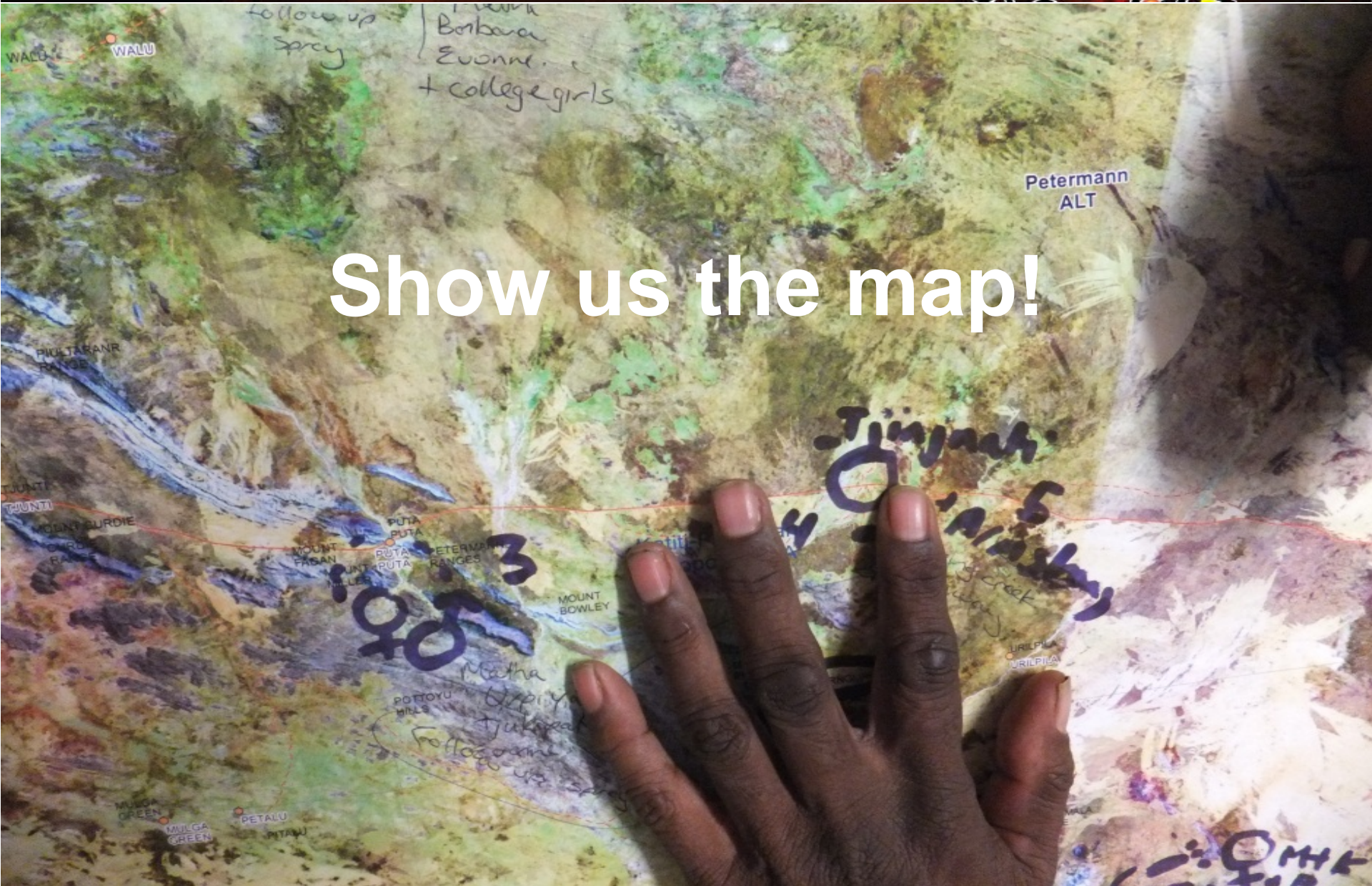


# Central Land Council

The Land is always alive..



# Show us the map!

follow up spray  
Barbara  
Evoone  
+ college girls

Petermann  
ALT

Tinyach  
Y  
D  
A  
I  
S  
L  
Y

3  
♀♂

Mahta  
Uppiy  
Tjukasa  
Follas  
up spray

WAGU  
WALU  
PIULTARAR RANGE  
MOUNT BURDIE  
MOUNT PASAN  
MOUNT PUTA  
MOUNT PUTA  
PETERMANN RANGES  
MOUNT BOWLEY  
POTTOYU HILLS  
MULGA GREEN  
MULGA GREEN  
PETALU  
PITAU  
URILPILA  
URILPILA  
MAGA



Statutory Body - Aboriginal Land Rights (NT) Act 1976  
Representative Body - Native Title Act, 1993

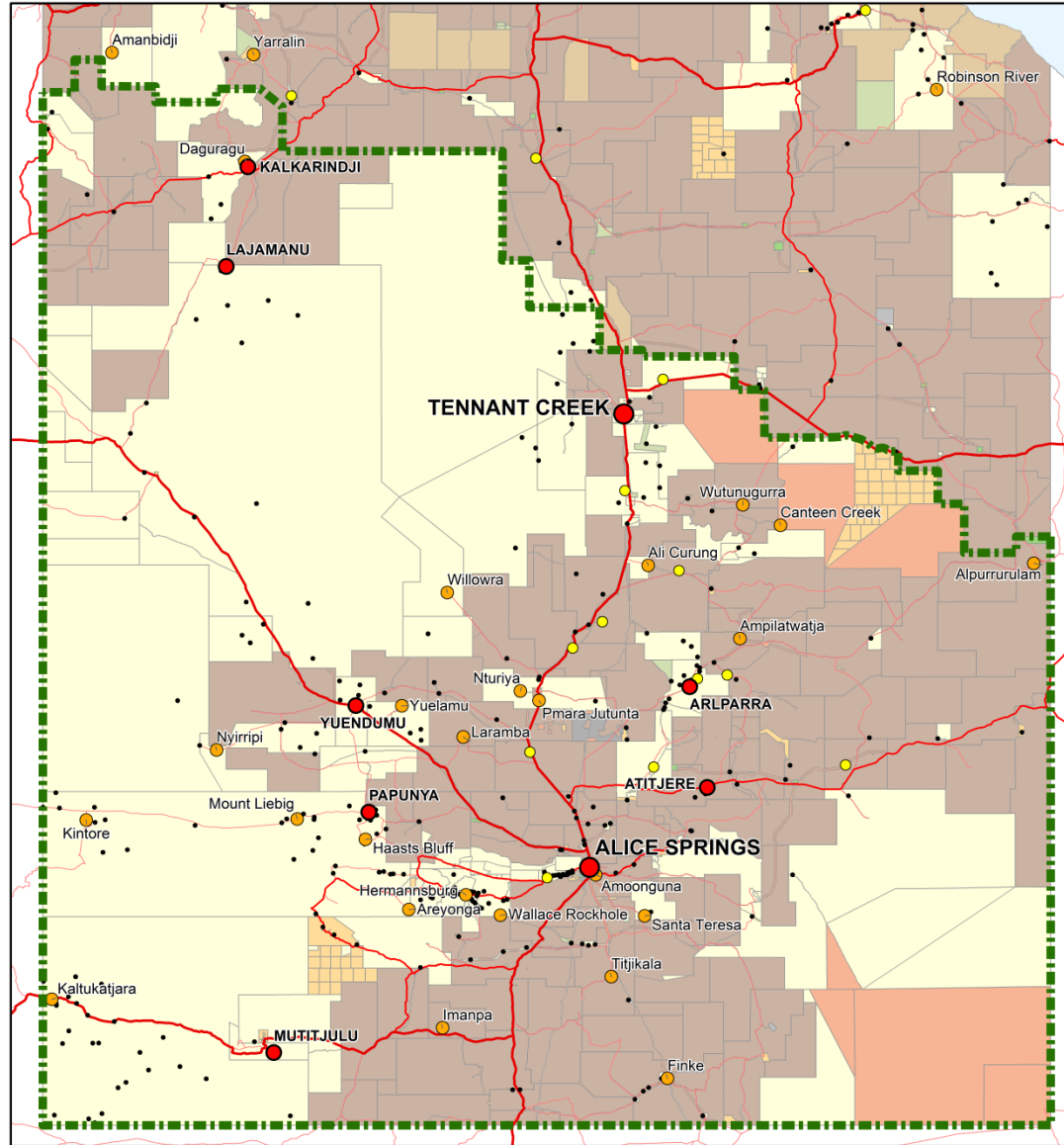
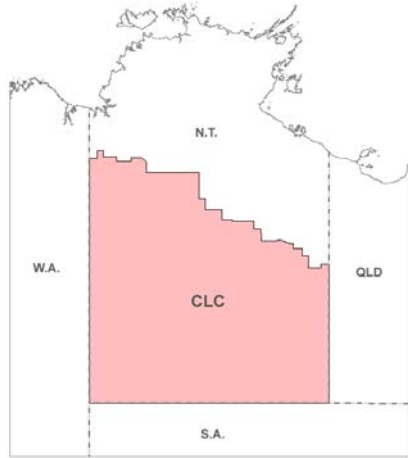
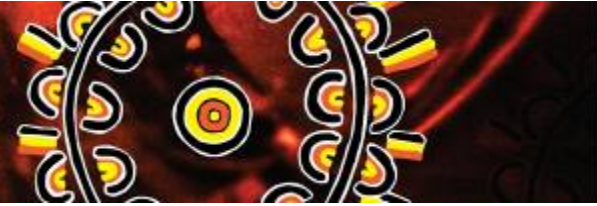
# Role of the CLC

- Voice for the Aboriginal people of Central Australia
- Help with Native Title Claims
- Consult on mining activity and other development proposals
- Protect Aboriginal culture and sacred sites
- Assist with economic projects on Aboriginal land
- Promote community development
- Help resolve land disputes
- Viewed by constituents as a shield



# Central Land Council

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## Communities in the CLC Region



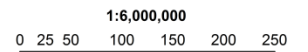
### Legend

- CLC Office Location
  - Major Community
  - Minor Community
  - Outstation
  - CLC Boundary
  - Primary Road
  - Secondary Road
  - Other Road
- TENURE**
- Aboriginal Freehold
  - Crown Lease in Perpetuity
  - Crown Lease Term
  - Freehold
  - Government Set Aside
  - Pastoral Lease
  - Perpetual Pastoral Lease
  - Reserve
  - Right to Freehold Title
  - Special Purpose Lease
  - Town Land
  - Unknown
  - Vacant Crown

Produced 27/05/2014

© CLC 2014

Map Number: 2013-094c



PROJECTION: Geographic  
DATUM: GDA 94

**Data Sources:** This map incorporates data which is © Commonwealth of Australia, Geoscience Australia 2003; DPI and DPIFM, NT Govt; CLC.

Central Australia  
(within the Northern Territory)

Area = 780 000 km<sup>2</sup>

CLC staff travel more than a million kilometres in their work every year.



**Drawing in sand**



**Ground mapping using flour**



**Men**



**Women**



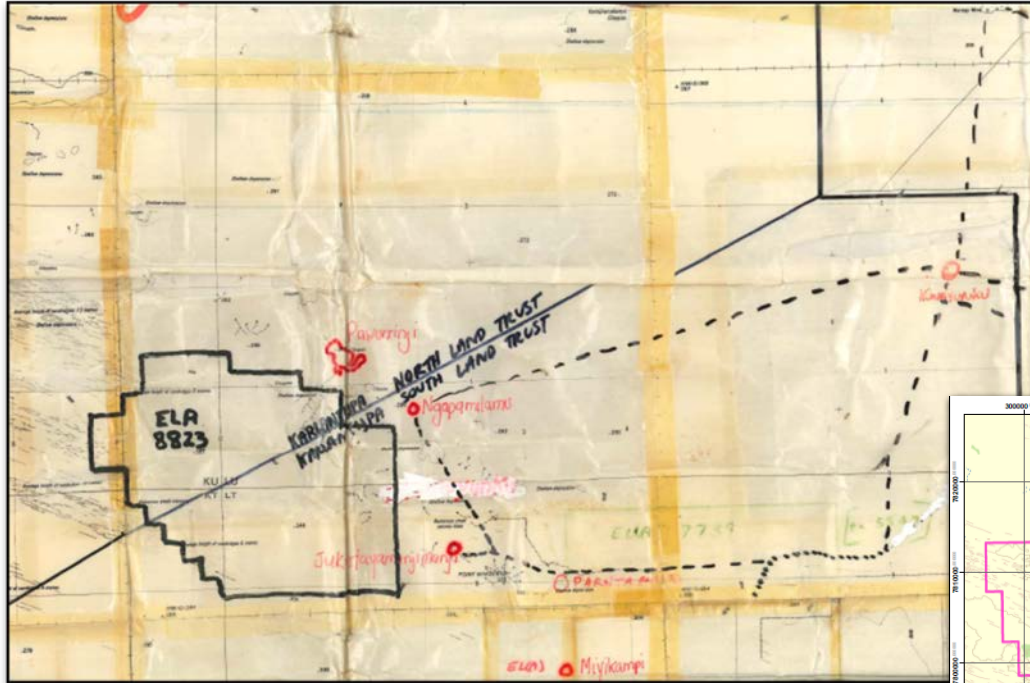
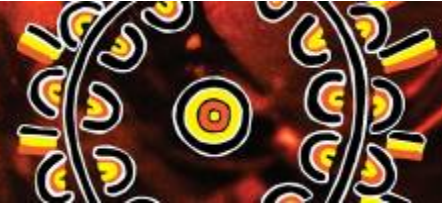
**A quiet moment with the map**



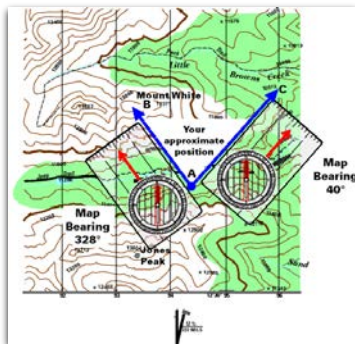
**Kids**

# Central Land Council

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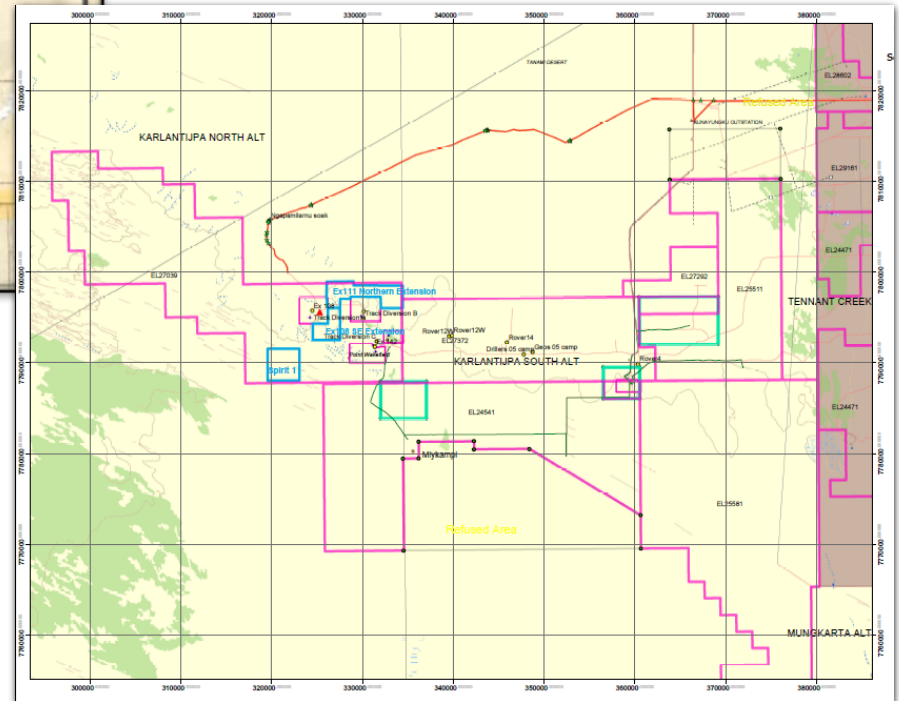


1992



[http://www.ussarf.org/compass\\_basics.htm](http://www.ussarf.org/compass_basics.htm)

2007

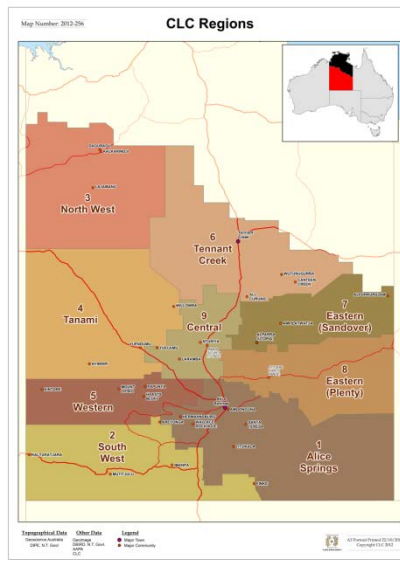


# Central Land Council

*The Land is always alive..*



- Planning & Administration
- Consultation
- Native title claims/research
- Anthropology



Sacred site protection



Neutral Junction native title determination



Work program consultation

# Central Land Council

*The Land is always alive..*



**Mining**



**Cattle Business**

- Land Use agreements
  - Exploration & mining
  - pastoral, horticulture, tourism
- Land management – land mapping, ferals, fires, weeds, biodiversity and threatened species
- Community Development - projects



**Fire control**



**Ablution block**



**Biodiversity**



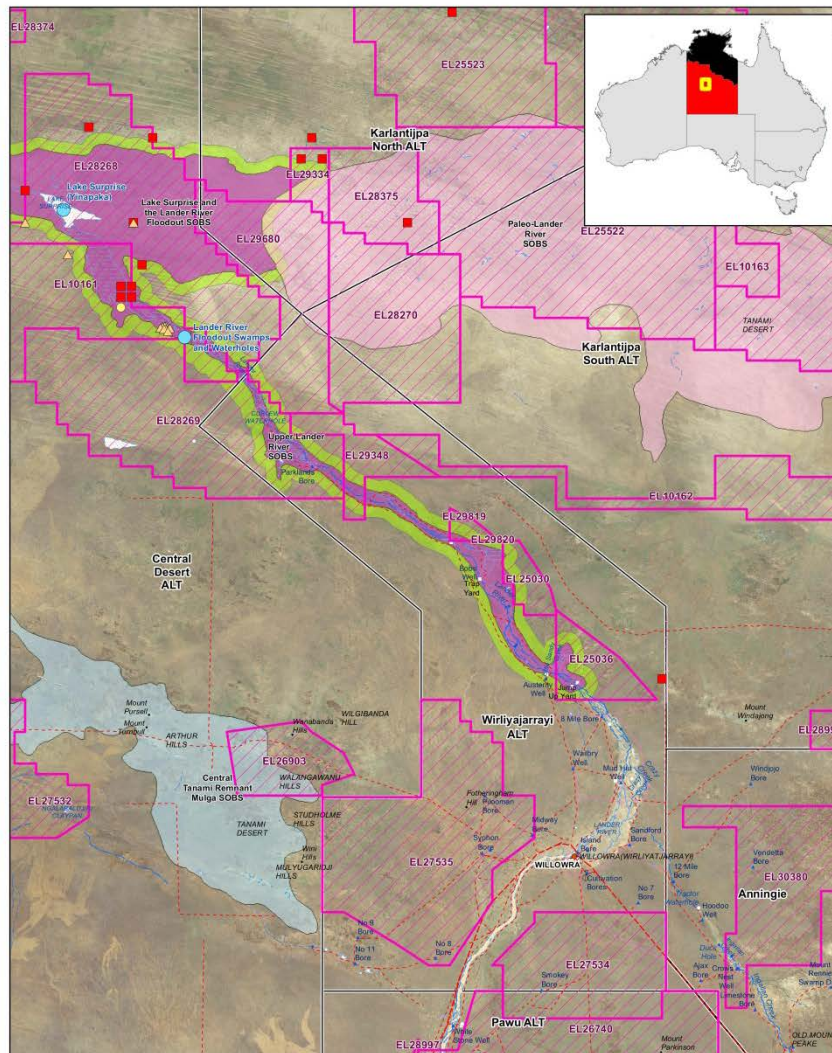
# Central Land Council

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Map Number: 2012-256c

## Lander River



**Topographical Data**

Geoscience Australia  
DIPE, N.T. Govt

**Other Data**

Geography  
DIPE, N.T. Govt,  
AAPA  
CLC

- ▲ Mulgara
- Bilby
- Common Brushtail Possum
- Significant Wetlands
- National SOBS
- Bioregional SOBS
- Undetermined SOBS
- Internationally Significant SOCS
- Nationally Significant SOCS
- Tenure Outline
- ELA



A3 Pretrial Printed 28/05/2014  
Copyright CLC 2014







**Planning before helicopter work**

# Central Land Council

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- Staff –
  - 2 full time mapping staff
  - 1 casual



esri



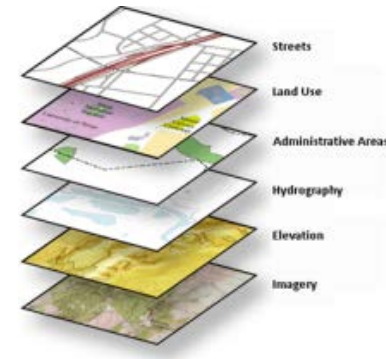
- Esri software - ArcMap
  - Approx 15 licenses – Basic to Advanced, land information, mining officers, land management
  - Equipment – high spec computers, double screens, other mapping software, GPS units, large format plotters



## Data

### External

- **Geoscience Australia** - Topographic data – roads, watercourses, communities, contours, water points etc
- **NTG** (Northern Territory Government) – Tenure, mining leases, some roads
- **Federal Department of Environment** – National vegetation (NVIS)
- **Imagery** - NaturalVue (Landsat 15m pixel resolution), Esri, Google Earth

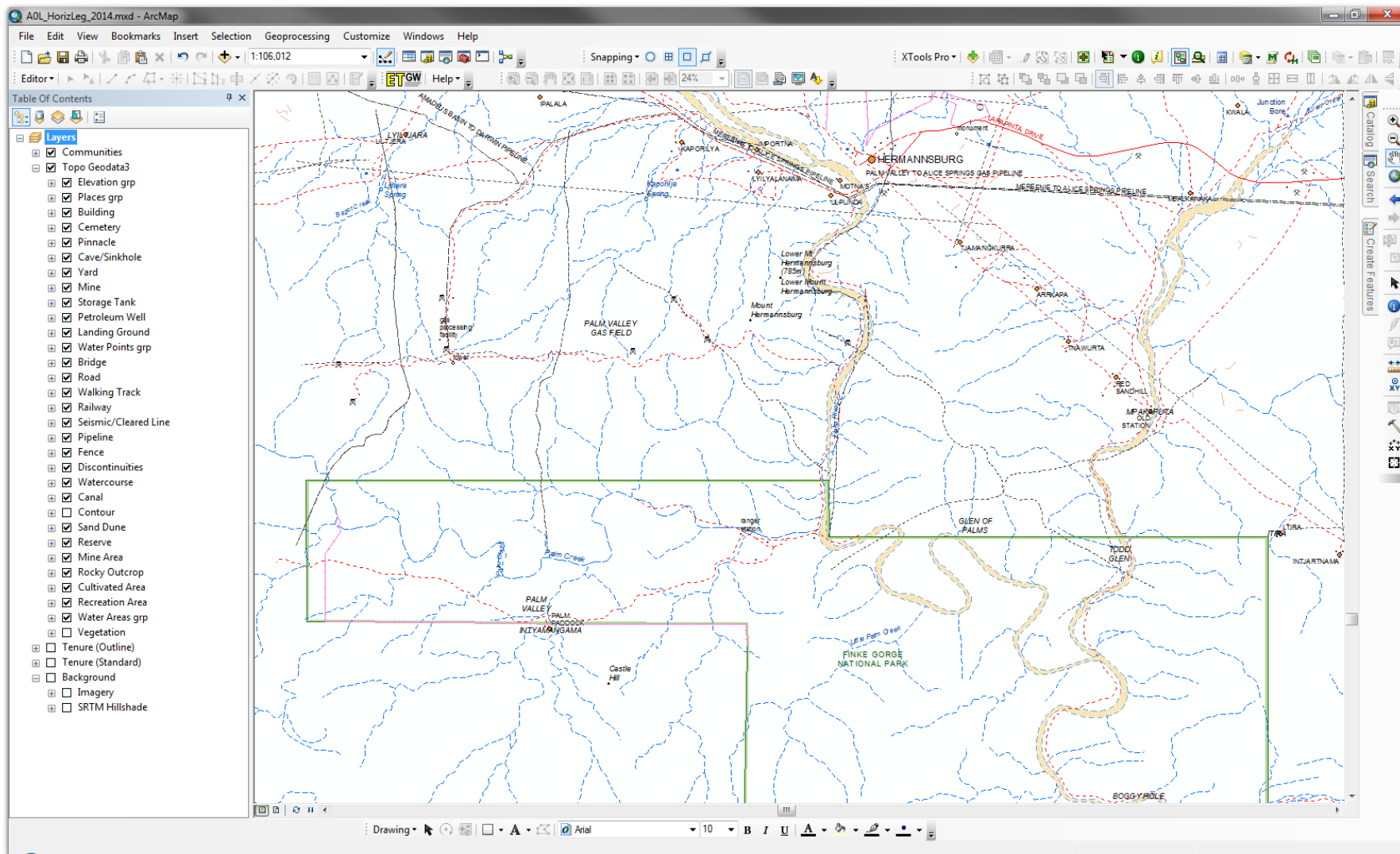


# Central Land Council

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## Topo





## Topo with imagery



The screenshot shows the ArcMap interface with the following elements:

- Table of Contents:** Lists various layers including Communities, Topo Geodata3, Elevation grp, Places grp, Building, Cemetery, Pinnacle, Cave/Sinkhole, Yard, Mine, Storage Tank, Petroleum Well, Landing Ground, Water Points grp, Bridge, Road, Walking Track, Railway, Seismic/Cleared Line, Pipeline, Fence, Discontinuities, Watercourse, Canal, Contour, Sand Dune, Reserve, Mine Area, Rocky Outcrop, Cultivated Area, Recreation Area, Water Areas grp, Vegetation, Tenure (Outline), Tenure (Standard), Background, Imagery, Imagery - SE, Imagery - SF, Imagery - SG, and SRTM Hillshade.
- Layers Panel:** Shows the Imagery layer is checked and active.
- Map View:** Displays a topographic map with a yellow imagery overlay. Key features include the Palm Valley Gas Field, Hermannsburg, and the Finke Gorge National Park. A green rectangle highlights a specific area of interest.
- Interface:** Includes the standard ArcMap menu (File, Edit, View, Bookmarks, Insert, Selection, Geoprocessing, Customize, Windows, Help), toolbars, and a status bar at the bottom showing the drawing tool and scale (14792516.42 -2686974.43 Meters).

## Mining Tenements (NTG)

The screenshot displays the 'Titles Information System' interface. The main window shows a map of Northern Territory, Australia, with various mining tenements overlaid in different colors and patterns. The map includes labels for major cities: Darwin, Jabiru, Katherine, Tennant Creek, Alice Springs, and Yulara. The interface features a top menu bar with 'Geosets', 'End', 'Download Data', 'Help', and 'Legend'. On the left, there is a legend panel with categories: 'Exploration Licence', 'Extractive Mineral', 'Other Mineral Titles', 'Petroleum', and 'Other'. Each category has sub-entries for 'Application' and 'Granted' with corresponding checkboxes and symbols. At the bottom left, there are buttons for 'Apply Changes', 'Select Tenure by Holder/s', 'Select', and 'Clear'. The bottom status bar shows 'Zoom: 3327.4574 km' and 'Long GDA94'. A dialog box titled 'NT Mining Data Download (v5.0.0.2)' is open in the foreground. It has two sections: '1. Define Data Source:' and '2. Select Layers to Convert:'. Section 1 has three radio button options: 'Download from DME:' (selected), 'Use existing Zip files:', and 'Use existing MIF files:'. Each option has a text field for the file location and a folder icon. Section 2 has four checked checkboxes: 'Exploration Tenements', 'Mining Tenements', 'Geothermal Tenements', 'Petroleum Tenements', and 'Current Reserves'. The dialog box has 'Run' and 'Close' buttons at the bottom.

**Titles Information System** | Geosets | End | Download Data | Help | Legend

**Legend**

- Exploration Licence**
  - Application
  - Granted
  - Ceased - Moratorium
- Extractive Mineral**
  - Exploration Licence
  - Application
  - Granted
- Other Mineral Titles**
  - Application
  - Granted
- Petroleum**
  - Application
  - Granted
- Other**
  - Offshore Minerals
  - Reserves
  - Cadastre
  - ALRA - Moratorium

Apply Changes

Select Tenure by Holder/s

Select Clear

Zoom: 3327.4574 km

Long GDA94

**NT Mining Data Download (v5.0.0.2)**

1. Define Data Source:

- Download from DME:  
Save Zip files to folder:  
C:\Gistemp\DME\Zip
- Use existing Zip files:  
Location of Zip Files:  
C:\Gistemp\DME\Zip
- Use existing MIF files:  
Location of MIF Files:  
C:\Gistemp\DME\Mif

2. Select Layers to Convert:

- Exploration Tenements
- Mining Tenements
- Geothermal Tenements
- Petroleum Tenements
- Current Reserves

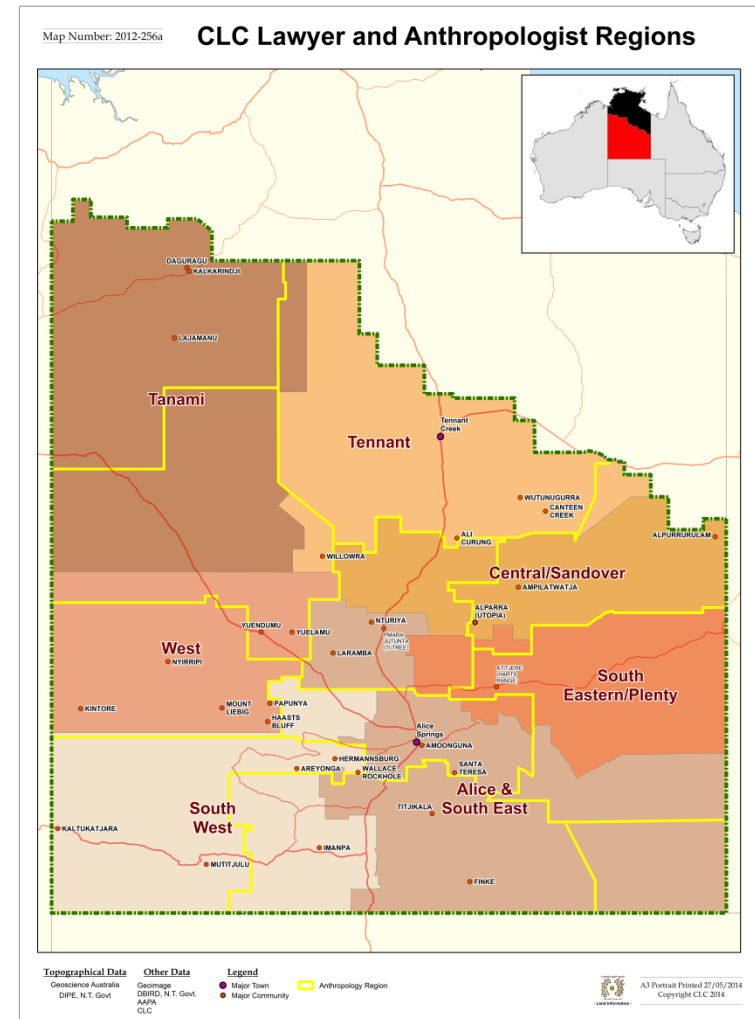
Run Close



## Data

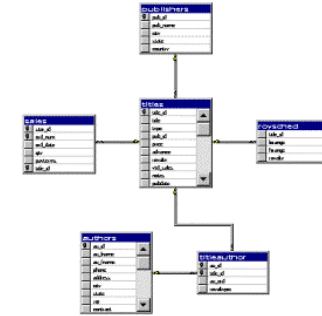
### Internal (CLC)

- Administrative boundaries
  - CLC regions
  - Lawyer
  - Anthropology
  - Mining
  - Community Development
- Sacred sites (anthropologists)
- Edit or create new topographical data ie roads, watercourses etc as necessary using GPS tracks, Esri or Google Earth imagery



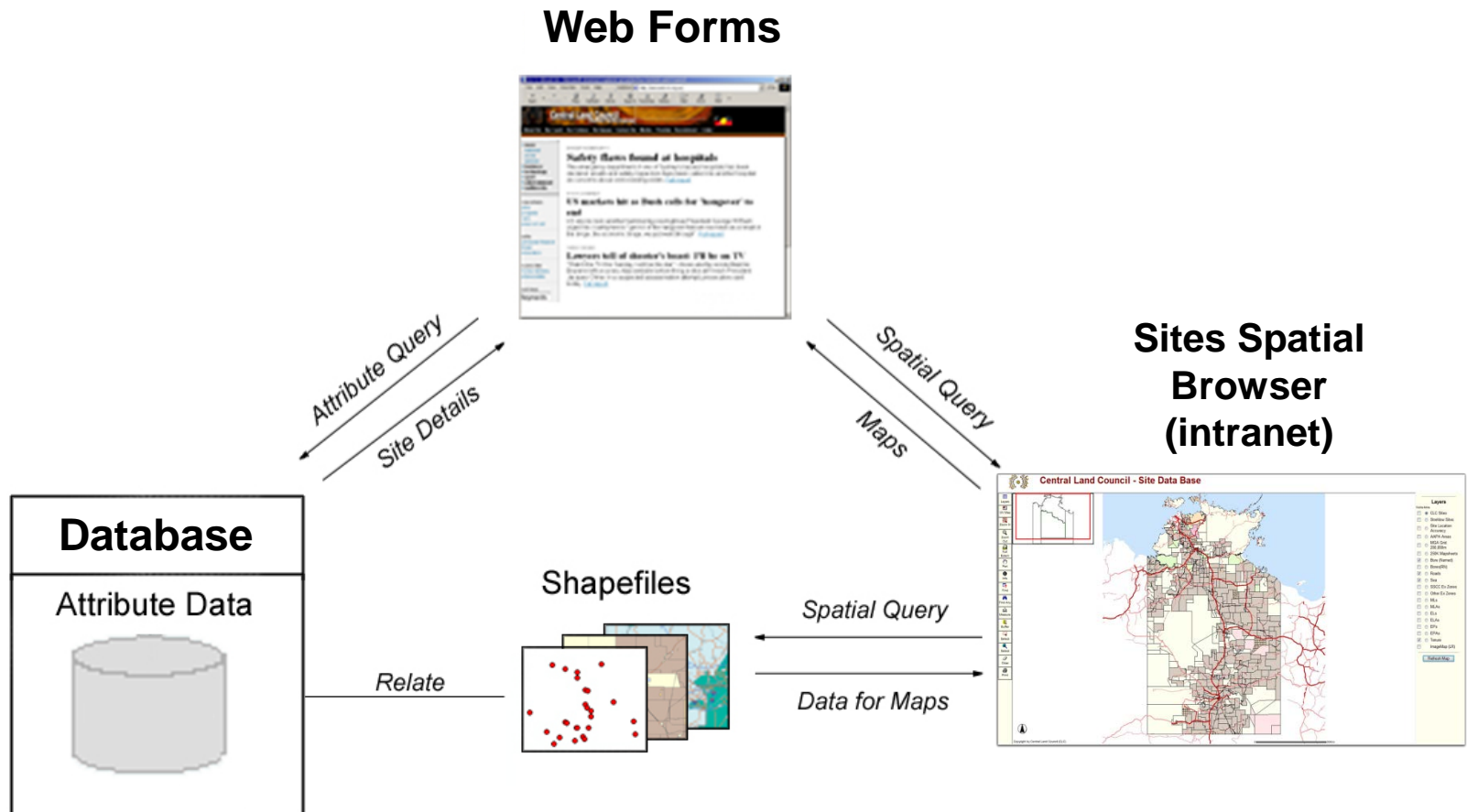


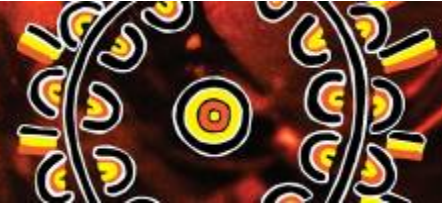
## Databases



- Microsoft SQL database
  - Sites database connected to Sites Spatial Browser
  - Mining database EMPAA
- CyberTracker database (land management)
- Microsoft Access
  - database to record all mapping projects

# Sites DB - Architecture





# Mining Database (EMPAA)

Exploration Management Program and Agreements Administration v2.3.0

Menu

## EL 10284

Title Info | Holders/Applicants | Tenures | Commodities | Map | Documents | History

+ New | Edit | Cancel | Save | Refresh

Number: 10284 | Mining Officer: David Young | Status: Withdrawn During Negotiation

Title Type: Exploration Licence | Legal Officer: | Status End Date: 22 Jul 2003

Legislation: Aboriginal Land Rights Act | Anthro Officer: | Applied NTG: 12 Nov 1998

Native Title Act:  Expedited  Native Title Claim | General Location: Lake Macdonald | Consent to Negotiate: 16 Dec 1999

Section Date: | Primary Contact: Hawthorn Resources Ltd | Proposal Received: 11 Feb 2000

Version: 1 | Registry File: 2001/800 | Granted: | Expiry Date: |

Primary Holder: Hawthorn Resources Ltd | Primary Commodity: |

Comments:

Related

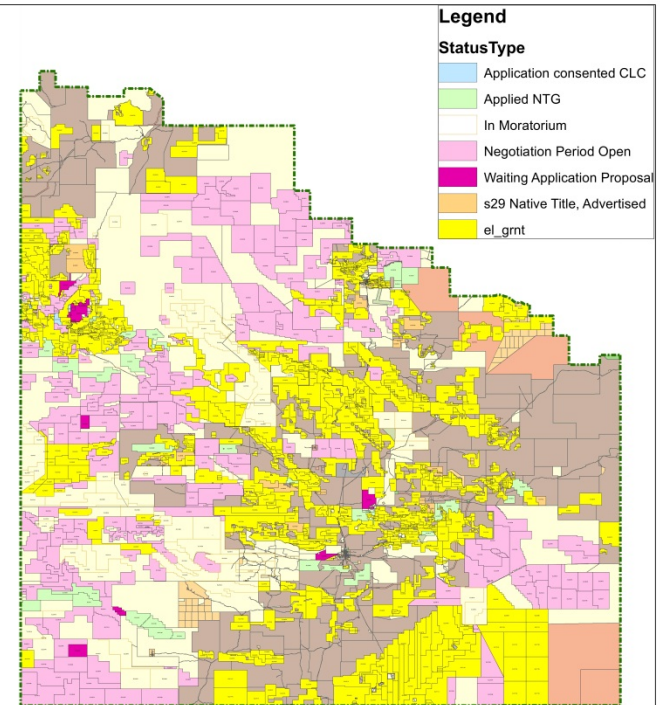
Holders/Applicants: Hawthorn Resources Ltd | Commodities: | Tenures: Haasts Bluff, Aboriginal Freehold Land

Agreements: | Meetings: |

All Titles: 284 Search

Number	Title Type	Legislation	Primary Hol...	Primary Con...	Current Stat...	Mining Offic...	Legal Officer	Anthro Officer	Primary Co...	Locatio
10284	Exploration Lic...	ALRA	Hawthorn Reso...	Hawthorn Reso...	Withdrawn Dur...	David Young				Lake M
8284	Exploration Lic...	ALRA	Shell Company...		Title ceased					Franker
284	Mineral Claims...	ALRA	TENNANT GOL...	M & M Walter...	Granted by NTG			Joe Firinu		
284	Exploration Per...	NTA	NT Gas Aust Pt...	Australian Mini...	RTN negotiation	Jay Ashton	Sue Polden	Rebecca Koser		

Exploration Licences & Exploration Licence Applications  
Status as at 8th April 2014

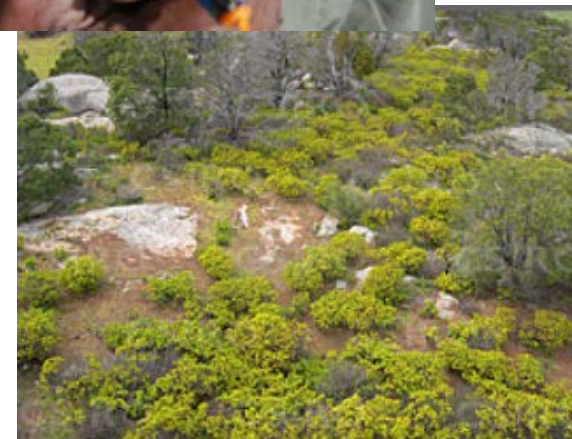




# CyberTracker

## Data Collection

- Animal tracking
- Weeds
- Pastoral monitoring
- Bush food
- Rock Wallaby survey
- Slater's Skink survey
- Feral animal control
- Quandong mapping
- Fire management





# Map Tracking Database

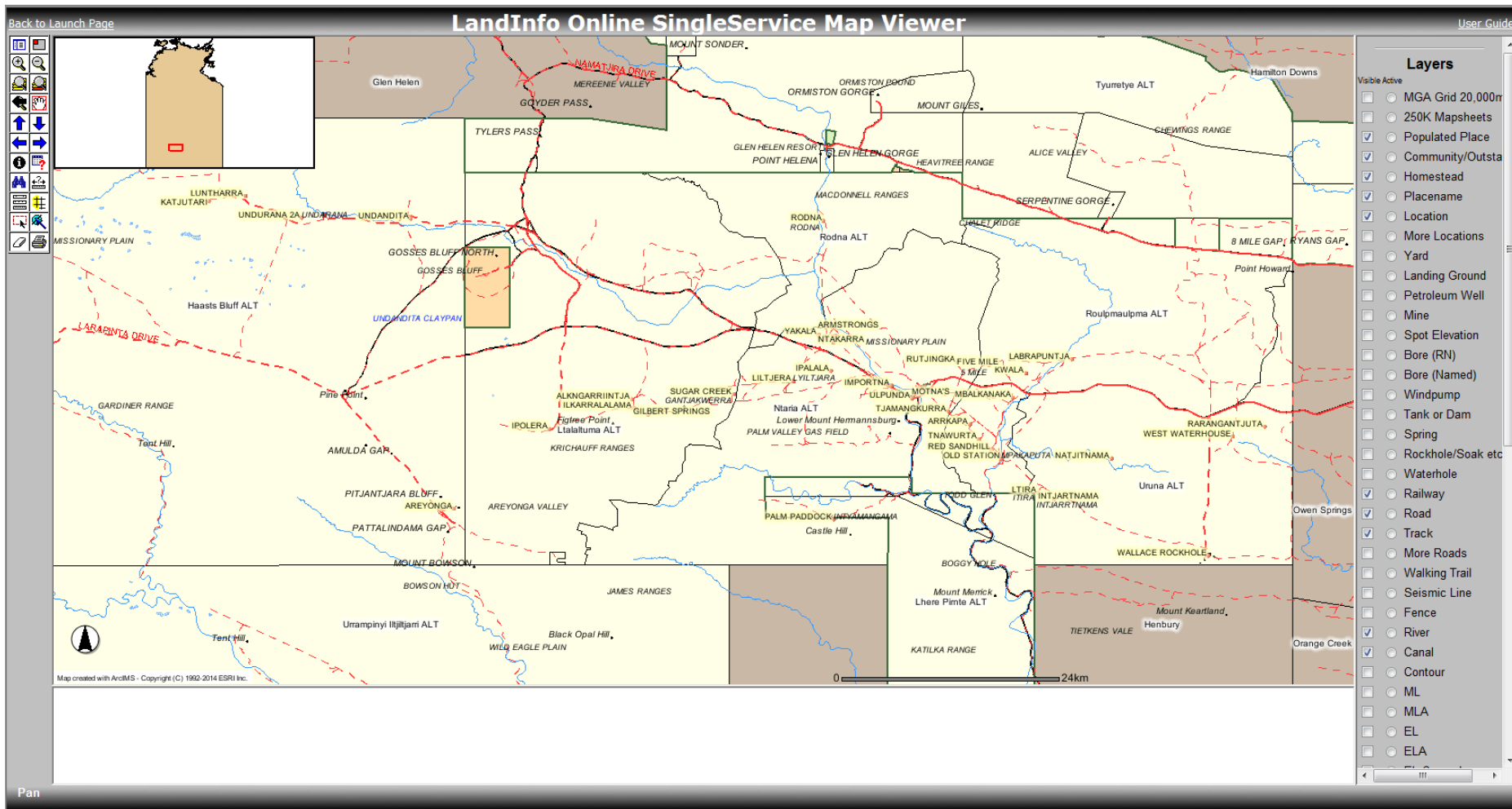
The image displays a collection of maps and a software interface. The central map is titled "Northern Territory Land Tenure" and shows a detailed view of land tenure in the Northern Territory. To the left, there are two smaller maps: "Native Title Determination" and "CLC Lawyer and Anthropologist". To the right, there is a map titled "Exploration Licences & Exploration Licence Applications Status as at 8th April 2014" with a legend indicating different status types: Application consented CLC, Applied NTG, In Moratorium, and Negotiation Period Open. Overlaid on the maps is a "Map Tracker" software window. The window shows the following details:

- Map No.: 2012-273
- SSCC No.: [Empty]
- SN: 5371
- Map Name: CLC and NLC Regions
- Description: Map for up and coming Council meeting.
- Requesting Officer: Alison Wright
- Job Details: Priority: Medium, Status: Completed
- Dates: Requested: 6/11/2012, Deadline: 12/11/2012, Start: 7/11/2012, End: 7/11/2012
- LI Officer: Stephen Edwards
- Mapping Effort: Hours: [Empty], Add Revisit: 0
- Site Info.: Site: N, EZs/RWAs: None, Subject Land: [Empty]
- Job Path: M:\2012 Projects\2012-273 CLC and NLC Regions
- Technical Notes: [Empty]


At the bottom of the software window, there is a record list showing "Record: 1014 of 6172" and a search bar. The bottom right corner of the image shows a legend for various map features including Topographical Data, Other Data, Magens, Natural SOBS, Biological SOBS, Endangered SOBS, Internationally Significant SOBS, Nationality Significant SOBS, Tenure Outline, and EIA.

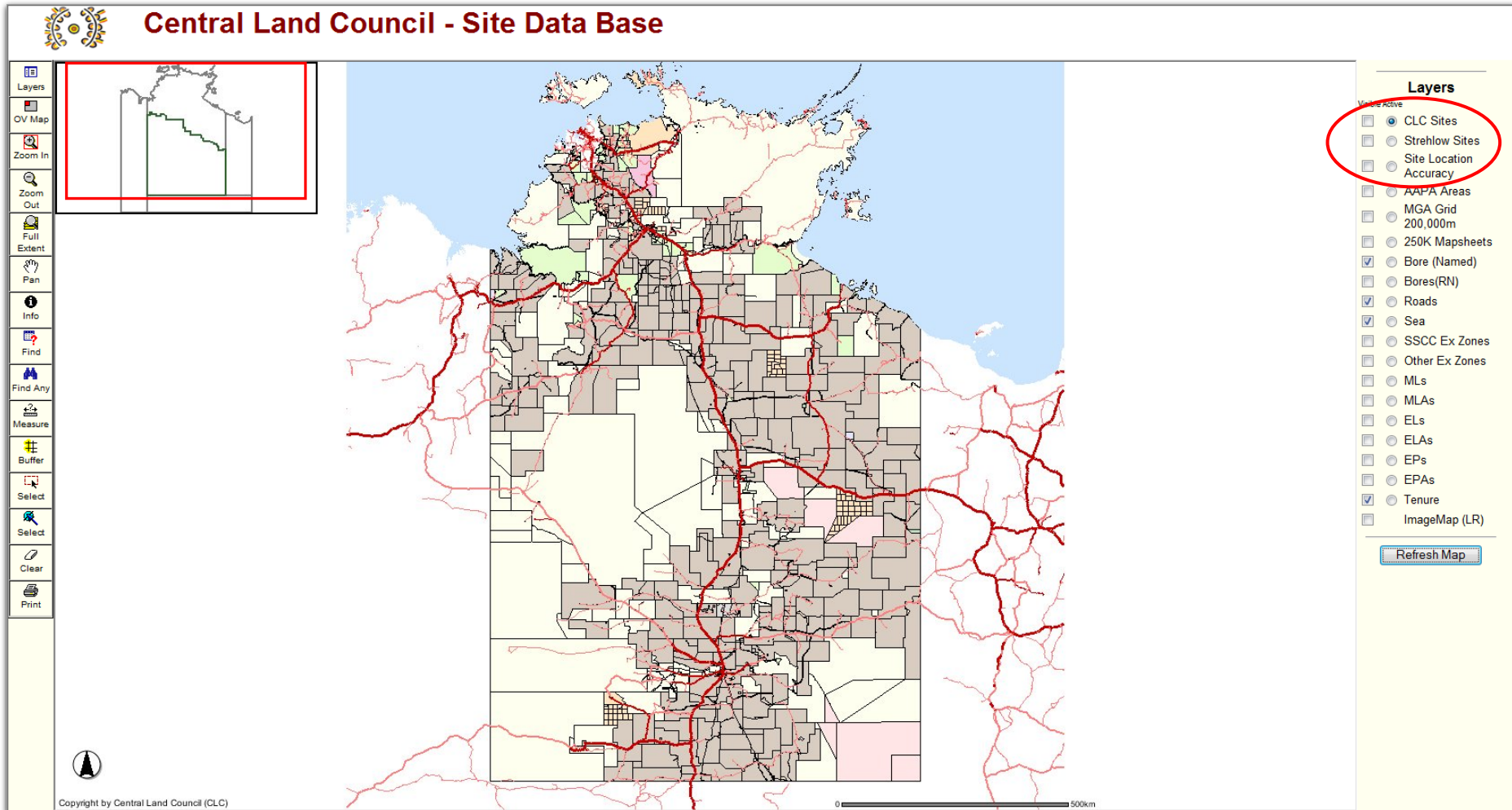
Approximately 600 maps per year for the last 4 years

# Land Info Online



# Sites Spatial Browser

 **Central Land Council - Site Data Base**



The interface includes a toolbar on the left with the following tools: Layers, OV Map, Zoom In, Zoom Out, Full Extent, Pan, Info, Find, Find Any, Measure, Buffer, Select, Select, Clear, and Print. A north arrow is located at the bottom left, and a scale bar (0 to 500km) is at the bottom right.

**Layers**

- CLC Sites
- Strehlow Sites
- Site Location Accuracy
- AAPA Areas
- MGA Grid 200,000m
- 250K Mapsheets
- Bore (Named)
- Bores(RN)
- Roads
- Sea
- SSCC Ex Zones
- Other Ex Zones
- MLs
- MLAs
- ELs
- ELAs
- EPs
- EPAs
- Tenure
- ImageMap (LR)

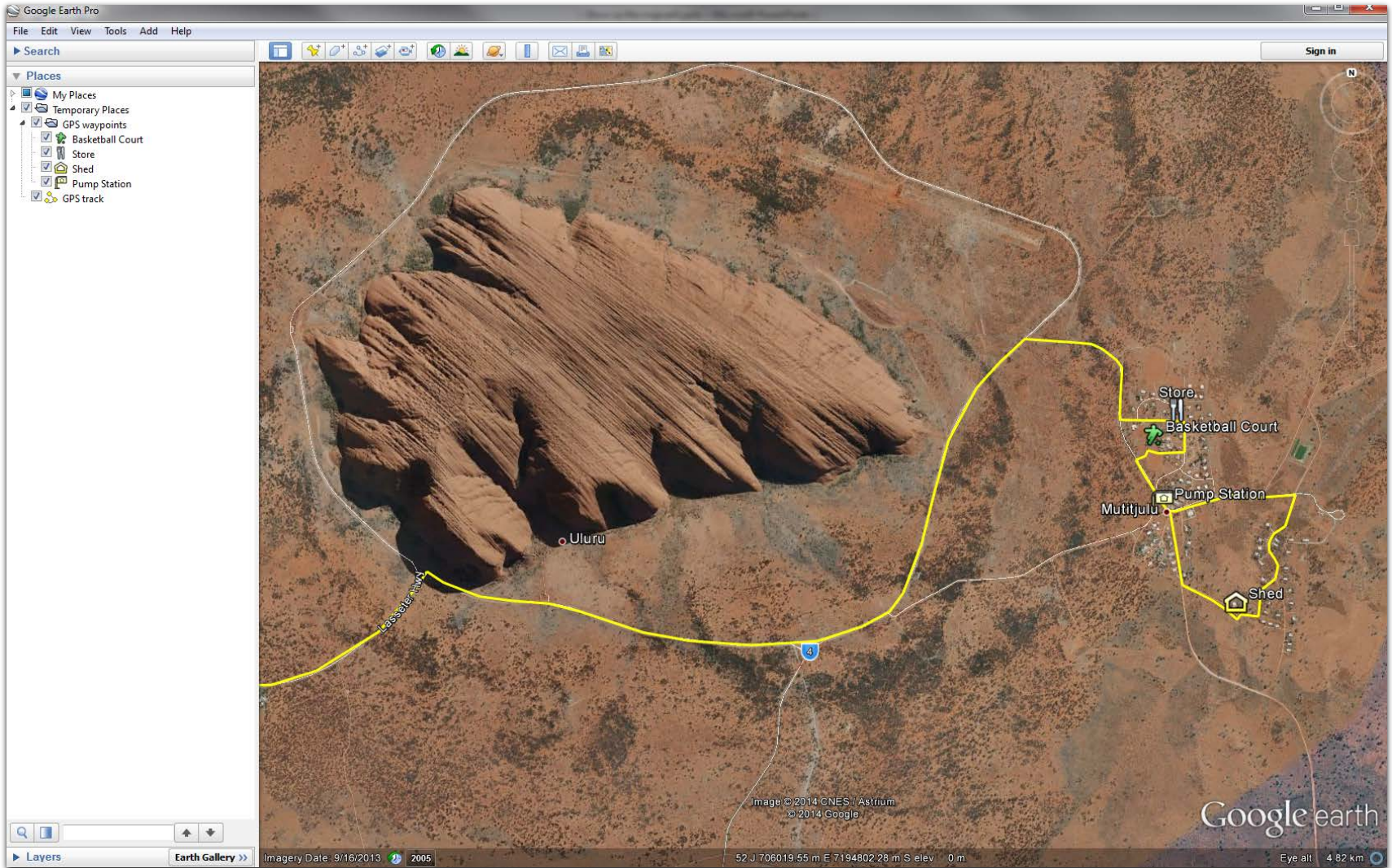
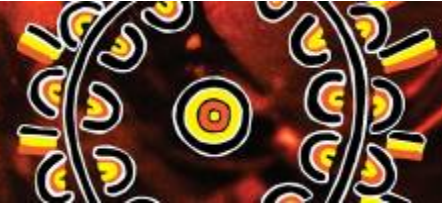
[Refresh Map](#)

Copyright by Central Land Council (CLC)



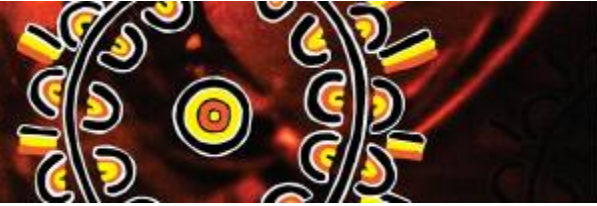
# Central Land Council

*The Land is always alive..*



# Central Land Council

The Land is always alive..

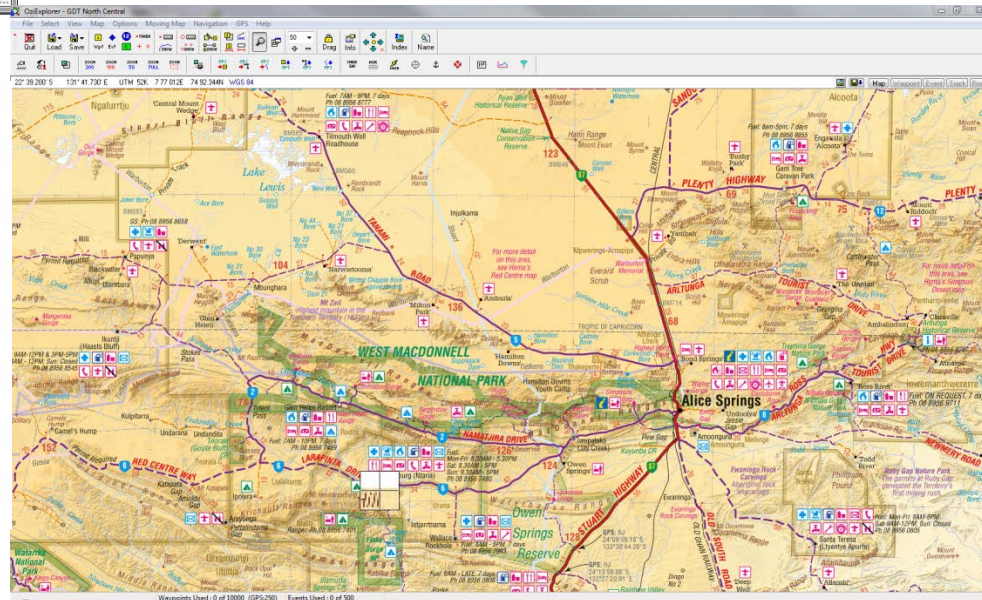
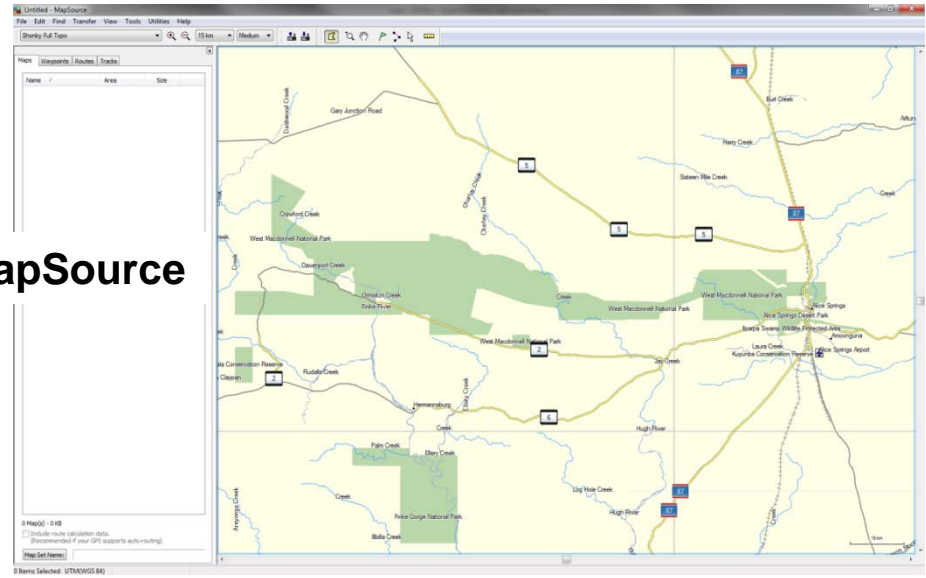


## DNRGPS

Waypoints	Tracks (41)	Routes	Real-Time			
	type	ident	ident	Latitude	Longitude	y_proj
	TRACK	15-MAR-13	15-MAR-13	-23.70647907	133.86915922	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.70658636	133.86913776	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.70665073	133.869524	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.70645761	133.87005438	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.70602846	133.87171268	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.70604992	133.87284994	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.70525599	133.87372971	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.70568514	133.87441635	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.70510578	133.87490988	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.70132923	133.876369	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.69916201	133.87754917	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.69624376	133.87872934	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.69506359	133.87939453	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.69371176	133.87907267	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.69281054	133.87789249	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.69008541	133.87574673	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.69008541	133.87529612	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.69023561	133.87512445	-23.70647907
	TRACK	15-MAR-13	15-MAR-13	-23.68989229	133.87563215	-23.68989229
	TRACK	15-MAR-13	15-MAR-13	-23.69235992	133.87752771	-23.68989229



## MapSource



## OziExplorer with HEMA maps

