residential	1339.531	0.13395306	0.13404370		105.67707130	-10.42224608	L 3116 109	SILVER CITY
121	R0089A	868508		Residential	1352.688	0.13526883	0.13535343		105.67721700	-10.42200663		SILVER CITY
122	R0088M	868507		Residential	1374.627	0.13746270	0.13754815		105.67734350	-10.42174706		SILVER CITY
123	R0087Y	868506		Residential	1411.793	0.14117934	0.14124011		105.67747190	-10.42150641		SILVER CITY
124	R0086R	868505		Residential	988.566	0.09885655	0.09890968		105.67753410	-10.42120486		SILVER CITY
125		868503	CL0199200668	Residential	936.513	0.09365131	0.09376086		105.67775450	-10.42130277	L 3116 110	SILVER CITY
126		868501	CL0199200664	Residential	1132.799	0.11327989	0.11337831		105.67800120	-10.42140264	L 3116 110	SILVER CITY
127		868500	CL0199300305	Residential	1182.908	0.11829083	0.11839823		105.67787880	-10.42164184	L 3116 111	SILVER CITY
128		868497	CL0199300069	Residential	1346.065	0.13460651	0.13467591		105.67774590	-10.42187709	L 3116 110	SILVER CITY
129		868496	CL0199200582	Residential	1574.355	0.15743549	0.15752734		105.67760600	-10.42212241	L 3116 109	SILVER CITY

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
130	1097006	CHRISL 00130	MQ625	
131	1097007	CHRISL 00131	MQ624	
132	1097008	CHRISL 00132	MQ623	
133	1097009	CHRISL 00133		
134	1097010	CHRISL 00134	MQ621	
135	1097011	R 43028	Recreation Reserve	
136	1097012	CHRISL 00136	MQ618	
137	1097013	CHRISL 00137	MQ617	
138	1097014	V CROWN LAND	MQ616, JALAN PERAK	3 BR HOUSE, Aluminium clad and roofed dwelling, approx 30 years old.
139	1097095	CHRISL 00139	Golf Club House	
140	1096943	LGE G995880		
141	1096940	CHRISL 00141		
142	1096937	CHRISL 00142	MQ17 Triadic Crescent	3 BR HOUSE. Asbestos/weatherboard clad and asbestos roof home approx 50 years old plus small conc/asbestos outbuilding.
143	1096938	V CROWN LAND	MQ18 Triadic Crescent	3 BR HOUSE. Concrete rendered and corrugated asbestos roof home approx 40 yrs old, small brick/asbestos outbuilding.
144	1096939	V CROWN LAND	MQ19, Triadic Crescent	3 BR HOUSE. Concrete rendered and corrugated asbestos roof home approx 40 yrs old, small brick/asbestos outbuilding.
145	1096929	CHRISL 00145	MQ14, COCONUT CLOSE	3 BR HOUSE. Asbestos/weatherboard clad and asbestos roof home approx 50 years old plus small conc/asbestos outbuilding.
146	1096930	CHRISL 00146	MQ15	
147	1096931	V CROWN LAND	MQ16, SEA VIEW CLOSE	3 BR HOUSE Asbestos/weatherboard clad and asbestos roof home approx 50 years old plus small conc/asbestos outbuilding.
148	1096934	CHRISL 00148	MQ21	
149	1096933	CHRISL 00149	MQ22 GAZE ROAD	2 BR HOUSE 45 year old brick/asbestos, detached former servants quarters
150	1096932	CHRISL 00150	MQ23	
154	1096927	CHRISL 00154		
155	1096928	CHRISL 00155	MQ13, ROCKY POINT CRESCENT	3 BR HOUSE. Asbestos/weatherboard clad and asbestos roof home approx 50 years old plus small conc/asbestos outbuilding.
156	1096918	L 3116 10980	MQ10	
157	1096919	CHRISL 00157	MQ32	
158	1096920	CHRISL 00158	MQ11, ROCKY POINT CRESCENT	3 BR HOUSE .Asbestos/ asbestos, approx 50 yrs old with plus small conc/asbestos outbuilding.
161	1096921	V CROWN LAND	MQ25, GAZE ROAD	3 BR HOUSE A concrete rendered and corrugated asbestos roof home approximately 40 years old, fair condition.
162	1096907	CHRISL 00162	MQ31	
163	1096906	L 3116 10933		
164	1096908	CHRISL 00164	MQ30	
165	1096909	CHRISL 00165	MQ6, ROCKY POINT CRESCENT	3 BR HOUSE Asbestos/asbestos approx 50 years old and in fair condition ,with former servants quarters.
166	1096910	CHRISL 00166	MQ7, ROCKY POINT CRESCENT	3 BR HOUSE. Rendered brick and corrugated asbestos roof home approx 40 years old, with similar outbuilding.
167	1096913	V CROWN LAND	MQ8, ROCKY POINT CRESCENT	3 BR HOUSE. A 50 year old asbestos/asbestos dwelling in fair condition with former servants quarters.
168	1096914	CHRISL 00168	MQ9, ROCKY POINT CRESCENT	3 BR HOUSE. asbestos clad and corrugated asbestos roof approx 50 years plus small outbuilding.
172	1261891	CHRISL 00172		
174	1097063	CHRISL 00174	Supermarket, Gaze Road	A two level concrete rendered and corrugated asbestos roof building approximately 40 years old. A detached store building is located behind supermarket (includ
176	1097065	V CROWN LAND		
185	1097100	CHRISL 00185	LILY BEACH. DEVELOPMENT SITE	VACANT LAND
186	1097097	CHRISL 00186	Golf Course - Recreation Reserve	
187	1097096	R 43174	Golf Course - Recreation Reserve	
188	1097083	CHRISL 00188	Christmas Island Club, CLUB ROAD	A two level club complex, concrete frame, rendered brick/fibro walls with asbestos roof, 50 years old and in fair condition.
189	1096905	CHRISL 00189	AIRPORT TERMINAL BUILDING	Steel framed, fibro panel walls, concrete floor, lined and ceiled internally. New building.
190	1096898	CHRISL 00190	LAUNDRY, GAZE ROAD	A rendered brick and corrugated asbestos roof building approximately 40 years old in fair condition .
193	1096901	CHRISL 00193	MQ387	
194	1096902	CHRISL 00194	MQ384	
195	1096897	CHRISL 00195	OLD POLICE QUARTERS, GAZE ROAD	50 years old and in fair condition with concrete floor, asbestos roof, brick/asbestos walls.
197	1097130	V CROWN LAND		
198	1097112	V CROWN LAND	Drier No.1 site	
199	1097089	CHRISL 00199	ANCA Nursery	
200	1097088	V CROWN LAND	ANCA Nursery	
201	1096867	CHRISL 00201		
202	1096868	CHRISL 00202		

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
130		868493	CL0199200645	Residential	1774.216	0.17742163	0.17766489		105.67747290	-10.42240756	L 3116 109	SILVER CITY
131		868492	CL0199300466	Residential	781.369	0.07813694	0.07818477		105.67788180	-10.42259063	L 3116 111	SILVER CITY
132		868490	CL0199300070	Residential	915.639	0.09156386	0.09159632		105.67799050	-10.42235598	L 3116 110	SILVER CITY
133		868488	CL0199300071		895.517	0.08955167	0.08956902		105.67810640	-10.42210673	L 3116 110	SILVER CITY
134		868485	CL0199200602	Residential	919.775	0.09197754	0.09207586		105.67822120	-10.42184893	L 3116 109	SILVER CITY
135		868484		Public recreation - Reserve	1815.357	0.18153569	0.18165259		105.67846470	-10.42161415		SILVER CITY
136		868483	CL0199300304	Residential	932.482	0.09324819	0.09335443		105.67848160	-10.42190884	L 3116 111	SILVER CITY
137		868481	CL0199200586	Residential	831.095	0.08310949	0.08321335		105.67837000	-10.42216432	L 3116 109	SILVER CITY
138		868479		Residential	860.342	0.08603423	0.08617621		105.67824990	-10.42241514		SILVER CITY
139	R0574N	896258		PUBLIC Recreation Reserve - Golf clu	3578.472	0.35784716	0.35813832		105.70143950	-10.42600577		NORTH EAST COAST
140		868357	CL0199200580		7644.740	0.76447402	0.76483801	018509	105.68217960	-10.41696572	L 3116 109	SETTLEMENT
141		868361	CL0199200583		1537.590	0.15375901	0.15380254	018509	105.68061460	-10.41692961	L 3116 109	SETTLEMENT
142	R0010E	868360		Residential	1671.327	0.16713269	0.16727907	018509	105.68076490	-10.41649757		SETTLEMENT
143	R0011V	868359		Residential	2510.966	0.25109659	0.25123044	018509	105.68115970	-10.41664292		SETTLEMENT
144	R0012K	868358		Residential	2550.562	0.25505622	0.25519802	018509	105.68153870	-10.41674387		SETTLEMENT
145	R0008N	825709		Residential	1809.851	0.18098508	0.18104805	018509	105.67958510	-10.41614489		SETTLEMENT
146		868375	CL0199300073	Residential	1999.003	0.19990033	0.19999675	018509	105.67998430	-10.41626470	L 3116 110	SETTLEMENT
147	R0009K	868376		Residential	1508.156	0.15081558	0.15086851	018509	105.68035530	-10.41637770		SETTLEMENT
148		868369	CL0199200604	Residential	2041.410	0.20414103	0.20421543	018509	105.68023120	-10.41680258	L 3116 109	SETTLEMENT
149	R0013P	825709		Residential	2044.084	0.20440844	0.20449328	018509	105.67987900	-10.41671252		SETTLEMENT
150		868371	CL0199200588	Residential	2065.628	0.20656277	0.20671568	018509	105.67953800	-10.41661404	L 3116 109	SETTLEMENT
154		868379	CL0199200666		2080.739	0.20807393	0.20819616	018509	105.67885550	-10.41588345	L 3116 110	SETTLEMENT
155		825709		Residential	1931.783	0.19317835	0.19328281	018509	105.67921070	-10.41602711		SETTLEMENT
156		868385	CL0199200640	Residential	1368.057	0.13680572	0.13682102	018509	105.67717300	-10.41517512	L 3116 109	SETTLEMENT
157		868386	CL0199200581	Residential	1744.532	0.17445323	0.17452832	018509	105.67747780	-10.41525240	L 3116 109	SETTLEMENT
158		868388		Residential	1841.236	0.18412361	0.18428443	018509	105.67776180	-10.41537649		SETTLEMENT
161	R0015C	868390		Residential	1642.887	0.16428871	0.16440991	018509	105.67708440	-10.41555198		SETTLEMENT
162		868581	CL0199200663	Residential	1194.736	0.11947362	0.11958516	018509	105.67527190	-10.41559649	L 3116 110	SETTLEMENT
163		868584	CL0199200593		2606.128	0.26061281	0.26074746	018509	105.67520640	-10.41516254	L 3116 109	SETTLEMENT
164		868587	CL0199200639	Residential	1368.632	0.13686322	0.13696889	018509	105.67551080	-10.41540978	L 3116 109	SETTLEMENT
165	R0001B	825709		Residential	1997.831	0.19978307	0.19990991	018509	105.67559210	-10.41480284		SETTLEMENT
166	R0002U	825709		Residential	2093.052	0.20930518	0.20950256	018509	105.67595360	-10.41474046		SETTLEMENT
167	R0003D	825709		Residential	2386.885	0.23868851	0.23886045	018509	105.67634900	-10.41483975		SETTLEMENT
168		868590		Residential	2789.979	0.27899794	0.27920470	018509	105.67674940	-10.41499094		SETTLEMENT
172					1403.828	0.14038283	0.14059039		105.67578210	-10.41515588		
174		825709		Supermarket	2059.376	0.20593762	0.20615799	018509	105.67308030	-10.42304320		GAZE ROAD
176		868393			16.361	0.00163608	0.00164434	018509	105.67274810	-10.42273021		GAZE ROAD
185	R1028	868597		Vacant Land	24435.042	2.44350420	2.44530159		105.71064920	-10.46759645		LILY BEACH
186		868527		Public recreation - Golf Course	120188.814	12.01888139	12.02613269		105.70131150	-10.42673574		NORTH EAST COAST
187		825709		Public recreation - Golf Course	49418.582	4.94185820	4.94540940		105.70286100	-10.42711942		NORTH EAST COAST
188	R0454C	825709		Community	2212.345	0.22123454	0.22141349	018572	105.67349310	-10.42727862		PORT
189	R0449E	868596		Airport operations	1673376.084	167.33760840	171.05935227		105.69028720	-10.44468790		AIRPORT
190	R0439G	868564		Light industrial	227.224	0.02272243	0.02272373	018509	105.67487960	-10.41695782		GAZE ROAD
193		825709		Residential	696.046	0.06960463	0.06970200	018509	105.67513500	-10.41644706		GAZE ROAD
194		868559	CL0199300074	Residential	580.474	0.05804737	0.05811437	018509	105.67522960	-10.41623143	L 3116 110	GAZE ROAD
195		868565		Commercial	7636.111	0.76361108	0.76386454	018509	105.67405670	-10.41821148		GAZE ROAD
197		868405			1456.667	0.14566671	0.14579711		105.67282540	-10.42455896		PORT
198		825709		Industry	8354.667	0.83546671	0.83612228		105.67633040	-10.42776084		DRUMSITE
199		825709		Nursery	1261.680	0.12616802	0.12625950		105.66879420	-10.43291124		DRUMSITE
200		825709		Nursery	272.272	0.02722717	0.02725748		105.66917020	-10.43229396		DRUMSITE
201		868580		Residential	1820.786	0.18207860	0.18228772		105.67112900	-10.42934762		FLYING FISH COVE
202		901163		Residential	1824.639	0.18246386	0.18254331		105.67202120	-10.42881489		FLYING FISH COVE

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
2022	1097223	V CROWN LAND	HOSPITAL, GAZE ROAD	An integrated hospital complex. Rendered brick and asbestos walls, asbestos roof and concrete footings. Approx 50 years old in fair to poor condition.
203	1096871	CHRISL 00203	Fuel Farm	Brick shed and fuel storage tanks.
204	1096835	CHRISL 00204	BOAT CLUB, JALAN PANTAI	Rendered brick walls / asbestos roof with roofed terrace plus open BBQ area, approx 50 yrs old.
205	1096836	V CROWN LAND		
206	1096837	V CROWN LAND	FISHERMANS LANDING RESTAURANT, JALAN PANTAI	Rendered brick walls, asbestos roof and concrete floor plus a roofed terrace. 50 years old in fair condition.
207	1096942	CHRISL 00207	DONGA 121 - 124, GAZE ROAD	4 x DONGA (1BR FLAT). Each concrete rendered brick and corrugated asbestos roof. Approx 40 years old
208	1096941	V CROWN LAND	VQ1, GAZE ROAD	2 BR HOUSE. Concrete rendered and corrugated asbestos roof, approx 40 years old. with similar outbuilding.
212	1096949	V CROWN LAND	DONGA 114 - 120, GAZE ROAD	7 x DONGA (1BR FLAT). Each concrete rendered brick and corrugated asbestos roof. Approx 40 years old
213	1096936	V CROWN LAND	DONGA 101, 102 COCONUT DRIVE. DONGA 101 - 109 GAZE ROAD	9 x DONGA (1BR FLAT). Each concrete rendered brick and corrugated asbestos roof. Approx 40 years old
214	1096935	CHRISL 00214	DONGA 103 - 109 GAZE ROAD	(1BR FLAT). concrete rendered brick and corrugated asbestos roof. Approx 40 years old
215	1096904	CHRISL 00215	DONGA 110 - 113. GAZE ROAD	4 x DONGA (1 BR FLAT). Each concrete rendered brick and corrugated asbestos roof. Approx 40 years old
217	1160051	CHRISL 00217		
218	1097015	CHRISL 00218	MQ615	
219	1097133	L 3116 10971		
220	1097114	CHRISL 00220	KIATS SERVICE STATION, MURRAY RD, DRUMSITE	Iron walls and roof, approx 15 to 20 years old includes workshop area and three offices.
221	1097092	L 3116 10990		
222	1097136	CHRISL 00222		
223	1097093	CHRISL 00223	Vacant building	
226	1097127	V CROWN LAND		
227	1096845	V CROWN LAND	POWER STATION, MURRAY ROAD	Steel frame, asbestos/asbestos structure plus small office. Separate workshop and store, approx 10 years old.
228	1096892	CHRISL 00228		
229	1097085	CHRISL 00229	UPPER ADMINISTRATION, CANBERRA PLACE	Brick walls, asbestos roof, concrete floor, approx 10 years old in fair condition, plus transportable office & carport.
230	1097086	CHRISL 00230	WESTPAC BANK, CANBERRA PLACE	Iron/iron transportable office premises, approx 20 years old in good condition.
231	1096869	V CROWN LAND	CAPEX SHED, OFF GAZE ROAD	Not recorded
232	1097131	CHRISL 00232	Airconditioning workshop	A steel frame structure, concrete floor, part rendered walls, iron and asbestos clad, 35 years old, fair condition.
234	1097106	R 45719	UCIW MEMORIAL, CNR POON SAAN ROAD & SAN CHYE LOH	Not applicable
235	1097107	CHRISL 00235		
236	1097105	CHRISL 00236	Yong Chong's Restaurant, Poon Saan	
237	1097104	CHRISL 00237		
238	1096875	V CROWN LAND	LOWER ADMIN - GROUND; LOWER ADMIN - TOP; LOWER ADMIN CASINO CONTROL; TELECOM WOR	A two level administration building some 40 years old in fair condition with rendered brick walls, and asbestos roof.
239	1096874	V CROWN LAND	WAREHOUSE, JALAN PANTAI	Steel and timber frame, concrete ground floor, timber floor mezzanine and rendered brick walls , 50 yrs old fair condition.
240	1096877	V CROWN LAND	WAREHOUSE, JALAN PANTAI	Steel and timber frame, concrete ground floor, timber floor mezzanine and rendered brick walls , 50 yrs old fair condition.
241	1096876	CHRISL 00241	WAREHOUSE, JALAN PANTAI	Steel and timber frame, concrete ground floor, timber floor mezzanine and rendered brick walls , 50 yrs old fair condition.
242	1096872	V CROWN LAND	Diesel Bowser, Jalan Pantai	A basic structure comprising office/workshop (brick/metal) plus attached canopy ,approx 20 yrs old.
243	1096873	V CROWN LAND	Paperbag store.	Part warehouse/shed, concrete floor, steel girder frame, cement block dado, part asbestos/link mesh walls, metal roof.
244	1097016	CHRISL 00244	MQ	
245	1097017	CHRISL 00245		
246	1097018	CHRISL 00246		
247	1097019	CHRISL 00247		
248	1097020	CHRISL 00248	MQ	
249	1097103	CHRISL 00249	MQ	
250	1097109	CHRISL 00250	LAND, MURRAY ROAD	Not applicable
251	1097111	CHRISL 00251	LAND, MURRAY ROAD	Not applicable
252	1097108	R 46360	LAND, MURRAY ROAD	Not applicable
253	1097110	CHRISL 00253	LAND, MURRAY ROAD	Not applicable
254	1096886	V CROWN LAND		
255	1096885	CHRISL 00255		
256	1096884	CHRISL 00256	MQ702 LAM LOK LOH + PHONE EXCHANGE	2 BR HOUSE asbestos clad, asbestos roof, approx 55 yrs. Concrete/asbestos outbuilding & small telephone exchange building. Heritage listed
257	1096881	CHRISL 00257		
258	1096880	L 3116 10977		
259	1096879	CHRISL 00259	BAHA'I CENTRE, SUNG MIAW LOH	Single level concrete rendered and corrugated asbestos roofed building approximately 40 years old.
260	1096878	L 3116 10983		
261	1096883	L 3116 10965		
262	1096882	L 3116 10970		

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
2022	R0438W	825709		Hospital	488191.013	48.81910130	48.85078760	018509	105.68387160	-10.41665083		GAZE ROAD
203	R1067	868345		Oil storage	2496.959	0.24969591	0.24984766		105.67160120	-10.42619222		PORT
204	R1022	825709		Recreation	683.151	0.06831506	0.06916899		105.66838270	-10.43042028		FLYING FISH COVE
205		825709			144.518	0.01445175	0.01442704		105.66859740	-10.43040256		FLYING FISH COVE
206	R1023	825709		Restaurant	235.905	0.02359052	0.02363769		105.66869110	-10.43038608		FLYING FISH COVE
207		825709		Residential	2156.413	0.21564128	0.21588590	018509	105.68101780	-10.41701278		SETTLEMENT
208	R0019M	868363		Residential	1110.134	0.11101345	0.11107299	018509	105.68150230	-10.41712607		SETTLEMENT
212		825709		Residential	4408.459	0.44084588	0.44113119	018509	105.67925060	-10.41692129		SETTLEMENT
213		825709		Residential	2378.267	0.23782667	0.23796126	018509	105.67873070	-10.41641184		SETTLEMENT
214	SEE LOC 21	825709		Residential	361.602	0.03616022	0.03618118	018509	105.67900230	-10.41634381		SETTLEMENT
215		825709		Residential	2490.808	0.24908085	0.24923952	018509	105.67783750	-10.41620936		SETTLEMENT
217					1244.719	0.12447188	0.12457333		105.67668850	-10.41548123		
218		825709		Residential	890.163	0.08901635	0.08909957		105.67812910	-10.42267539		SILVER CITY
219		868520	CL0199200631		1467.674	0.14676739	0.14679938		105.67650370	-10.42294410	L 3116 109	SILVER CITY
220	R1017	868545		Light industrial	1908.953	0.19089528	0.19093910		105.67748210	-10.42691124		DRUMSITE
221		868331	CL0199200650		945.145	0.09451452	0.09457297		105.67537930	-10.43015397	L 3116 109	DRUMSITE
222		868333	CL0199200652		935.289	0.09352893	0.09361207		105.67516760	-10.43035537	L 3116 109	DRUMSITE
223		868335	CL0199200635	Vacant Land	970.345	0.09703453	0.09709966		105.67474230	-10.43043594	L 3116 109	DRUMSITE
226		868541			2294.463	0.22944628	0.22968738		105.68223200	-10.42494362		LOWER PHOSPHATE HILL
227	R0448K	868575		Industry	9599.123	0.95991229	0.96059768		105.66834870	-10.44117307		DRUMSITE SOUTH
228		868619		Residential	850.186	0.08501861	0.08512611		105.67191190	-10.42848175		FLYING FISH COVE
229	R0432Z	868546		Civic and community	1169.379	0.11693790	0.11695663		105.67339800	-10.42645714		PORT
230	R0603U	825709		Commercial (Bank)	251.666	0.02516663	0.02517424		105.67315810	-10.42707180		PORT
231	R1063	868600		Industry	496.179	0.04961788	0.04969501		105.67237730	-10.42414932		PORT
232	R1068	868404		Light industrial	744.137	0.07441369	0.07444606		105.67278700	-10.42502673		PORT
234	R1047	868419		Community	412.881	0.04128808	0.04125869		105.67936880	-10.42472957		CENTRAL TERRACES
235		825709			106.386	0.01063860	0.01062553		105.67945860	-10.42475893		CENTRAL TERRACES
236		868422	CL0199200609	Restaurant	1201.153	0.12011534	0.12017581	018574	105.67913990	-10.42486987	L 3116 109	CENTRAL TERRACES
237		868417	CL0199200648		1464.891	0.14648915	0.14661450		105.67979360	-10.42344706	L 3116 109	CENTRAL TERRACES
238		868340		Offices - Civic	933.117	0.09331166	0.09338118	018572	105.67251250	-10.42622633		PORT
239	R0434Y	825709		Light industrial	5305.677	0.53056770	0.53100019		105.67207730	-10.42644251		PORT
240	R0434Y	825709		Light industrial	151.019	0.01510195	0.01511051		105.67196930	-10.42612819		PORT
241	R0434Y	868342		Light industrial	94.021	0.00940211	0.00940018		105.67202990	-10.42613864		PORT
242	R0604D	868344		Light industrial	245.510	0.02455101	0.02456382		105.67240190	-10.42579784		PORT
243	R1070	868343		Light industrial	1434.422	0.14344222	0.14341129		105.67213350	-10.42574118		PORT
244		868556	CL0199200626	Residential	749.806	0.07498061	0.07500317		105.67728310	-10.42355363	L 3116 109	SILVER CITY
245		868554	CL0199200613		749.102	0.07491024	0.07500305		105.67742270	-10.42341058	L 3116 109	SILVER CITY
246		868552	CL0199200618		749.823	0.07498228	0.07500292		105.67756230	-10.42326754	L 3116 109	SILVER CITY
247		868551	CL0199200629		749.103	0.07491031	0.07500281		105.67770190	-10.42312449	L 3116 109	SILVER CITY
248		868548	CL0199200632	Residential	917.721	0.09177213	0.09184292		105.67786340	-10.42296970	L 3116 109	SILVER CITY
249		868461	CL0199200628	Residential	1394.123	0.13941225	0.13944230		105.67894980	-10.42326278	L 3116 109	SILVER CITY
250	R1061	825709		Vacant land	9633.410	0.96334096	0.96364638		105.68344190	-10.42313326		CENTRAL TERRACES
251	R1061	825709		Vacant land	4793.454	0.47934540	0.47947917		105.68157190	-10.42354048		CENTRAL TERRACES
252	R1061	825709		Vacant land	5407.644	0.54076443	0.54098546		105.68427780	-10.42310621		CENTRAL TERRACES
253	R1061	868532		Vacant land	4275.216	0.42752161	0.42775324		105.68482200	-10.42353868		CENTRAL TERRACES
254		868313	CL0199200633		912.008	0.09120081	0.09115829		105.67250770	-10.43243671	L 3116 109	DRUMSITE
255		868314	CL0199401027		1050.878	0.10508778	0.10514147		105.67273000	-10.43234660	L 3116 109	DRUMSITE
256	R0376Y	825709		Telephone Exchange/Residential	1686.112	0.16861124	0.16872575	018575	105.67290660	-10.43196516		DRUMSITE
257		868322	CL0199200619		925.518	0.09255178	0.09265252		105.67332870	-10.43204300	L 3116 109	DRUMSITE
258		868325	CL0199200637		894.867	0.08948672	0.08950774		105.67349330	-10.43188485	L 3116 109	DRUMSITE
259	R1001	825709		Community	1461.052	0.14610525	0.14617734		105.67365830	-10.43165430		DRUMSITE
260		868317	CL0199200643		1049.460	0.10494605	0.10499848		105.67349660	-10.43139236	L 3116 109	DRUMSITE
261		868318	CL0199200625		871.907	0.08719070	0.08718868		105.67330170	-10.43162758	L 3116 109	DRUMSITE
262		868321	CL0199200630		896.166	0.08961663	0.08968229		105.67312970	-10.43177868	L 3116 109	DRUMSITE

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
264	1097048	CHRISL 00264		
266	1097045	CHRISL 00266		
268	1097060	LGE G995882	Poon Saan residential blocks:556-561	
269	1097061	CHRISL 00269	Poon Saan residential blocks:550-555	
270	1097062	V CROWN LAND	POON SAAN CLUB, POON SAAN ROAD	Concrete rendered and corrugated asbestos roof approx 40 years old; hall, kitchen, offices in fair condition.
271	1097066	CHRISL 00271	'Spit-N-Chips'	
272	1096899	CHRISL 00272		
273	1096900	R 45725	MUSIC CENTRE, GAZE ROAD	A 40 year old former infant health centre, now music centre, brick and asbestos in fair condition.
274	1096978	L 3116 10951		
275	1096977	CHRISL 00275		
276	1097041	CHRISL 00276	MQ599	
277	1097042	CHRISL 00277	MQ600	
278	1097043	CHRISL 00278	MQ601, LOWER POON SAAN ROAD	2 BR HOUSE;Rendered brick and asbestos home approximately 40 years old, plus similar servant's quarters .
279	1097044	CHRISL 00279	MQ602	
280	1097149	V CROWN LAND	CHRISTMAS ISLAND NATIONAL PARK - Murray Hill Section	
281	1097148	V CROWN LAND	CHRISTMAS ISLAND NATIONAL PARK - Ross Hill section	
282	1096812	R 45602	SCHOOL, MURRAY ROAD	Rendered concrete / asbestos roof school, approx 40 yrs , including iron/iron classrooms and a number of new buildings.
283	1096833	CHRISL 00283	MQ701A Murray Road	House
284	1097129	V CROWN LAND	New Hospital	New hospital premises recently completed.
285	1096887	CHRISL 00285		
286	1096888	CHRISL 00286		
287	1096891	V CROWN LAND		
288	1096893	V CROWN LAND		
289	1096889	S025137		
290	1096890	CHRISL 00290	MOSQUE, JALAN PANTAI	Mosque of rendered brick and asbestos roof construction, approximately 40 years old.
293	1097058	CHRISL 00293		
294	1097055	CHRISL 00294		
294	1097057	CHRISL 00294		
295	1097059	S025128		
296	1097051	S025129		
296	1097053	CHRISL 00296		
297	1097079	S025131		
298	1097080	CHRISL 00298	MQ420, TONG CHEE ROAD	Timber framed asbestos clad and roofed residence approximately 60 years old in poor condition.
299	1097081	V CROWN LAND		
300	1097119	CHRISL 00300		
301	1097121	S025126		
302	1097125	CHRISL 00302		
303	1097124	R 43803	Recreation Reserve - Parkland	
304	1097123	CHRISL 00304		
306	1097052	CHRISL 00306		
307	1097082	CHRISL 00307		
308	1097126	R 45724		
309	1097122	CHRISL 00309		
310	1097135	S025130	Block 771 & 772 , loc 310	
311	1097134	V CROWN LAND	BLOCK 770 A , B & C TONG YAN LOH	A concrete rendered and corrugated asbestos roof triplex development. Each unit comprises two bedrooms.
312	1097140	R 44527		
313	1097141	CHRISL 00313		
315	1296580	CHRISL 00315		
317	1097077	CHRISL 00317	UNITS, TONG CHEE ROAD	Eight units, good condition.
318	1097078	CHRISL 00318	YEOWS COFFEE SHOP, GAZE ROAD	A 40 year old rendered brick/metal deck roof building, good condition.
319	1097144	CHRISL 00319	Jalan Ketam Merah, Drumsite.	Vacant
320	1097145	L 338 20059	Jalan Ketam Merah, Drumsite.	Vacant
323	1097075	CHRISL 00323	TEMPLE COURT TEMPLE, GAZE ROAD	Rendered brick/decomatic temple building, approx 40 years old in good condition.
324	1097068	CHRISL 00324		
325	1097069	CHRISL 00325		
326	1096894	CHRISL 00326	MQ	
327	1096945	CHRISL 00327	Lot 327 Gaze Road, Settlement.	Vacant
328	1096946	L 338 20134	Lot 328 Gaze Road, Settlement.	Vacant
329	1096947	L 338 20062	Lot 329 Gaze Road, Settlement.	Vacant
330	1096948	CHRISL 00330	Lot 330 Gaze Road, Settlement	Vacant
331	1147780	CHRISL 00331	MQ 725 Block 725, loc 331	
332	1317745	CHRISL 00332		

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
264		868412	CL0199200624		2381.474	0.23814737	0.23823800		105.68170000	-10.42216487	L 3116 109	CENTRAL TERRACES
266		868415	CL0199200623		1741.748	0.17417479	0.17424446		105.68054690	-10.42292767	L 3116 109	CENTRAL TERRACES
268		868425	CL0199200622	Residential	3884.860	0.38848598	0.38872926	018574	105.67797110	-10.42511979	L 3116 109	CENTRAL TERRACES
269		868427	CL0199200621	Residential	4187.928	0.41879284	0.41911176	018574	105.67819700	-10.42546889	L 3116 109	CENTRAL TERRACES
270	R1045	868429		Community	1284.310	0.12843103	0.12854178	018574	105.67884480	-10.42505636		CENTRAL TERRACES
271		868598	CL0199200627	Shops, markets	224.133	0.02241331	0.02244370	018509	105.67282960	-10.42257419	L 3116 109	GAZE ROAD
272		868563	CL0199200615		839.690	0.08396899	0.08405023	018509	105.67503510	-10.41677588	L 3116 109	GAZE ROAD
273	R0457Y	825709		Community	239.211	0.02392112	0.02392044	018509	105.67508080	-10.41660278		GAZE ROAD
274		868681	CL0199200611		1253.087	0.12530872	0.12545104		105.67784250	-10.42025312	L 3116 109	SILVER CITY
275		868683	CL0199200634		998.995	0.09989948	0.10000865		105.67818680	-10.42021266	L 3116 109	SILVER CITY
276		868646	CL0199300075	Residential	1592.348	0.15923481	0.15946649		105.67986580	-10.42161128	L 3116 110	SILVER CITY
277		868645	CL0199200597	Residential	1459.920	0.14599202	0.14605403		105.67973570	-10.42181702	L 3116 109	SILVER CITY
278	R0075F	868643		Residential	1649.949	0.16499486	0.16505081		105.67961440	-10.42203660		SILVER CITY
279		868641	CL0199200603	Residential	1684.258	0.16842577	0.16859335		105.67949990	-10.42228593	L 3116 109	SILVER CITY
280		868231		National Park	77502123.453	7750.21234500	7776.55165759		105.62495470	-10.48552760		
281		825709		National Park	5535816.983	553.58169830	551.08322961		105.66510670	-10.51990738		
282	R0446S	868571		Education	35412.368	3.54123678	3.54337050		105.66858870	-10.43598583		DRUMSITE
283		896246	CL0199400715	Residential	1933.805	0.19338048	0.19355884		105.67062220	-10.43232238	L 3116 113	DRUMSITE
284		868568		Community - Hospital	26153.580	2.61535802	2.61707980		105.68370420	-10.42537339		LOWER PHOSPHATE HILL
285		901164		Residential	1809.671	0.18096707	0.18113477		105.67069380	-10.42933635		FLYING FISH COVE
286		901165		Residential	717.022	0.07170219	0.07178226		105.67112920	-10.42886151		FLYING FISH COVE
287		825709			112.175	0.01121752	0.01123234		105.67132860	-10.42885185		FLYING FISH COVE
288		868618			4411.033	0.44110330	0.44148121		105.67156520	-10.42880605		FLYING FISH COVE
289		901166		Residential	2077.708	0.20777075	0.20787010		105.67157030	-10.42834130		FLYING FISH COVE
290	R0569D	868621		Religious purposes	1410.447	0.14104468	0.14115690	018579	105.67202990	-10.42789344		FLYING FISH COVE
293		825709			74.069	0.00740693	0.00740578		105.68117670	-10.42293705		CENTRAL TERRACES
294		825709			1508.181	0.15081806	0.15084048		105.68162610	-10.42265676		CENTRAL TERRACES
294		825709			1097.455	0.10974546	0.10979208		105.68124750	-10.42309909		CENTRAL TERRACES
295		901170		Residential	2027.014	0.20270137	0.20291887		105.68172870	-10.42281618		CENTRAL TERRACES
296		868601			2171.263	0.21712625	0.21723791		105.68262570	-10.42216967		CENTRAL TERRACES
296		908124		Residential	1802.243	0.18022429	0.18040708		105.68219010	-10.42240980		CENTRAL TERRACES
297		868398		Residential	1859.722	0.18597218	0.18598271		105.67368310	-10.42531113		PORT
298	R0761E	868397		Residential	879.715	0.08797155	0.08804802	018572	105.67357230	-10.42554164		PORT
299		868396			1917.868	0.19178677	0.19200234		105.67352400	-10.42588995		PORT
300		825709			23.730	0.00237300	0.00236659		105.67925940	-10.42564428		CENTRAL TERRACES
301		908123			430.596	0.04305964	0.04309933		105.67972850	-10.42533326		
302		868608		Residential	1598.834	0.15988337	0.15996515		105.68039750	-10.42469723		CENTRAL TERRACES
303		934857		Public recreation - Reserve	1240.826	0.12408264	0.12417588		105.68037820	-10.42504872		CENTRAL TERRACES
304		928269		Residential	2350.564	0.23505643	0.23525278		105.67999660	-10.42544180		CENTRAL TERRACES
306					102.732	0.01027321	0.01025648		105.68236520	-10.42229235		
307					34.170	0.00341698	0.00348763		105.67353210	-10.42517302		
308		868613			27.607	0.00276075	0.00277688		105.67967600	-10.42538666		CENTRAL TERRACES
309		868610		Residential	1970.446	0.19704459	0.19715182		105.67999410	-10.42506184		CENTRAL TERRACES
310		868523		Residential	871.358	0.08713580	0.08726983		105.67460560	-10.43075946		DRUMSITE
311		825709		Residential	660.186	0.06601864	0.06612087		105.67496280	-10.43058540		DRUMSITE
312		825709			313.840	0.03138401	0.03142473		105.67926760	-10.42445270		CENTRAL TERRACES
313	R0763X	868423			315.026	0.03150263	0.03148328		105.67915720	-10.42429663		CENTRAL TERRACES
315					43347.123	4.33471233	4.33751713		105.69061090	-10.42382964		
317		883404	CL0199300921	Residential	2337.269	0.23372695	0.23387667	018572	105.67354570	-10.42483391	L 338 200	PORT
318	R0575K	825709		Eating and drinking places	268.659	0.02686594	0.02682865		105.67356800	-10.42513689		PORT
319		875082		Vacant Land	815.942	0.08159415	0.08155859		105.67294600	-10.43228278		DRUMSITE
320		875080	CL0199300922	Vacant Land	738.136	0.07381356	0.07390589		105.67317010	-10.43220920	L 338 200	DRUMSITE
323	R1058	868595		Religious purposes	1487.481	0.14874805	0.14882613	018509	105.67385990	-10.42075644		GAZE ROAD
324		868627			101.099	0.01010994	0.01012023	018509	105.67344290	-10.42184937		GAZE ROAD
325		825709			201.154	0.02011537	0.02015571	018509	105.67332860	-10.42206346		GAZE ROAD
326		868574	CL0199400758	Residential	20715.172	2.07151715	2.07286514		105.66064340	-10.44916071	L 3116 113	DRUMSITE SOUTH
327		883396	CL0199300923	Vacant Land	854.445	0.08544449	0.08556839	018509	105.68288540	-10.41718897	L 338 200	SETTLEMENT
328		883397	CL0199400077	Vacant Land	958.576	0.09585762	0.09589152	018509	105.68266650	-10.41718290	L 338 201	SETTLEMENT
329		875067	CL0199300981	Vacant Land	966.598	0.09665978	0.09683027	018509	105.68271560	-10.41681539	L 338 200	SETTLEMENT
330		875070		Vacant Land	941.634	0.09416338	0.09420228	018509	105.68288920	-10.41684202		SETTLEMENT
331		929616	CL0199400092	Residential	1637.119	0.16371186	0.16386639		105.66822310	-10.43467393	L 3116 112	DRUMSITE
332					2650.899	0.26508994	0.26522735		105.67310210	-10.42576972		

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
335	1096952	CHRISL 00335	Gaze Road, Settlement.	Four units
336	1096953	S029542	Lot 336, Gaze Road, Settlement.	Four units
337	1097074	CHRISL 00337	VACANT FLATS	VACANT FLATS
338	1128441	CHRISL 00338		
339	1128442	CHRISL 00339	HOUSE, SEAVIEW DRIVE	2 BEDROOM. Hardiplank clad and metal deck roof. Approx 1 year old.
340	1128443	V CROWN LAND	HOUSE, SEA VIEW DRIVE	3 Bedroom HOUSE Hardiplank clad and metal deck roof. Approximately 1 year old.
341	1128444	CHRISL 00341	UNITS - SEAVIEW DRIVE	Units(12)
342	1128445	CHRISL 00342	UNITS, SEAVIEW DRIVE	UNITS(12)
343	1128446	CHRISL 00343	HOUSE, SEA VIEW DRIVE	3 Bedroom HOUSE Hardiplank clad and metal deck roof. Approximately 1 year old.
344	1128447	CHRISL 00344	VACANT LAND, SEA VIEW DRIVE	Not applicable
345	1128448	CHRISL 00345	VACANT LAND, SEA VIEW DRIVE	Not applicable
346	1128449	L 338 20469	Seaview Drive	
347	1128450	V CROWN LAND	HOUSE, SEAVIEW DRIVE/GUANO COURT	3 Bedroom Hardiplank clad and metal deck roof. Approximately 1 year old.
348	1128451	CHRISL 00348	VACANT LAND, GUANO COURT	Not applicable
351	1128454	CHRISL 00351	VACANT LAND, GUANO COURT	Not applicable
352	1128455	CHRISL 00352	VACANT LAND, GUANO COURT	Not applicable
353	1128456	CHRISL 00353	VACANT LAND, GUANO COURT	VACANT LAND
354	1128457	V CROWN LAND	HOUSE, SEAVIEW DRIVE	4 Bedroom Hardiplank clad and metal deck roof. Approximately 1 year old.
355	1128458	CHRISL 00355	HOUSE, SEAVIEW DRIVE	3 Bedroom Hardiplank clad and metal deck roof. Approximately 1 year old.
356	1128459	CHRISL 00356	HOUSE, SEAVIEW DRIVE	2 Bedroom Hardiplank clad and metal deck roof. Approximately 1 year old.
357	1128460	CHRISL 00357	VACANT LAND, SEAVIEW DRIVE	Not applicable
358	1197976	CHRISL 00358		
359	1197977	CHRISL 00359		
360	1128463	V CROWN LAND	HOUSE, SEAVIEW DRIVE	2 Bedroom Hardiplank clad and metal deck roof. Approximately 1 year old.
361	1128464	CHRISL 00361	VACANT LAND, SEAVIEW DRIVE	Not applicable
362	1128465	V CROWN LAND	HOUSE, SEAVIEW DRIVE	2 Bedroom House, Hardieplank clad and metal deck roof, approx 1 year old
363	1128466	CHRISL 00363	HOUSE, SEAVIEW DRIVE	3 Bedroom Hardiplank clad and metal deck roof. Approximately 1 year old.
364	1128467	CHRISL 00364	VACANT LAND, SEAVIEW DRIVE	Not applicable
365	1128468	CHRISL 00365	Seaview Drive	
366	1128476	CHRISL 00366	Abbotts Nest	
367	1128471	S031714	Abbotts Nest	
368	1128472	CHRISL 00368	Abbotts Nest	
369	1128473	V CROWN LAND	VACANT LAND, ABBOTTS NEST	3 BR HOUSE. Hardieplank/metal deck, 12 months old, carport. In good condition.
370	1128474	CHRISL 00370	ABBOTTS NEST	4 BR house. Hardieplank/metal deck, 12 months old, carport. In good condition.
371	1097070	CHRISL 00371	Seven vacant flats, Gaze Road	Seven vacant flats
372	1097071	CHRISL 00372	UNOCCUPIED UNITS, SETTLEMENT, GAZE ROAD	Six vacant flats
373	1097072	CHRISL 00373	Gaze Road	
374	1097073	CHRISL 00374		
375	1160050	CHRISL 00375		
379	1291798	CHRISL 00379		
380	1151253	CHRISL 00380		
381	1291797	CHRISL 00381		
384	1271981	CHRISL 00384		
402	1097139	R 45247	Drumsite Breezeway Park	
403	1097137	CHRISL 00403	DRUMSITE PARK	
404	1097138	CHRISL 00404	Drumsite Park	
405	1097118	CHRISL 00405		
406	1097099	R 44528	TOM PATTERSON PRE-SCHOOL, GAZE ROAD	A 40 year old rendered brick and asbestos roof, pre-school in fair condition.
407	1142655	CHRISL 00407		
408	1142653	CHRISL 00408		
409	1142654	CHRISL 00409	Christian Church, former old public Library, Gaze Road	A concrete rendered and corrugated asbestos roof building approximately 40 years old in fair condition.
411	1160582	CHRISL 00411		
412	1160583	CHRISL 00412		
415	1142661	CHRISL 00415		
416	1142658	CHRISL 00416	BLOCK 406, ISLAMIC SCHOOL, LORONG KAMPONG MELAYU	Rndered brick and asbestos construction approximately 30-40 years old, comprises three classrooms.
423	1153076	CHRISL 00423		
426	1148264	CHRISL 00426		
428	1148262	CHRISL 00428		
428	1148260	CHRISL 00428		
430	1148206	CHRISL 00430		
431	1189462	CHRISL 00431		
435	1148202	CHRISL 00435		
440	1148269	CHRISL 00440		

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
335		868366		Residential	1174.751	0.11747510	0.11755942	018509	105.68006190	-10.41723181		SETTLEMENT
336		868365		Residential	1212.427	0.12124271	0.12128411	018509	105.68036620	-10.41730012		SETTLEMENT
337	R0452P	883403	CL0199300925	Residential (Vacant)	1698.810	0.16988100	0.16992177	018509	105.67317140	-10.42248551	L 338 200	GAZE ROAD
338		9999338	CL0199400995		713.707	0.07137070	0.07144633		105.67552900	-10.42141114	L 338 204	SILVER CITY
339		0		Residential	704.513	0.07045130	0.07047764		105.67570620	-10.42124912		SILVER CITY
340	R2002S	825709		Residential	714.015	0.07140146	0.07145932		105.67592360	-10.42120740		SILVER CITY
341		936501		Residential	705.895	0.07058955	0.07062629		105.67608360	-10.42133244	L 345B 23	SILVER CITY
342		936502		Residential	813.724	0.08137240	0.08145607		105.67614120	-10.42154147	L 345B 23	SILVER CITY
343	R2003S	825709		Residential	720.144	0.07201445	0.07205369		105.67605050	-10.42169331		SILVER CITY
344	R2004S	936506		Residential	770.412	0.07704119	0.07700137		105.67575630	-10.42171081		SILVER CITY
345	R2005S	825709		Residential	783.525	0.07835246	0.07848394		105.67563280	-10.42184357		SILVER CITY
346		936508		Vacant Land	750.576	0.07505764	0.07505554		105.67555200	-10.42198624	L 338 204	SILVER CITY
347	R2006S	936510		Residential	831.090	0.08310900	0.08318631		105.67551730	-10.42218003		SILVER CITY
348		825709		Vacant Land	717.516	0.07175157	0.07180785		105.67594560	-10.42189052		SILVER CITY
351	R2009S	936512		Vacant Land	745.840	0.07458404	0.07465202		105.67597860	-10.42240650		SILVER CITY
352	R2010S	936513		Vacant Land	708.185	0.07081847	0.07086360		105.67582430	-10.42251046		SILVER CITY
353	R2011S	825709		Residential	726.823	0.07268233	0.07272955		105.67568980	-10.42259018		SILVER CITY
354	R2012S	825709		Residential	787.696	0.07876955	0.07881603		105.67544220	-10.42255632		SILVER CITY
355	R2013S	825709		Residential	711.354	0.07113537	0.07123759		105.67545220	-10.42276752		SILVER CITY
356	R2014S	825709		Residential	734.431	0.07344311	0.07342173		105.67557690	-10.42290629		SILVER CITY
357	R2015S	936518		Residential	733.387	0.07333875	0.07344975		105.67576430	-10.42293446		SILVER CITY
358					730.151	0.07301509	0.07300252		105.67594620	-10.42283549		
359					727.869	0.07278694	0.07281727		105.67609270	-10.42266767		
360	R2016S	936521		Residential	850.427	0.08504266	0.08516452		105.67633170	-10.42311321		SILVER CITY
361	R2017S	0		Residential	834.691	0.08346915	0.08356044		105.67620350	-10.42322125		SILVER CITY
362	R2018S	825709		Residential	814.991	0.08149912	0.08146517		105.67606590	-10.42334048		SILVER CITY
363	R2019S	825709		Residential	819.128	0.08191276	0.08197930		105.67575440	-10.42342108		SILVER CITY
364	R2020S	936525		Vacant Land	786.227	0.07862268	0.07863777		105.67556360	-10.42337576		SILVER CITY
365		936527		Vacant Land	825.192	0.08251925	0.08257385		105.67538220	-10.42332239	L 345B 22	SILVER CITY
366		912885	CL0199400993	Vacant Land	1097.576	0.10975764	0.10991886		105.67056740	-10.43377411	L 338 204	DRUMSITE
367		912887	CL0199401024	Vacant Land	984.254	0.09842539	0.09844583		105.67053440	-10.43396874	L 338 204	DRUMSITE
368		912889	CL0199400994	Vacant Land	884.892	0.08848922	0.08852578		105.67065130	-10.43419025	L 338 204	DRUMSITE
369	R2101D	912891		Residential	725.943	0.07259433	0.07264674		105.67086200	-10.43429154		DRUMSITE
370	R2102D	912892		Residential	752.365	0.07523650	0.07529797		105.67110820	-10.43413264		DRUMSITE
371		883401	CL0199300926	Residential	1459.618	0.14596180	0.14614565	018509	105.67359280	-10.42132658	L 338 200	GAZE ROAD
372		875074		Residential	1294.328	0.12943282	0.12949955	018509	105.67345690	-10.42165081		GAZE ROAD
373		868626		Unknown	679.772	0.06797716	0.06798431	018509	105.67334560	-10.42194146		GAZE ROAD
374		825709			527.758	0.05277582	0.05277664	018509	105.67326380	-10.42215358		GAZE ROAD
375					1626.354	0.16263539	0.16267753		105.67639080	-10.41537991		
379					20434.498	2.04344985	2.04463817		105.68780950	-10.41660426		
380					2573.848	0.25738483	0.25754274		105.68313780	-10.41699803		
381					4696.244	0.46962441	0.47003073		105.68800550	-10.41620365		
384					51.963	0.00519627	0.00519814		105.67636770	-10.41673590		
402		825709		Public recreation	855.157	0.08551566	0.08557888		105.67422060	-10.43069327		DRUMSITE
403		825709		Public recreation	1983.899	0.19838992	0.19851297		105.67105310	-10.43245420		DRUMSITE
404		825709		Public recreation	11512.492	1.15124918	1.15245192		105.67299570	-10.43126336		DRUMSITE
405					7364.765	0.73647652	0.73710600		105.67906380	-10.42611856		
406	R0453J	825709		Education	3230.251	0.32302514	0.32321016	018509	105.67831850	-10.41652482		SETTLEMENT
407		927284			478.874	0.04788736	0.04794621		105.67029550	-10.43428363		DRUMSITE
408		925813			578.947	0.05789473	0.05790846		105.67385930	-10.42581784		PORT
409	R0572F	925812		Civic and community (incl. religious)	299.436	0.02994361	0.02995121	018572	105.67380540	-10.42602151		PORT
411					614.068	0.06140681	0.06145308		105.67303410	-10.42620780		
412					337.044	0.03370444	0.03375190		105.67305290	-10.42635746		
415		925809			11179.023	1.11790233	1.11885114		105.66766270	-10.43647498		DRUMSITE
416		925810		Education	1107.195	0.11071951	0.11081071		105.67229970	-10.42816612		FLYING FISH COVE
423					7312.432	0.73124324	0.73184782		105.67827920	-10.41573080		
426					3857.112	0.38571115	0.38608490		105.66259980	-10.43152920		
428					1690.683	0.16906833	0.16908843		105.66467020	-10.42815014		
428					4852.659	0.48526595	0.48552160		105.66509570	-10.42886475		
430					1692.389	0.16923889	0.16932139		105.68274550	-10.42276844		
431					3329.498	0.33294981	0.33302002		105.67954540	-10.42425826		
435					3495.217	0.34952171	0.34967161		105.67819630	-10.42606273		
440					3739.561	0.37395608	0.37398596		105.67491280	-10.42243504		

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
442	1148271	CHRISL 00442		
444	1148195	CHRISL 00444		
445	1148194	CHRISL 00445		
447	1153080	CHRISL 00447		
448	1148192	CHRISL 00448		
450	1150338	CHRISL 00450		
451	1157733	CHRISL 00451		
452	1149737	CHRISL 00452		
453	1149736	V CROWN LAND		
454	1160049	CHRISL 00454		
456	1149742	CHRISL 00456	BLOCK 505, SHOPS 1 - 12 AND MESS (1ST FLOOR), POON SAAN ROAD	Two level, rendered brick walls, fair condition, approximately 30 years old. 12 shops.
457	1149741	CHRISL 00457	UCIW OFFICE, POON SAAN RD	A single level rendered brick and Colorbond roofed office building.
458	1152802	CHRISL 00458		
460	1172669	CHRISL 00460		
461	1190426	CHRISL 00461		
464	1177713	CHRISL 00464		
465	0			
465	0			
465	1177714	CHRISL 00465		
465	0			
465	0			
465	0			
465	0			
466	1177715	CHRISL 00466		
468	1177717	CHRISL 00468		
469	1197970	CHRISL 00469		
470	1197971	CHRISL 00470		
471	1197979	CHRISL 00471		
483	1218764	CHRISL 00483		
485	1218774	CHRISL 00485		
494	1218761	CHRISL 00494		
500	1296585	CHRISL 00500		
503	1296588	CHRISL 00503		
504	1296589	CHRISL 00504		
505	1296590	CHRISL 00505		
506	1296591	CHRISL 00506		
507	1296592	CHRISL 00507		
521	1299316	CHRISL 00521		
522	1295969	CHRISL 00522		
524	1299308	CHRISL 00524		
525	1299310	CHRISL 00525		
531	1316334	CHRISL 00531		
532	1316335	CHRISL 00532		
536	1326702	CHRISL 00536		
538	1326219	CHRISL 00538		
541	1326216	CHRISL 00541		
542	1326217	CHRISL 00542		
543	1326227	CHRISL 00543		
545	1326222	CHRISL 00545		
546	1326223	CHRISL 00546		
548	1326225	CHRISL 00548		
ML 100	1097169	V CROWN LAND		
ML 101	1097173	V CROWN LAND		
ML 102	1097204	V CROWN LAND		
ML 103	1097205	V CROWN LAND		
ML 104	1097206	V CROWN LAND		
ML 105	1097176	V CROWN LAND		
ML 106	1097175	V CROWN LAND		
ML 107	1097168	V CROWN LAND		
ML 108	1097177	V CROWN LAND		
ML 109	1097165	V CROWN LAND		
ML 110	1097164	V CROWN LAND		
ML 111	1097156	V CROWN LAND		

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
442					7500.604	0.75006038	0.75050120		105.67439120	-10.42161527		
444					1189.385	0.11893852	0.11905983		105.67279980	-10.42234293		
445					771.048	0.07710481	0.07720492		105.67282940	-10.42354065		
447					3494.445	0.34944449	0.34946635		105.67409620	-10.41970112		
448					16416.654	1.64166539	1.64278830		105.68187830	-10.42585684		
450					1417.213	0.14172125	0.14183422		105.66805020	-10.43498031		
451					75315.875	7.53158753	7.53628377		105.67582080	-10.44550994		
452		930589			804.336	0.08043361	0.08043757		105.67609410	-10.42203443		SILVER CITY
453		930588			712.688	0.07126881	0.07134138		105.67608860	-10.42224558		SILVER CITY
454					2046.005	0.20460050	0.20477815		105.67608660	-10.41530952		
456		930591		Shops	1767.775	0.17677748	0.17687774		105.68106560	-10.42250143		CENTRAL TERRACES
457	R1046	930590		Offices	569.016	0.05690165	0.05695164	018574	105.68083850	-10.42265217		CENTRAL TERRACES
458					3284.327	0.32843272	0.32862262		105.67306030	-10.42474452		
460					23032.643	2.30326425	2.30485153		105.68035960	-10.42251386		
461					9922.120	0.99221196	0.99268404		105.68654000	-10.41733900		
464					695.780	0.06957804	0.06961028		105.67871940	-10.42408198		
465		0			434329.269	43.43292691						
465		0			8268.641	0.82686407						
465					804.759	0.08047593	0.08051241		105.67885830	-10.42396056		
465		0			1373535.448	137.35354480						
465		0			21973.854	2.19738538						
465		0			19499.219	1.94992195						
465		0			17881.492	1.78814917						
466					929.141	0.09291412	0.09292667		105.67899360	-10.42383532		
468					314.892	0.03148925	0.03147854		105.67945160	-10.42368694		
469					5835.865	0.58358653	0.58398275		105.68068530	-10.42345495		
470					5541.667	0.55416667	0.55468486		105.68005100	-10.42401628		
471					8227.348	0.82273479	0.82323490		105.66920600	-10.43335960		
483					355.207	0.03552070	0.03556383		105.67243780	-10.42423175		
485					586.747	0.05867467	0.05870738		105.67266890	-10.42282805		
494					5838.775	0.58387746	0.58436958		105.67161810	-10.42548402		
500					3027.959	0.30279587	0.30303184		105.68491670	-10.42544650		
503					1243.807	0.12438074	0.12450339		105.68511220	-10.42592852		
504					1265.690	0.12656895	0.12660345		105.68548670	-10.42583584		
505					1283.420	0.12834202	0.12840130		105.68586410	-10.42573884		
506					1243.449	0.12434491	0.12446456		105.68623700	-10.42564471		
507					1013.078	0.10130776	0.10150910		105.68565620	-10.42594561		
521					576.790	0.05767898	0.05771938		105.68301770	-10.42300059		
522					65364.429	6.53644289	6.54117884		105.67383530	-10.44089329		
524					2285.219	0.22852192	0.22871817		105.67398170	-10.43203596		
525					1211.662	0.12116616	0.12125685		105.67782910	-10.42470656		
531					1412.829	0.14128292	0.14140225		105.68210770	-10.42155631		
532					1393.554	0.13935544	0.13941900		105.68246940	-10.42161546		
536					1821.547	0.18215472	0.18223700		105.66984760	-10.43001882		
538					195.065	0.01950653	0.01951991		105.67449680	-10.41604893		
541					1433.859	0.14338590	0.14343950		105.67740010	-10.41566334		
542					1373.622	0.13736217	0.13750670		105.67775870	-10.41582037		
543					761.169	0.07611694	0.07613964		105.67786710	-10.42629878		
545					1351.825	0.13518250	0.13526178		105.67883020	-10.42560124		
546					424.534	0.04245343	0.04246362		105.67902360	-10.42545306		
548					1081.728	0.10817285	0.10826397		105.67971820	-10.42482425		
ML 100		825709			4117022.873	411.70228720	411.98021282		105.65196750	-10.55313984		
ML 101		825709			2416957.883	241.69578830	241.86031959		105.65329100	-10.52923297		
ML 102		825709			283116.995	28.31169946	28.33159910		105.66241930	-10.49882673		
ML 103		825709			4171.096	0.41710962	0.41732755		105.66031280	-10.50335859		
ML 104		825709			5413.304	0.54133038	0.54179284		105.65977520	-10.50404681		
ML 105		825709			154742.192	15.47421920	15.48517586		105.65185060	-10.49906090		
ML 106		825709			1954848.007	195.48480070	195.61538055		105.65029050	-10.50724081		
ML 107		825709			19647.165	1.96471650	1.96604534		105.64297170	-10.51192618		
ML 108		825709			199237.789	19.92377888	19.93719125		105.63723160	-10.50823525		
ML 109		825709			257199.876	25.71998761	25.73780377		105.63049790	-10.50226125		
ML 110		825709			746654.373	74.66543734	74.71536814		105.62432360	-10.49836191		
ML 111		825709			10574.640	1.05746398	1.05827116		105.63396030	-10.49208279		

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
ML 112	1097157	V CROWN LAND		
ML 113	1097158	V CROWN LAND		
ML 114	1097159	V CROWN LAND	Central Area Workshop - Mining Lease 114	
ML 115	1097160	V CROWN LAND		
ML 116	1097162	V CROWN LAND		
ML 117	1097163	V CROWN LAND		
ML 118	1097161	V CROWN LAND		
ML 121	1097207	V CROWN LAND		
ML 122	1097179	V CROWN LAND		
ML 123	1097178	V CROWN LAND		
ML 124	1097180	V CROWN LAND		
ML 125	1097181	V CROWN LAND		
ML 126	1097209	V CROWN LAND		
ML 127	1097210	V CROWN LAND		
ML 128	1097182	V CROWN LAND		
ML 129	1097183	V CROWN LAND		
ML 130	1097184	V CROWN LAND		
ML 131	1097194	V CROWN LAND		
ML 132	1097195	V CROWN LAND		
ML 133A	1097191	V CROWN LAND		
ML 133A	1097193	V CROWN LAND		
ML 133A	1097192	V CROWN LAND		
ML 133B	1097187	V CROWN LAND		
ML 133B	1097185	V CROWN LAND		
ML 133B	1097094	V CROWN LAND		
ML 134	1097197	V CROWN LAND	Drier No. 2 site - Mining Lease 134	
ML 135	1097199	V CROWN LAND		
ML 136	1097198	V CROWN LAND		
ML 137	1097150	V CROWN LAND		
ML 138	1097151	V CROWN LAND		
ML 139	1097152	V CROWN LAND		
ML 139	1097153	V CROWN LAND		
ML 140	1097154	V CROWN LAND		
	1261892	V CROWN LAND		
	1261889	V CROWN LAND		
	1261890	V CROWN LAND		
	1290709	D098170 1015		
	1290708	S036590		
	1097115	V CROWN LAND		
	1148256	V CROWN LAND		
	1097117	V CROWN LAND		
	1290707	D098170 1013		
	1096944	V CROWN LAND		
	1148272	R 45722		
	1155231	V CROWN LAND		
	1218776	V CROWN LAND		
	1354308	V CROWN LAND		
	1180149	D091781 1000		
	1218775	V CROWN LAND		
	1148270	V CROWN LAND		
	1180150	D091781 1001		
	1180146	D091782 1002		
	1180147	D091782 1003		
	1316330	V CROWN LAND		
	1316331	V CROWN LAND		
	1316332	V CROWN LAND		
	1316333	V CROWN LAND		
	1326712	V CROWN LAND		
	1097220	V CROWN LAND		
	1316336	R 46436		
	1229104	D094854 1004		
	1295972	V CROWN LAND		
	1326713	V CROWN LAND		

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
ML 112		825709			9824.880	0.98248804	0.98307512		105.63138980	-10.49199351		
ML 113		825709			22935.362	2.29353622	2.29543923		105.62576820	-10.48982504		
ML 114		825709		Industry	35911.902	3.59119015	3.59346619		105.62925920	-10.47776006		
ML 115		825709			57270.788	5.72707875	5.73131598		105.61912560	-10.48027249		
ML 116		825709			458399.720	45.83997199	45.87051909		105.61056250	-10.48576969		
ML 117		825709			83551.341	8.35513415	8.36026042		105.61460220	-10.48752459		
ML 118		825709			21204.668	2.12046678	2.12207070		105.60283250	-10.48337077		
ML 121		825709			169194.912	16.91949115	16.93034503		105.67746150	-10.48938447		
ML 122		825709			332555.338	33.25553381	33.27758538		105.66652020	-10.48918550		
ML 123		825709			62063.376	6.20633762	6.21049757		105.66860800	-10.48434292		
ML 124		825709			320573.190	32.05731900	32.07808846		105.68301390	-10.48223813		
ML 125		825709			377159.533	37.71595328	37.74115498		105.67771520	-10.47495538		
ML 126		825709			35382.869	3.53828685	3.54039522		105.68107680	-10.46772351		
ML 127		825709			69144.232	6.91442316	6.91919555		105.68330410	-10.46907776		
ML 128		825709			51089.892	5.10898921	5.11274405		105.70612680	-10.46870950		LILY BEACH
ML 129		825709			136027.158	13.60271584	13.61152180		105.70282200	-10.46757164		LILY BEACH
ML 130		825709			33574.385	3.35743846	3.35985871		105.70330200	-10.46154945		WATERFALL
ML 131		825709			41207.295	4.12072947	4.12356093		105.70036960	-10.45084391		WATERFALL
ML 132		825709			657721.866	65.77218658	65.81481666		105.70314980	-10.44237829		NORRIS POINT
ML 133A		825709			588.260	0.05882597	0.05884113		105.68518910	-10.42343636		HEADRIDGE
ML 133A		825709			2510202.959	251.02029580	249.93360860		105.69407610	-10.44906409		HEADRIDGE
ML 133A		825709			42139.730	4.21397302	3.92899853		105.69197300	-10.42754312		HEADRIDGE
ML 133B		825709			1582662.740	158.26627400	158.37025693		105.68306910	-10.44203662		TOWN CENTRE
ML 133B		825709			513875.093	51.38750929	51.42321679		105.68112910	-10.45102999		IRVINE SOUTH
ML 133B		825709			66333.550	6.63335497	6.63722556		105.68884510	-10.45422540		AIRPORT
ML 134		825709		Industry	163570.054	16.35700538	16.36772861		105.66680630	-10.44169915		DRUMSITE SOUTH
ML 135		825709			297441.676	29.74416757	29.48395730		105.69020440	-10.42581921		LOWER PHOSPHATE HILL
ML 136		825709			221172.723	22.11727229	22.13216172		105.68782710	-10.42283739		LOWER PHOSPHATE HILL
ML 137		825709			108238.174	10.82381738	10.83175387		105.55585790	-10.45657240		
ML 138		825709			857374.843	85.73748431	85.79821274		105.57521950	-10.47173439		
ML 139		825709			518018.587	51.80185869	51.83823333		105.57962710	-10.47854742		
ML 139		825709			34868.224	3.48682240	3.48965856		105.57416140	-10.48151120		
ML 140		825709			331699.963	33.16999634	33.19422830		105.56933730	-10.47317461		
					270.746	0.02707461	0.02709764		105.67600030	-10.41504031		
					289.826	0.02898263	0.02900457		105.67672500	-10.41528431		
					7.310	0.00073097	0.00074202		105.67653930	-10.41529385		
					2425.790	0.24257900	0.24276464		105.67497530	-10.41573409		
					6836.361	0.68363608	0.68408625		105.67465650	-10.41647270		
		825709			34453.669	3.44536692	3.44735537	018509	105.67507440	-10.41794774		GAZE ROAD
					458.111	0.04581108	0.04586305		105.67500940	-10.41700660		
		825709			384061.560	38.40615596	38.43212242		105.67741270	-10.42464953		SILVER CITY
					1500.631	0.15006311	0.15012535		105.67446990	-10.41723540		
		825709			62.355	0.00623548	0.00627260	018509	105.68256230	-10.41730153		SETTLEMENT
					2149.052	0.21490522	0.21501301		105.67435690	-10.41953220		
					7234.194	0.72341939	0.72417367		105.67389460	-10.42124420		
					2336.956	0.23369559	0.23387573		105.67338280	-10.42000398		
					5630.019	0.56300191	0.56365386		105.67317690	-10.42119527		
					1401.445	0.14014450	0.14026107		105.67396570	-10.42036351		
					856.874	0.08568735	0.08572478		105.67276680	-10.42175178		
					1302.515	0.13025149	0.13037334		105.67471040	-10.42071917		
					879.303	0.08793029	0.08800102		105.67390780	-10.42055659		
					1067.911	0.10679110	0.10679590		105.67368040	-10.42097366		
					690.224	0.06902237	0.06902942		105.67362050	-10.42105380		
					1367.237	0.13672366	0.13683438		105.68065580	-10.42132622		
					1413.527	0.14135270	0.14140565		105.68101480	-10.42138250		
					1412.829	0.14128293	0.14140538		105.68137910	-10.42144044		
					1412.829	0.14128293	0.14140223		105.68174340	-10.42149837		
					1299.941	0.12999406	0.13002656		105.67298820	-10.42167944		
		825709			1615370.410	161.53704090	161.64182396	018577	105.69578370	-10.42926617		NORRIS POINT
					517.201	0.05172006	0.05177325		105.68273220	-10.42168023		
					3227.485	0.32274849	0.32287337		105.68024930	-10.42187281		
					10996.434	1.09964343	1.10034564		105.68455710	-10.42223942		
					349.302	0.03493016	0.03490787		105.67281000	-10.42200746		

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
	1148196	V CROWN LAND		
	1155232	V CROWN LAND		
	1148207	R 44531		
	1097054	R 45723		
	1218765	V CROWN LAND		
	1097056	R 45718		
	1299315	R 45882		
	1177716	V CROWN LAND		
	1097201	V CROWN LAND		
	1185969	R 44536		
	1190061	V CROWN LAND		
	1354309	V CROWN LAND		
	1218766	V CROWN LAND		
	1329663	D100580 1005		
	1329664	D100580 1006		
	1329665	D100580 1007		
	1329666	D100580 1008		
	1189461	V CROWN LAND		
	1329667	D100580 1009		
	1329668	D100580 1010		
	1329669	D100580 1011		
	1329670	D100580 1012		
	1189460	R 44533		
	1218763	V CROWN LAND		
	1296586	V CROWN LAND		
	1326224	V CROWN LAND		
	1097120	S025126		
	1317124	V CROWN LAND		
	1271983	R 45300		
	1326221	V CROWN LAND		
	1354307	CLOSED ROAD		
	1296587	V CROWN LAND		
	1317123	V CROWN LAND		
	1097216	V CROWN LAND		
	1160581	R 45720		
	1097215	V CROWN LAND		
	1358679			
	1097200	V CROWN LAND		
	1160580	R 45029		
	1097113	V CROWN LAND		
	1148263	R 44530		
	1148261	V CROWN LAND		
	1326703	V CROWN LAND		
	1148198	V CROWN LAND		
	1148199	V CROWN LAND		
	1271979	R 45298		
	1271978	V CROWN LAND		
	1148325	V CROWN LAND		
	1260529	V CROWN LAND		
	1097212	V CROWN LAND		
	1097189	V CROWN LAND		
	1097188	V CROWN LAND		
	1097213	V CROWN LAND		
	1358680			
	1097196	V CROWN LAND		
	1097190	V CROWN LAND		
	1097186	V CROWN LAND		
	1097208	V CROWN LAND		
	1097155	V CROWN LAND		
	1097203	V CROWN LAND		
	1097167	V CROWN LAND		
	1097166	V CROWN LAND		
	1097202	V CROWN LAND		

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
					648.614	0.06486142	0.06493054		105.67295550	-10.42205438		
					28832.540	2.88325400	2.88530200		105.67430430	-10.42301712		
					8920.170	0.89201699	0.89277784		105.68340620	-10.42253524		
					103.920	0.01039198	0.01035692		105.68201530	-10.42252678		
					857.942	0.08579418	0.08588366		105.67277310	-10.42307945		
					126.780	0.01267802	0.01265592		105.68135460	-10.42296957		
					194.407	0.01944070	0.01946159		105.68292070	-10.42293609		
					2010.121	0.20101206	0.20116762		105.67918130	-10.42353692		
		825709			84886.390	8.48863895	8.49415335		105.68238350	-10.42452984		IRVINE HILL
					587.897	0.05878969	0.05889734		105.67926260	-10.42381191		
					679959.161	67.99591609	68.04118233		105.66856510	-10.43083940		
					1071.186	0.10711859	0.10716377		105.67269820	-10.42401609		
					18604.423	1.86044226	1.86197426		105.67223080	-10.42491623		
					341.865	0.03418649	0.03420023		105.67860910	-10.42417020		
					334.757	0.03347565	0.03351327		105.67853100	-10.42423094		
					326.536	0.03265364	0.03269654		105.67844930	-10.42428915		
					319.556	0.03195555	0.03198378		105.67836750	-10.42434693		
					1401.939	0.14019393	0.14032997		105.67897020	-10.42448374		
					300.805	0.03008053	0.03009081		105.67828900	-10.42440838		
					269.594	0.02695943	0.02702208		105.67821250	-10.42447383		
					253.078	0.02530780	0.02527080		105.67813130	-10.42453433		
					249.846	0.02498462	0.02502927		105.67804740	-10.42458718		
					1305.285	0.13052853	0.13065312		105.67863300	-10.42469595		
					60.505	0.00605049	0.00606249		105.67147910	-10.42465547		
					5424.542	0.54245422	0.54283147		105.68572000	-10.42524301		
					1497.355	0.14973551	0.14992377		105.67928730	-10.42524892		
					1385.198	0.13851984	0.13863048		105.67950500	-10.42554715		
					25.238	0.00252383	0.00251667		105.68641320	-10.42554825		
					698.408	0.06984078	0.06997185		105.69523460	-10.42560163		
					1094.826	0.10948257	0.10955005		105.67858900	-10.42577811		
					1856.540	0.18565404	0.18581169		105.67243710	-10.42592158		
					18.021	0.00180212	0.00180004		105.68538490	-10.42573379		
					2339.938	0.23399377	0.23426592		105.68545000	-10.42606806		
		825709			142.778	0.01427784	0.01428090		105.67135000	-10.42604907		PORT
					3798.834	0.37988342	0.37995282		105.67286450	-10.42661769		
					177.423	0.01774227	0.01772308		105.67169460	-10.42667052		
					1993104.181	199.31041800	197.77178475		105.67824640	-10.43377986		
		825709			3279.019	0.32790186	0.20952805		105.68735340	-10.42821920		AIRPORT
					915.537	0.09155372	0.09165003		105.67327810	-10.42830577		
		825709			4023.581	0.40235813	0.40260994		105.67559940	-10.42872622		DRUMSITE
					6146.311	0.61463111	0.61504783		105.66424480	-10.42855540		
					645.084	0.06450841	0.06451733		105.66570170	-10.42912489		
					486.545	0.04865446	0.04869894		105.67029660	-10.42982346		
					5884.317	0.58843171	0.58882544		105.67418960	-10.43120741		
					83.844	0.00838442	0.00837071		105.67394420	-10.43152172		
					226.385	0.02263853	0.02267102		105.67059240	-10.43200516		
					331.486	0.03314858	0.03322101		105.67016890	-10.43222646		
					712.735	0.07127349	0.07128958		105.67038480	-10.43217895		
					6406.786	0.64067860	0.64118744		105.66863870	-10.43406247		
		825709			23578.907	2.35789070	2.35951133		105.66799180	-10.43758039		DRUMSITE
		825709			30216.188	3.02161875	3.02395004		105.68476280	-10.43950205		IRVINE HILL
		825709			196944.647	19.69446467	19.70748676		105.67659130	-10.44239822		IRVINE HILL
		825709			388.695	0.03886952	0.03894732		105.66841260	-10.44046095		DRUMSITE SOUTH
					27531.960	2.75319597	2.75436572		105.67919850	-10.44641553		
		825709			33943.873	3.39438733	3.39657425		105.70296830	-10.44567570		NORRIS POINT
		825709			57612.001	5.76120006	5.76465144		105.68517870	-10.44860292		THE DIVIDE
		825709			86785.328	8.67853276	8.68434103		105.68069000	-10.45004805		IRVINE SOUTH
		825709			6914292.852	691.42928510	691.88596285		105.68275950	-10.46465225		
		825709			124746.687	12.47466865	12.48341650		105.57793940	-10.47721194		
		825709			5819553.068	581.95530670	576.19918848		105.67183990	-10.49565666		
		825709			14807.211	1.48072109	1.48127760		105.65011900	-10.49849744		
		825709			47501.050	4.75010500	4.75336620		105.63353610	-10.50114077		
		825709			6693829.331	669.38293310	663.95040763		105.65524640	-10.54145830		

LOC_NO	PIN	PIPARCEL	DESCRIPTION	IMPROVEMEN
	1097172	V CROWN LAND		
	1097174	V CROWN LAND		
	1295971	V CROWN LAND		
	1295970	V CROWN LAND		
	1097170	V CROWN LAND		
	1097171	V CROWN LAND		

LOC_NO	ASSET_CODE	PARNO	CROWN_LEAS	CURRENT_US	AREA_SQM	HECTARES	HECT_DOLA	AHC_REGIST	LONG_CEN	LAT_CEN	TENURE	AREA_NAME
		825709			839.957	0.08399571	0.08403663		105.65840450	-10.52172078		
		825709			166936.838	16.69368378	16.70544870		105.65457080	-10.52688766		
					12382.736	1.23827359	1.23914622		105.65819640	-10.54322721		
					11116.714	1.11167144	1.11263131		105.65939030	-10.54498424		
		825709			9307.699	0.93076987	0.93135639		105.64443590	-10.55610120		
		825709			14373.787	1.43737871	1.43869216		105.66198770	-10.56182713		

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 thirteen years. An exception is the Environment Australia Marine Environment data layer. The Christmas Island GIS is an assembly of 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 AGSO 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 relates to all the data except the original content of the 1:25000 scale topographic and cultural data layers for which a separate AUSLIG licence must be used.

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
- future denial of access to the Commonwealth.

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.

It should be noted that the Christmas Island GIS carries the overhead of a separate Licence with the Australian Surveying and Land Information Group, Commonwealth Department of Industry Science and Resources, Canberra, ACT, Australia (AUSLIG) for the 1:25000 scale topographic and cultural data layers. The contact at AUSLIG is Mr Bob Kennard on 02 6201 4222.

An electronic copy of the Commonwealth Christmas Island GIS data licence is stored on the Christmas Island GIS Cd-rom #1 at directory '\documents\licenses' in file 'cisgis_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: CIGIS2001
Contact: Mr. Peter Lawler

Tuesday, 31 July 2001.

Organisation name:
Organisation address:

Dear Sir/Madam,

Thank you for your request for Territories Office to supply *Organisation name* with a copy of the 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 DoTRS and *Organisation name*.

Yours Faithfully

Mr. Keith Porritt
Australian Geological Survey Organisation
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 Territories and Regional Services
('Licence')

IMPORTANT NOTES

'Territories Office' means the Commonwealth of Australia represented by the Territories Office of the Commonwealth Department of Territories 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 Territories Office 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 at the choice of the party not first requiring the arbitration and may either be Canberra or London;
- (iii) all proceedings will be conducted in the English Language;
- (iv) the applicable law is the law of the United Kingdom; 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

Mr. Peter Lawler,
Policy - Indian Ocean Territories,
Department of Territories and Regional Services.
Ph: 02 6274 8023
Fax: 02 62748065
Email: peter.lawler@dotrs.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. Following is a copy of the Arrangement under which Territories Office contract DOLA to do this work.

Chapter
7

Appendix 5: Ecowise Environmental Data Documentation

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

The map displays the island of Christmas Island with various geographical features and borehole locations. Key locations include Flying Fish Cove, Smith Point, Daniel Defoe Cove, Rubbish Disposal & Landfill, North East Point, Airport, Jones Spring, Freshwater Spring, Waterfall Spring, and Low Point. Boreholes are marked with red dots and labeled BH-8 through BH-13. The map includes a legend for symbols such as Boreholes, Water bodies, Roads, and Vegetation. A scale bar and a north arrow are also present.

Dec 1999

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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 UTN 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 $\pm 20\text{m}$.

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.

Chapter
8

Appendix 6: Utilities Data Documentation from GHD

GHD supplied the following documentation with the utilities data. AGSO has not implemented the GHD METATool in conjunction with this release of the CIGIS.

METATOOL User guide

GHD has created a utilities management system for the Christmas Island Authorities. Its data resides within the same directory structure as was created for the Christmas Island GIS (CIGIS). CIGIS has been developed by Mineral Resources Branch of Bureau of Resource Sciences (Canberra) in 1998.

CIGIS is running on Arcview3.2. ArcView has been developed by ESRI (Redmond, USA), and is one of the most well known GIS around. It organises spatial information on line, point, and area features, also called "themes" (ie. buildings, power lines, stormwater drains, etc.), into thematic "views" (ie. topology, cadastre, utilities, etc.). Besides the propriety ArcView shape & Arc/Info vector formats, ArcView is capable to display AutoCAD (DWG, DXF) and MicroStation (DGN) files as well. A variety of raster formats is being supported, such as (georeferenced) TIFF and JPEG. Databases with an MS Access or a DBASE-IV format can be imported and used to create new themes or linked to existing themes.

CIGIS contains thematic views on cadastre, topography, flora and fauna, and mining activities with georeferenced aerial photographs as background.

The asset management system created by GHD will add the METATOOL application and the following Utility views to CIGIS:

- water
- waste water
- stormwater drainage
- power supply
- telecommunication

First, a detailed assessment of all available digital data has been made. A total of 47 map datasets have been identified, containing 158 different maps. Of the 47 map datasets 41 had correct projection parameters. The remaining 6 map datasets were either unregistered or had faulty projection parameters.

Ninety five percent of the original data is CAD based. An overview of all design drawings per utility is lacking, since most drawings just cover a small isolated area. Being CAD based inherently means that apart from showing lines, point, and polygons at the true geographic position CAD data will not provide any attribute information. For instance a water supply design file will show all the pipes, but none of the pipes will have information about diameter, length, age, material and grade attached. To overcome this limitation in a CAD environment little insets are produced on the maps with textual attribute information, which points to a specific pipe. In a GIS environment however, attribute information is stored in databases that are linked to map features. One can either select map features by querying the database or via its geographic position. GHD has compiled seamless maps for all the assets by converting CAD files to Arc/View asset themes. The end users are enabled to edit, delete and add topology and attribute information for each theme.

The multitude of data sources combined with the scattered nature of the various as constructed drawings required a systematic approach. Besides the compilation of the relevant metadata on each drawing into a meta-database, for each service ArcView shape files were generated on point, line, and area features.

Stormwater drainage for example, has its information organised in CIGIS as follows: information on material, diameter and grade of culverts, pipes and drains is presented as a line theme, the information on valves, side entry pits, manholes etc. is presented as a point theme, whereas information on compensating basins and other larger drainage features is presented as a surface /area theme. Figure 1 shows a screen dump of the as constructed stormwater drainage view in CIGIS. Besides drainage information, it shows the updated building outlines, and the most recent version of cadastral data.

Every feature displayed in the drainage view has been hot-linked to its original (CAD) drawing. If one clicks for instance on a drainage pipe in the view, a pop-up window will show information on its specific attributes (figure 1). Alternatively a new view will be created with the specific parent CAD drawing (figure 2).

In order to access the utilities' metadata, GHD has developed a Visual Basic-based interface, called METATool (figure 3). It enables ArcView users to query and edit an MS Access2000 relational database on metadata for both as constructed and historic utility drawings. Also, it allows for generating reports (figure 4) and launching of selected CAD drawings into new ArcView views (figure 2). The relational database of METATool is based on the Australia and New Zealand Land Information Council's (ANZLIC) Metadata Entry tool.

The strength of GHD's approach lies in the flexibility of the created system. Selected users are enabled to add new drawings to both the meta-database and the overview shapefiles. Other users will just be able to view data. Also, CAD drawings can be generated of selected ArcView features. Unique identifiers for each feature will help to maintain the referential integrity of the shapefiles and the relational meta-database. Unlimited spatial analysis capability is made available since all spatial information has the same map projection, being the local grid CI-1985.

The format of recording as constructed data is also being standardised to ensure efficient and effective future updating of themes as new projects are completed.

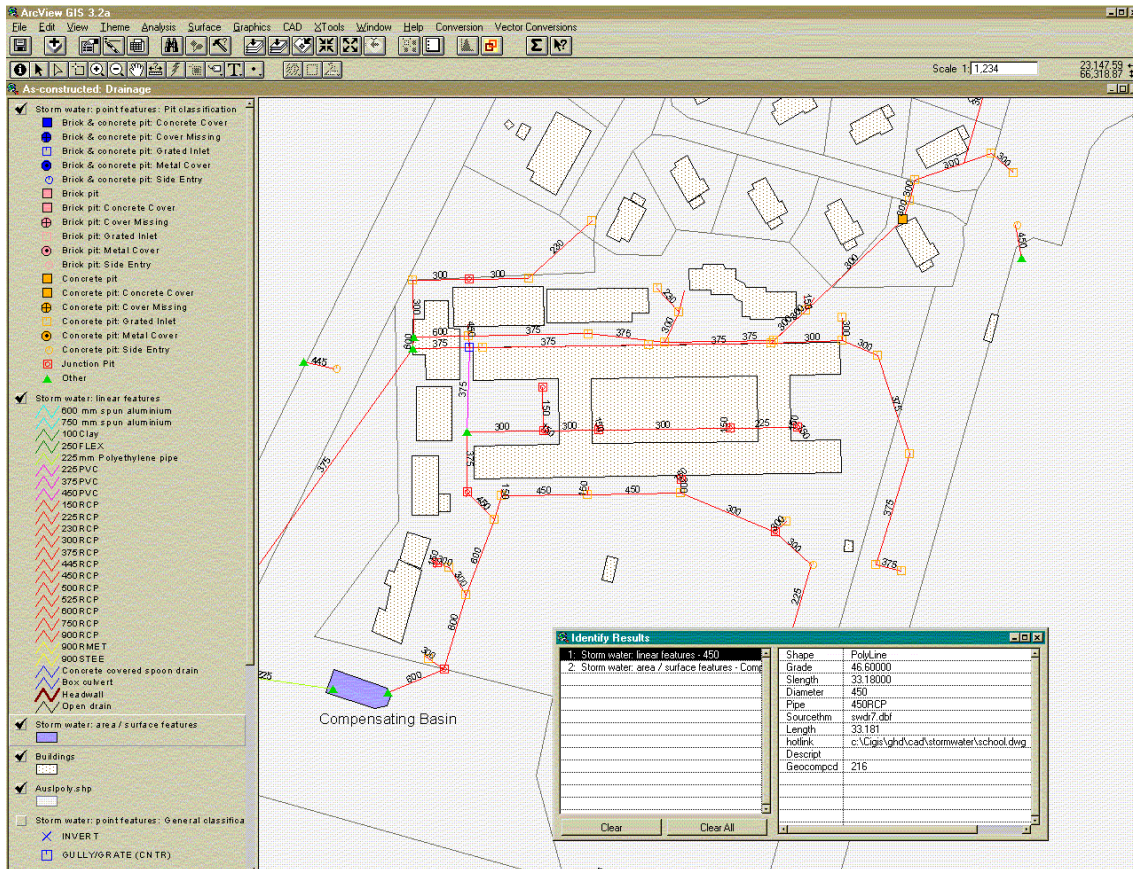


Figure 1. As-constructed Stormwater drainage View of CIGIS

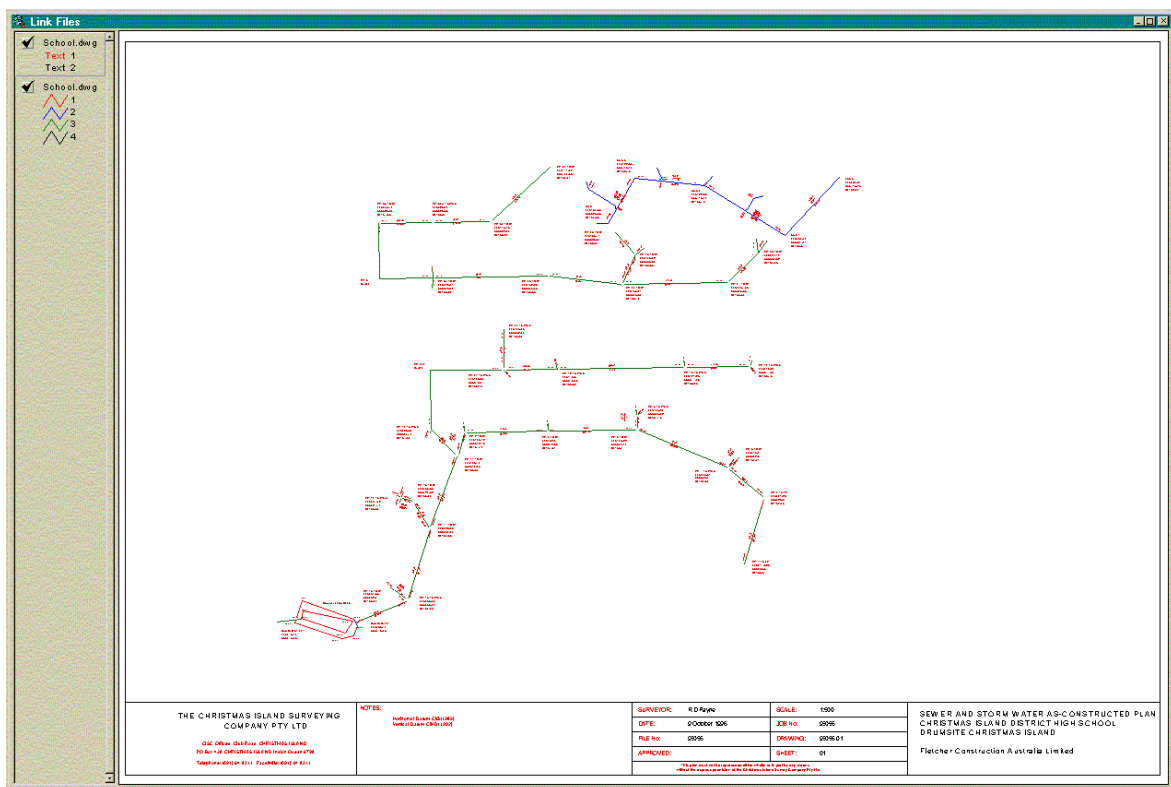


Figure 2. Launched view with parent CAD drawing

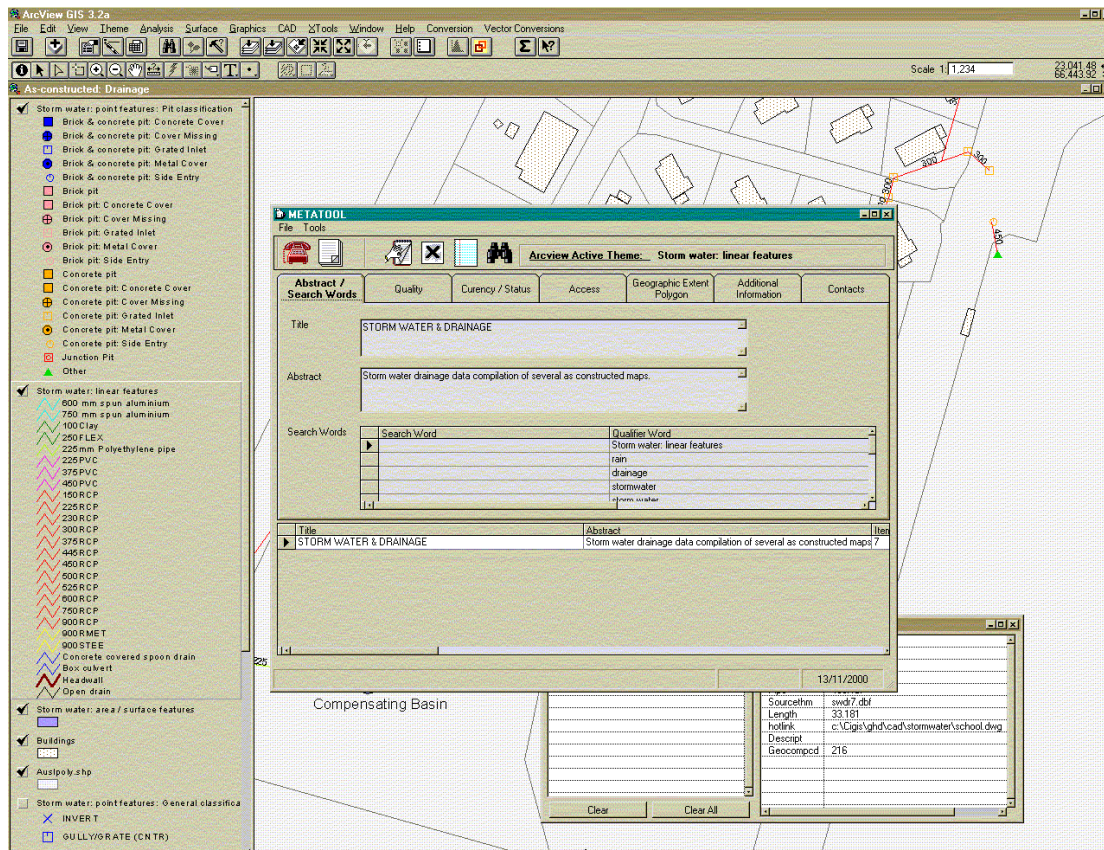


Figure 3. GHD's METATOOL application

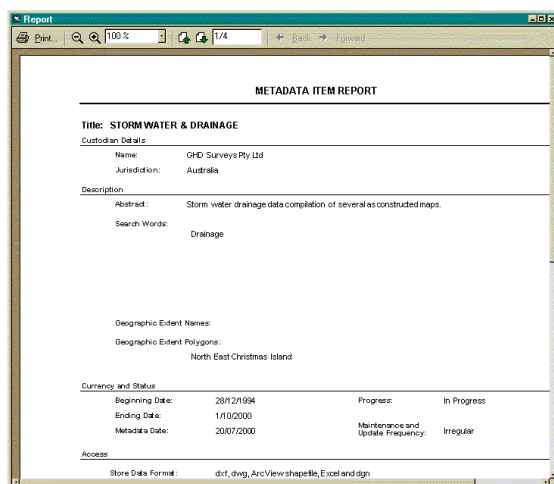


Figure 4. Metadata report generated by the METATOOL application

Installation of utilities management system

1 Installation of the utilities data and the Utilities Management System project file

- The user should copy the complete GHD directory from the installation CD into the c:\CIGIS directory on the local hard drive. It contains the reference CAD drawings, and the compiled ArcView shape files for Storm water drainage, Waste water, Power, Telecom and Drinking water. The GHD directory should reside at the same level as the other CIGIS directories eg. " Auslg25k", " Demtiles" and " Apsc".
- The user should copy the ArcView project file (ci_utilities.apr) that contains all the utilities themes, into the CIGIS root directory at c:\CIGIS.

2 Installation and setup of the METATOOL application

METATOOL is a metadata tool that allows users to capture, search, edit and generate reports on metadata of the original (digital) datasets. The application consists of two parts: the front-end and the database:

- The front end of the application has been developed with Visual Basic.
- The database part of the application is a relational database. About twenty tables are linked together in order to minimize data redundancy and to enforce referential integrity. The database is called "metadata.mdb" and has an MS Access 2000 format. *Note: The application will not work if the client machine does not have a copy of MS Access 2000 installed.*

It is not a stand-alone application but it was designed as an add-on for ArcView, therefore it is not an executable file, but instead the application will run inside ArcView as a "DLL" file.

The following steps explain how to successfully install the dll file on the computer and then how to setup METATOOL within ArcView and finally to place the meta database in the desired directory.

2.1 Installing the DLL file

Run the setup.exe file, located in the "GHDMetatool\application\" directory, from the installation CD. It will prompt the user for a directory to install the DLL file. The default is c:\Programs Files\metaDB\.

2.2 Installing the " Metaform.avx " ArcView Extension

Arcview enables users to run their own applications. First, an ArcView Extension (Metaform.avx) has been created for the METATOOL application.

The user should copy the Metaform.avx file, located in the "GHDMetatool\Arcview extensions\" directory on the installation CD, to ArcView's "..\Ext32\" directory. Usually to be found at: "c:\Esri\AV_Gis\Arcview\Ext32".

2.3 Location of the meta database

Technically the front-end of the application should work now. However the meta database still needs to be copied to a location where the application can find it. The default will be c:\CIGIS\GHDmetatool\application\metadata.mdb. If the user chooses a different location, windows has to be told where to find it.

Warning: *The following should be done with extreme care, because if something goes wrong during this process it could corrupt the operating system.*

1. Click on the windows' "Start" icon located in the lower left corner of the screen, then
2. Click on the "Run.." icon, then
3. Type "regedit" & press OK, then
4. Open the "HKEY_CURRENT_USER" directory, then
5. Open the "Software" directory, then
6. Open the "VB and VBA Program Settings", then
7. Open the "CIGIS" directory, then
8. Open the "DBLocation" directory, then
9. Double-click on "Path" in the right hand window, and change the current path to the correct path where the "metadata.mdb" file actually can be found & press OK, then
10. Close the Registry Editor.

3 Installing other useful ArcView extension files

The following ArcView Extensions, located in the "GHDMetatool\Arcview extensions\" directory, have been created by ESRI and the ArcView User community. They are not part of the standard set of AVX files provided by ESRI on the ArcView installation CD. But in an environment where both CAD and Shape files are used, they do have an important role.

Please copy the following files to the c:\Esri\AV_Gis\Arcview\Ext32 directory.

- AddXY (addxy.avx): Adds XY co-ordinates to the attribute table of a point or polygon shapefile or a point or polygon Arc/Info coverage.
- DXF Conversion Extension (avdxfExt.avx): Creates DXF files from feature themes
- Cadtools Extension (Cadtools.avx): provides more tools for working with CAD drawings
- Conversion (Conversion.avx): Conversion tools
- Export DXF w/Attributes (DXFOut11.avx): Exports a DXF file of one theme with attributes for Layer, Color, Elevation, and Thickness
- Vector conversion extension (1.1) (VectorConversions.avx): Converts between line types polygons, XYZ coordinates
- XTools Extension (xtools.avx): some useful editing and analysis tools

4 Installing utilities symbol font

In order to depict utility features in ArcView a special utility symbol font has been created. The symbols are saved as a Windows True Type Font file:

ghdsym.ttf. The user should install the font before ArcView will be able to correctly depict the various utility point features.

1. Click on the windows' "Start" icon located in the lower left corner of the screen, then
2. Click on the "Settings" icon, then
3. Click on the "Control Panel" icon, then
4. Click on the "Fonts" icon, then
5. Click on the "File" & "Install New Font...", then
6. Locate the ghdsym.ttf file on the installation CD, under "GHDMetatool\font\" and click OK.

5 Installing an ArcView avenue script

Please copy the "hotlinkimage.ave" file located in the "GHDMetatool\Arcview scripts\" directory to the c:\Esri\AV_Gis\Arcview\samples\scripts directory.

Using the Utilities Management System

GHD has created an ArcView project file: "ci_utilities.apr". It organizes all relevant utilities data into several views & themes. It automatically loads some useful ArcView extensions, which create the required CAD viewing and conversion functionality, needed in a CAD-GIS environment. Also, the ci-utilities.apr project will load GHD's METATOOL extension.

To check whether the above described installation procedure has worked, the user should now be able to see the METATOOL icon on ArcView's Toolbar, figure 5.



Figure 5. METATOOL Icon

Selecting the desired metadata entry

There are two ways to find metadata for a specific utility theme in ArcView:

1. Select a specific theme from one of the utility views, by clicking on the legend once. Then click on the METATOOL icon. As shown in figure 3, automatically the attribute information for this utility type will be opened in the METATOOL application. The METATOOL creates the link between the theme and its related metadata by searching for the theme's description header in the meta database. If one changes the description of the theme the link has to be re-established (See below).
2. Alternatively, one can select just any theme, click on the METATOOL icon, then on the search icon, and perform a search for on a specific keyword, figure 6. If one clicks on the search icon without entering data it will show all metadata entries. To show the correct metadata one has then to activate one of the five entries, as shown in figure 7 with storm water.

Description of the fields per metadata entry

For additional descriptions of most of the metadata please check the Help file provided by ANZLICA97. For each metadata entry information has been ordered in 7 "tab-sheets":

1. **Abstract / Search Words tab:** shows the title, abstract, and search word metadata, figure 8.
2. **Quality tab:** shows accuracy & completeness information, figure 9.
3. **Currency / Status tab:** shows update frequency & status information, figure 10.
4. **Access tab:** shows the used formats and the access constraints, figure 11.
5. **Geographic Extent Polygon tab:** shows a description of the location of the dataset, either in coordinates or text, figure 12.
6. **Additional Information tab:** this tab shows metadata on all the original drawings that were used to create the ArcView shapefiles, with the respective file names and locations, figure 13.
7. **Contacts tab:** shows the details of the contact person(s), figure 14.



Generate a metadata report

Once a metadata entry has been highlighted, one can generate a report by pressing the report icon. A report window will popup and one can either view or print the report, figure 4.



Edit a metadata entry

Once a metadata entry has been highlighted, one should click on the edit button in order to add or change existing metadata, figure 15. If completed, click on the "close" button and confirm to save the changes.



Add a metadata entry

Click on the add button to create a new metadata entry.



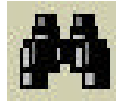
Delete a metadata entry

Highlight the metadata entry that needs to be deleted, and click on the delete button.



Add a contact person and / or organisation

This button will activate the contact person sub module, and allows for adding & editing existing contact information.



Metadata Search

Search Criteria

Key Word:

Organisation:

 Search

Close

Figure 6. Metadata search tool

METATOOL

File Tools

      Arcview Active Theme: Storm water: area / surface features

Abstract / Search Words Quality Currency / Status Access Geographic Extent Polygon Additional Information Contacts

Title:

Abstract:

Search Words:

Search Word	Qualifier Word
	Storm water: linear features
	rain
	drainage
	stormwater
	storm water

Title	Abstract	Item
WATER SUPPLY	Mozaic of digital & paper drawings of Water Supply as constructed for	4
ELECTRICITY	The electricity metadata does not incorporate the recent upgrades (19	5
TELECOMMUNICATIONS	Autocad drawings of Telstra Cable as constructed. II Series of 2262.dwg	6
STORM WATER & DRAINAGE	Storm water drainage data compilation of several as constructed maps	7
WASTE WATER	A compilation of many separate as-constructed drawings, most are in d	10

23/11/2000

Figure 7. Manual selection of correct metadata entry

METATOOL File Tools

Arcview Active Theme: Storm water: linear features

Abstract / Search Words Quality Currency / Status Access Geographic Extent Polygon Additional Information Contacts

Title: STORM WATER & DRAINAGE

Abstract: Storm water drainage data compilation of several as constructed maps.

Search Words:

Search Word	Qualifier Word
	Storm water: linear features
	rain
	drainage
	stormwater
	storm water

Title	Abstract	Item
STORM WATER & DRAINAGE	Storm water drainage data compilation of several as constructed maps	7

23/11/2000

Figure 8. Abstract & search words metadata

METATOOL File Tools

Arcview Active Theme: Storm water: linear features

Abstract / Search Words **Quality** Currency / Status Access Geographic Extent Polygon Additional Information Contacts

Lineage (Data History):

Positional Accuracy: Horizontal = AUSLIG GRID, Vertical = AHD

Attribute Accuracy:

Logical Consistency:

Completeness: > 95%

Title	Abstract	Item
STORM WATER & DRAINAGE	Storm water drainage data compilation of several as constructed maps	7

23/11/2000

Figure 9. Quality metadata

METATOOL File Tools

Arcview Active Theme: Storm water: area / surface features

Abstract / Search Words Quality **Currency / Status** Access Geographic Extent Polygon Additional Information Contacts

Beginning Date: 28/12/1994 Ending Date: 1/10/2000

Progress: In Progress Maintenance and Update Frequency: Irregular

MetaData Date: 20/07/2000

Attached Theme:

Title	Abstract	Item
STORM WATER & DRAINAGE	Storm water drainage data compilation of several as constructed maps	7

23/11/2000

Figure 10. Currency and status metadata

METATOOL File Tools

Arcview Active Theme: Storm water: linear features

Abstract / Search Words Quality Currency / Status **Access** Geographic Extent Polygon Additional Information Contacts

☒ Digital ☐ Non Digital

Store Data Format: dxf, dwg, ArcView shapefile, Excel and dgn

Access Constraints:

Title	Abstract	Item
STORM WATER & DRAINAGE	Storm water drainage data compilation of several as constructed maps	7

23/11/2000

Figure 11. Access metadata

METATOOL File Tools

Arcview Active Theme: Storm water: linear features

Abstract / Search Words Quality Currency / Status Access **Geographic Extent Polygon** Additional Information Contacts

Coordinate List
 ▶ North East Christmas Island

Title	Abstract	Item
▶ STORM WATER & DRAINAGE	Storm water drainage data compilation of several as constructed maps	7

23/11/2000

Figure 12. Geographic extent metadata

METATOOL File Tools

Arcview Active Theme: Storm water: linear features

Abstract / Search Words Quality Currency / Status Access Geographic Extent Polygon **Additional Information** Contacts

Base Folder: C:\Cigis\GHD

Additional Metadata

Coordinate System: Auslig Grid File Type: dxf

File Name: \VCSW1.DXF

File Path: \Cad\Stormwater

Additional Info: CI Residential Land Subdivision: SILVER CITY; Stormwater- as constructed plan, 1:500, Nov 1994, by MAKJaP

Coordinate System: Auslig Grid File Type: dxf

File Name: \VCSW2.DXF

Title	Abstract	Item
▶ STORM WATER & DRAINAGE	Storm water drainage data compilation of several as constructed maps	7

23/11/2000

Figure 13. Additional information metadata

METATOOL File Tools

Arcview Active Theme: Storm water: linear features

Abstract / Search Words Quality Currency / Status Access Geographic Extent Polygon Additional Information **Contacts**

Contact Details

Name: Adrian Hordyk

Organisation: GHD Surveys Pty Ltd **Position:** Project manager

Address: 239 Adelaide Tce
Perth
WA 6004, Australia

Phone: 94296565
Fax: 94296555
Email: ahordyk@ghd.com.au

Title	Abstract	Item
STORM WATER & DRAINAGE	Storm water drainage data compilation of several as constructed maps	7

23/11/2000

Figure 14. Contacts metadata

Edit Current Item

Abstract / Search Words Quality Currency / Status Access Geographic Extent Polygon Additional Information **Contacts**

Title STORM WATER & DRAINAGE

Abstract Storm water drainage data compilation of several as constructed maps.

Search Word AGRICULTURE

Search Word	Qualifier Word
	Storm water: area / surface features
	Storm water: linear features
	rain
	drainage
	stormwater
	storm water
Drainage	drain

Add Delete New KeyWord to Pick List

Close

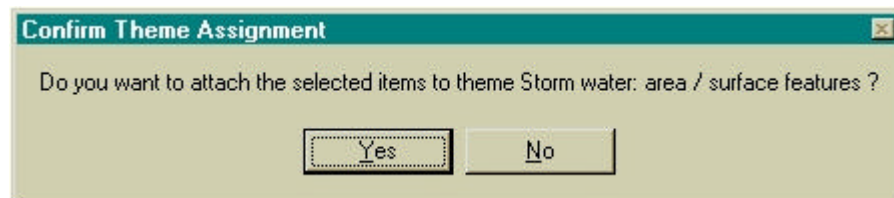
Figure 15. Edit window of METATOOL

Additional functionality

Three options can be found under "Tools" header on the menu bar.

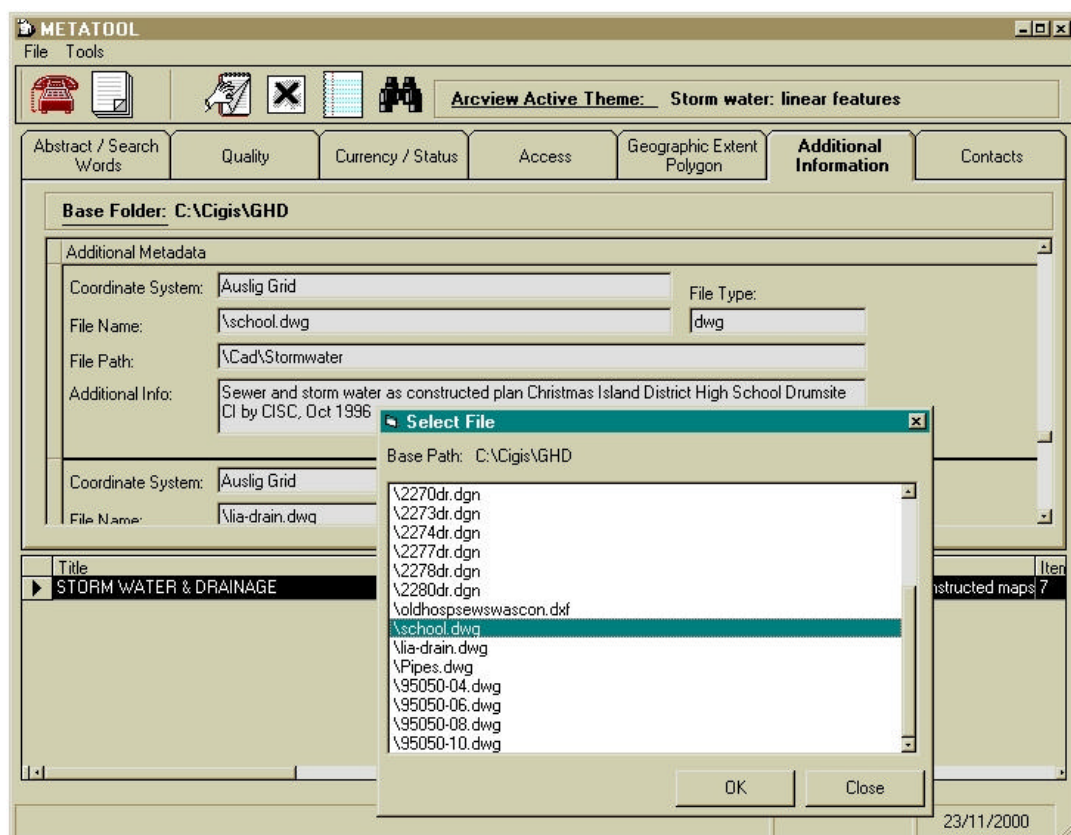
1 Assign Active Theme

This tool will enable METATOOL to link the metadata entry automatically with the active theme in ArcView. For instance if in ArcView a theme is called "Storm water: area / surface features" METATOOL will create a link with its respective metadata entry based on this description. If the description is altered, METATOOL will not be able to establish the link, and this link has to be re-established manually.



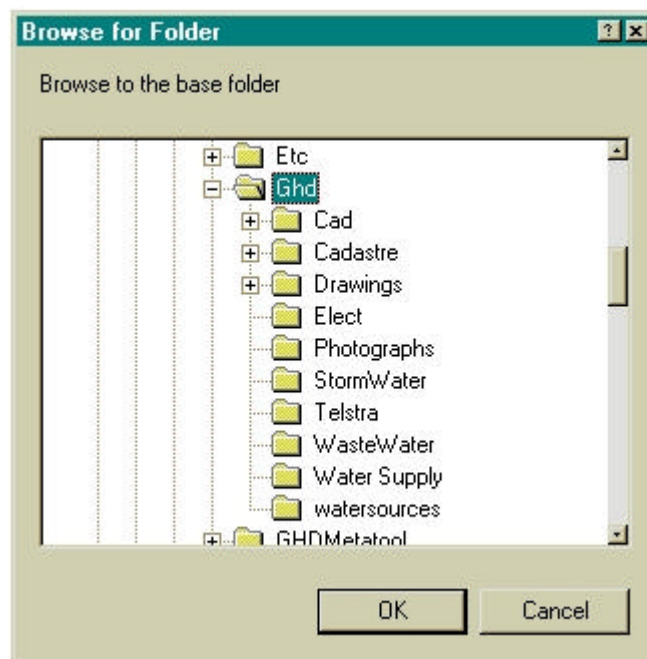
2 Launch Attached Files

If one has found and wants to view specific CAD drawings of the meta database METATOOL offers the possibility to select multiple CAD drawings and launch them in a new ArcView window. First highlight the metadata entry as shown below, and click on "Launch Attached Files". When finished, METATOOL will close itself down.



3 Set Base Folder

This function establishes METATOOL's base folder. Under this directory all relevant folders and data should be located. GHD has set up a directory structure, such that "c:\cigis\ghd\" is the base folder.



Troubleshooting

GHD did its utmost best to try to deliver an easy to use and self-explanatory application. It will run smoothly if it is used correctly.

However if METATOOL crashes, one might have trouble with re-opening the METATOOL application. The safest solution would be just to close the ArcView project and open it again.

The most vital part of METATOOL is the MS Access 2000 database: "metadata.mdb". Please ensure that the database is backed-up regularly.

For any further queries please contact Adrian Hordyk in our Perth office on +61-8-9429 6565 or ahordyk@ghd.com.au

Chapter
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Appendix 7: Christmas Island GIS Data Cd-roms