

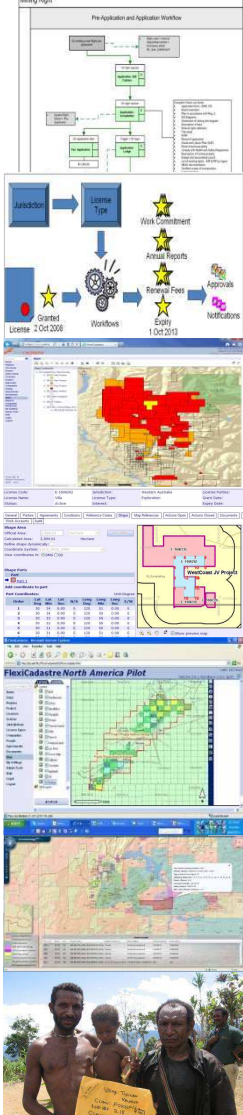


Map Services & Selection by Location

Leveraging the GIS Capabilities within FlexiCadaastre

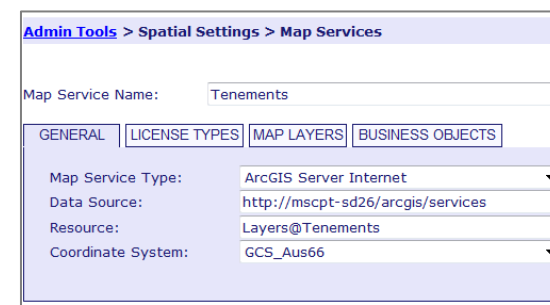
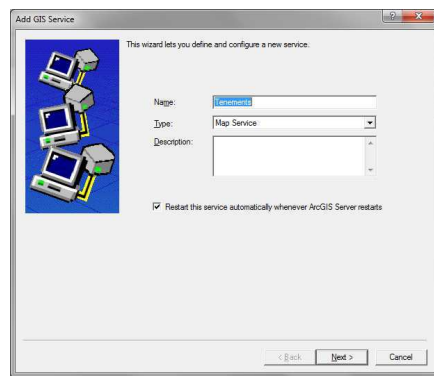
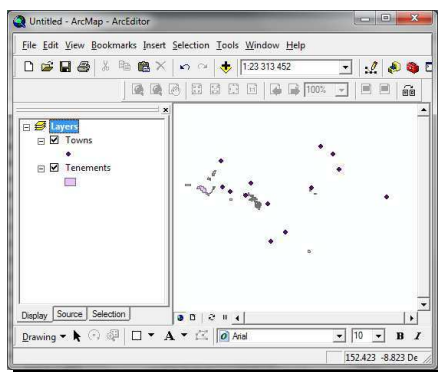
Carolyn Holness

spatial dimension
AN MS GROUP BUSINESS



Map services – an overview

- Different maps in a single FlexiCadaastre system
- How are they created?
 - Create map (mxd file) in ArcMap
 - Set up Map Service in ArcGIS Server
 - Register map service in FlexiCadaastre
 - Add as many map services as required



Why use multiple map services?

- Different maps required for different jurisdictions or regions
- Different maps required for different data
 - License, Land Agreements, CAs, Relinquishments
- Tailor each map to include appropriate
 - FlexiCadastral spatial data
 - Base layers
 - Styling, symbology, labelling, extent etc

Map Service for Africa

The screenshot displays a web application interface with a sidebar on the left containing navigation links: Home, Project, Blocos, Licenses, Actions, Approvals, Companies, People, Agreements, Documents, Maps (highlighted), Reports, My Settings, Admin Tools, Help, and Logout. The main content area is titled "Maps > View" and shows a message: "There are 5 Map services in the list." Below this is a table with the following data:

Service Name	Type	Data Source	Resource
Africa	ArcGIS Server Internet	http://localhost/arcgis/services	Layers@Africa
SouthAmerica	ArcGIS Server Internet	http://localhost/arcgis/services	Layers@SouthAmerica
Australia Agreements	ArcGIS Server Internet	http://localhost/arcgis/services	layers@Australia
North America Claims & Leases			
PNG			

Below the table is a "Map Contents" panel with a tree view of layers:

- Africa
 - Joint Ventures
 - Confidentiality Agreeer
 - Projects
 - Licenses
 - Application
 - Active
 - Inactive
 - Rivers
 - Countries
 - Lakes
 - Provinces & States
 - Continents
 - Ocean

The map area shows a map of Africa with a scale bar at the bottom indicating 0, 687, 1374, 2748, 4122, and 5496 Kilometers. A blue arrow points from the "Africa" link in the table to the "Africa" layer in the Map Contents panel.

Map service for South America

The screenshot displays a web application interface with a sidebar on the left containing navigation links such as Home, Project, Blocos, Licenses, Actions, Approvals, Companies, People, Agreements, Documents, Maps, Reports, My Settings, Admin Tools, Help, and Logout. The main content area is titled "Maps > View" and contains a message: "There are 5 Map services in the list." Below this message is a table with the following data:

Service Name	Type	Data Source	Resource
Africa	ArcGIS Server Internet	http://localhost/arcgis/services	Layers@Africa
SouthAmerica	ArcGIS Server Internet	http://localhost/arcgis/services	Layers@SouthAmerica
Australia Agreements	ArcGIS Server Internet	http://localhost/arcgis/services	layers@Australia
North America Claims & Leases			
PNG			

Below the table is a "Map Contents" panel with a tree view showing layers for South America, including Group, RDA, Water Exploitation Rig, Wells, Protection Area, Water Exploration Rig, Application, Active, Inactive, Mining Rights, Licenses (Point), Active Licenses, Applications, Inactive Licenses, Provincias (Chile), Countries, and Falkland Islands. To the right of the map contents is a map of South America with labels for PERU, BOLIVIA, BRAZIL, PARAGUAY, ARGENTINA, CHILE, URUGUAY, FALKLAND IS., and SOUTH GEORGIA & THE SOUTH SANDWICH IS. A scale bar at the bottom indicates distances up to 2376 Kilometers.

Map service for agreements

The screenshot displays a web application interface for managing map services. On the left is a navigation menu with options like Home, Project, Bloccs, Licenses, Actions, Approvals, Companies, People, Agreements, Documents, Maps, Reports, My Settings, Admin Tools, Help, and Logout. The main content area is titled "Maps > View" and contains a message: "There are 5 Map services in the list." Below this is a table with the following data:

Service Name	Type	Data Source	Resource
Africa	ArcGIS Server Internet	http://localhost/arcgis/services	Layers@Africa
SouthAmerica	ArcGIS Server Internet	http://localhost/arcgis/services	Layers@SouthAmerica
Australia Agreements	ArcGIS Server Internet	http://localhost/arcgis/services	layers@Australia
North America Claims & Leases			
PNG			

An arrow points from the "Australia Agreements" link in the table to a "Map Contents" panel on the right. This panel lists various map layers, including "Australia Agreements", "Heritage Agreements", "Joint Ventures", "Areas of Exclusivity", "Heritage Sites", "Projects", "Licenses", "Aus Cities", "Aus Towns", "Aus Rivers", "Aus Railways", "Aus Roads", "Aus 1M Map Index", and "WA Shires". The "Aus Agreements" layer is checked and highlighted in purple. The main map area shows a geographical view with a purple outline around the "Wiluna" area. Other labeled areas include "52_Peak Hill", "69_Outside Proclaimed", "51_Meekatharra", "20_Cue", "57_Black Range", "36_Lawlers", "37_Mt Malcolm", "58_Mt Magnet", and "38_Mt Margaret". A scale bar at the bottom indicates distances up to 168 Kilometers.

Map service for licenses

The screenshot displays a web application interface with a sidebar on the left and a main content area. The sidebar contains a search bar and a list of navigation items: Home, Project, Blocs, Licenses, Actions, Approvals, Companies, People, Agreements, Documents, Maps (highlighted), Reports, My Settings, Admin Tools, Help, and Logout. The main content area is titled 'Maps > View' and shows a message: 'There are 5 Map services in the list.' Below this is a table with the following data:

Service Name	Type	Data Source	Resource
Africa	ArcGIS Server Internet	http://localhost/arcgis/services	Layers@Africa
SouthAmerica	ArcGIS Server Internet	http://localhost/arcgis/services	Layers@SouthAmerica
Australia Agreements	ArcGIS Server Internet	http://localhost/arcgis/services	layers@Australia
North America Claims & Leases	ArcGIS Server Internet	http://localhost/arcgis/services	layers@Australia
PNG			

Below the table is a 'Map Content' panel with a tree view showing a hierarchy of layers: North America Claims & Leases (expanded), Canada Cities, Surveys, Agreements (expanded), Licenses (expanded), Projects, Canada Roads, and Canada Rivers. The 'Licenses' layer is selected. The main map area displays a grid of license parcels with labels such as 'AN 109(EL K03759)', 'AN 120(EL K03770)', 'AN 129(EL K03779)', 'AN 147(EL K03797)', 'AN 110(EL K03760)', 'AN 119(EL K03769)', 'AN 130(EL K03780)', 'AN 139(EL K03789)', 'AN 148(EL K03798)', 'AN 111(EL K03761)', 'AN 118(EL K03768)', 'AN 131(EL K03781)', 'AN 138(EL K03788) Part 1', 'AN 149(EL K03799)', 'AN 112(EL K03762)', 'AN 117(EL K03767)', 'AN 132(EL K03782)', 'AN 137(EL K03787)', 'AN 150(EL K03800)', 'AN 113(EL K03763) Part 1', 'AN 116(EL K03766)', 'AN 133(EL K03783)', 'AN 136(EL K03786)', 'AN 151(EL K03801)', 'AN 114(EL K03764)', 'AN 115(EL K03765)', 'AN 134(EL K03784)', 'AN 135(EL K03785)', 'AN 152(EL K03802)', and 'AN 153(EL K03803)'. A scale bar at the bottom indicates 0 to 4 kilometers. The text '(PL 4633)' is visible in the bottom right corner of the map area.

Authorisation on map services

- Set at a user level

Admin Tools > Users > Authorisation

User:

Map Service	View
SAM Licenses	<input checked="" type="checkbox"/>
SAM Confidentiality Agreements	<input type="checkbox"/>
Green Lake	<input checked="" type="checkbox"/>
Golden Star	<input type="checkbox"/>

Where are map services used?

- Main map AND on the maps on Licenses, Agreements, Groups, Conditions, Shape Update actions, Renewal actions, Shape Validation actions

License Code: E 1600292 Jurisdiction: Western Australia License Parties: Barrack Gold Inc (100.00%)
License Name: Villa License Type: Exploration Grant Date: 09/Jan/2007
Status: Active Interest: Expiry Date: 08/Jan/2012

General Parties Agreements Conditions Reference Codes Shape Map References Actions Open Actions Closed Documents
Groups Resources Related Licenses Roles Work Accounts Audit

Shape Area
Official Area: 2,094.61 Hectare
Calculated Area: 2,094.61 Hectare
Define shape dynamically:
Coordinate System: GCS_WGS_1984
View coordinates in: DMS DD

Shape Parts
Part
→ Part 1

Add coordinate to part

Part Coordinates: Unit: Degree

Order	Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
1	30	34	0.00	S	120	51	0.00	E
2	30	34	0.00	S	120	50	0.00	E
3	30	33	0.00	S	120	50	0.00	E
4	30	32	0.00	S	120	50	0.00	E
5	30	31	0.00	S	120	50	0.00	E
6	30	31	0.00	S	120	51	0.00	E
7	30	31	0.00	S	120	52	0.00	E

Shape Change Details
NEW SHAPE OLD SHAPE

Shape Area
Official Area: 0.05 Hectare
Calculated Area: 0.05 Hectare
Define shape dynamically:
Coordinate System: GCS_Aus66
View coordinates in: DMS DD

Shape Parts
Edit, Del. Part
→ Part 1

Add coordinate to part

Latitude Longitude
Order Deg Min Sec Deg Min Sec

Part Coordinates: Unit: Degree

Order	Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
1	5	26	20.12	S	143	13	21.76	E

Using an inappropriate map service

License Code: EL F00482 Jurisdiction: **Northwest Territories** License Parties: Anglo American Diamonds Inc (100.00%)
 License Name: TREE 1 License Type: Mineral Claim Grant Date: 04/Sep/1993
 Status: Active Interest: Leased Expiry Date: 15/Aug/2024

General Parties Agreements Conditions Reference Codes Shape Map References Actions Open Actions Closed Documents
 Groups Resources Related Licenses Roles Work Accounts Audit

Shape Area
 Official Area: 1,022.86 Hectare GET AREA
 Area: 1,022.86 Hectare
 Update dynamically:
 System: GCS_WGS_1984
 Coordinates in: DMS DD

Points:

Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
67	2	18.35	N	113	9	30.17	W
67	2	18.46	N	113	9	3.74	W
67	2	19.00	N	113	6	20.70	W

Coordinates: Unit: Degree

Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
67	2	18.35	N	113	9	30.17	W
67	2	18.46	N	113	9	3.74	W
67	2	19.00	N	113	6	20.70	W

Map Contents:
 Africa
 Joint Ventures
 Confidentiality Agreements
 Projects
 Licenses
 Application
 Active
 Inactive
 Rivers
 Countries
 Lakes
 Provinces & States
 Continents
 Ocean

Map Contents:
 Africa
 Joint Ventures
 Confidentiality Agreements
 Projects
 Licenses
 Application
 Active
 Inactive
 Rivers
 Countries
 Lakes
 Provinces & States
 Continents
 Ocean

Map: 67°05'00"N, 67°05'00"N, 66°58'00"N, 66°58'00"N, 113°10'00"W, 113°10'00"W, 113°00'00"W, 113°00'00"W

Canada Nunavut

152 34 5
 14 6
 13 7
 1211 10 8

Show preview map

Using an inappropriate map service

License Code:	EL F00482	Jurisdiction:	Northwest Territories	License Parties:	Anglo American Diamonds Inc (100.00%)
License Name:	TREE 1	License Type:	Mineral Claim	Grant Date:	04/Sep/1993
Status:	Active	Interest:	Leased	Expiry Date:	15/Aug/2024

[General](#) [Parties](#) [Agreements](#) [Conditions](#) [Reference Codes](#) [Shape](#) [Map References](#) [Actions Open](#) [Actions Closed](#) [Documents](#)
[Groups](#) [Resources](#) [Related Licenses](#) [Roles](#) [Work Accounts](#) [Audit](#)

Shape Area

Area: 1,022.86 Hectare [GET AREA](#)

Calculated Area: 1,022.86 Hectare

Shape dynamically:

Coordinate System: GCS_WGS_1984

Coordinates in: DMS DD

Reference Points:


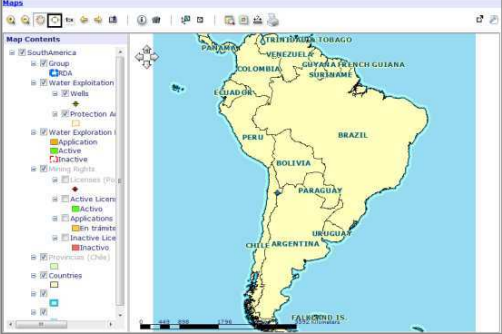
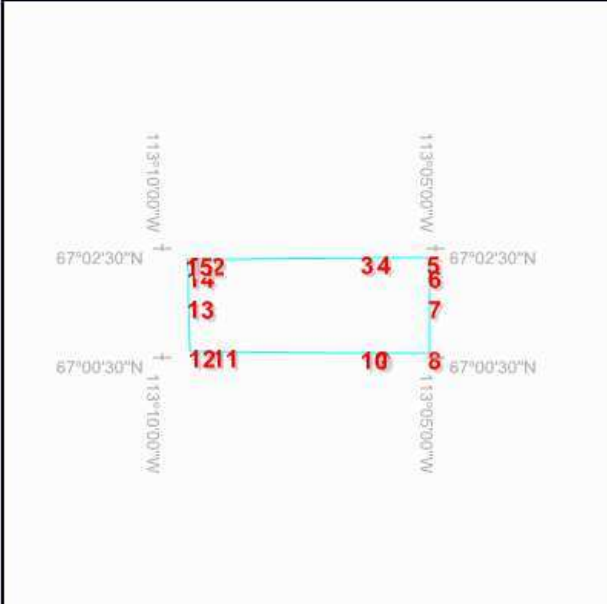
	Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
1	67	2	18.35	N	113	9	30.17	W
2	67	2	18.46	N	113	9	3.74	W
3	67	2	19.00	N	113	6	20.70	W

Part 1

Coordinate to part

Coordinates: Unit: Degree

Order	Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
1	67	2	18.35	N	113	9	30.17	W
2	67	2	18.46	N	113	9	3.74	W
3	67	2	19.00	N	113	6	20.70	W

Show preview map

Create saved searches

Licenses > Search Clear Search Criteria

This search has multiple search parts. Only search criteria of last search part are displayed. Show search summary. 🗉

Code: Jurisdiction: Northwest Territories Status Group: Advanced
Name: Type Group: Status:
Party: Type: Saved Searches:

Search returned 1000 of 3150 results (19,140,920.47 Ha) [0]

1 2 3 4 5 6 7 8 9 10 ...

Del.	All	Map	Code	Name	Jurisdiction	Type
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00482	TREE 1	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00554	W 5	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00555	C 5	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00556	A 4	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00557	A 5	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00558	A 6	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00559	A 3	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00560	A 2	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00561	T 2	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00563	T 4	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00565	T 6	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00566	A 7	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00567	A 8	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00568	T 7	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00569	T 8	Northwest Territories	MC
<input checked="" type="checkbox"/>	<input type="checkbox"/>		EL F00570	A 12	Northwest Territories	MC

http://www.flexicadastre.com/?SearchType=1 - SaveSearch - Window...

Save your current search.

Update existing search:
Save as new search:

Name:

Add to home page:
Save as System Search:
Publish search:

Link saved search to map service

Admin Tools > Spatial Settings > Map Services SAVE CANCEL

Map Service Name: [Test Connection](#)

GENERAL | LICENSE TYPES | MAP LAYERS | BUSINESS OBJECTS

Please define the business objects that are displayed by the map service
Selecting no search indicates that all the objects of the particular type will be displayed in the map service (when ticked)

Licenses

Contains licenses:

License Search:

Agreements

Contains agreements:

Agreement search:

Using an appropriate map service

License Code: EL F00482 Jurisdiction: **Northwest Territories** License Parties: Anglo American Diamonds Inc (100.00%)
License Name: TREE 1 License Type: Mineral Claim Grant Date: 04/Sep/1993
Status: Active Interest: Leased Expiry Date: 15/Aug/2024

General Parties Agreements Conditions Reference Codes **Shape** Map References Actions Open Actions Closed Documents
Groups Resources Related Licenses Roles Work Accounts Audit

Shape Area
Official Area: 1,022.86 Hectare GET AREA
Calculated Area: 1,022.86 Hectare
Define shape dynamically:
Coordinate System: GCS_WGS_1984
View coordinates in: DMS DD

Reference Points:

	Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
Location Monument								

Shape Parts
Part
→ Part 1

Add coordinate to part
Part Coordinates: Unit: Degree

Order	Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
1	67	05	00	N	113	05	00	W
2	67	05	00	N	113	05	00	W
3	66	58	00	N	113	05	00	W
4	66	58	00	N	113	05	00	W

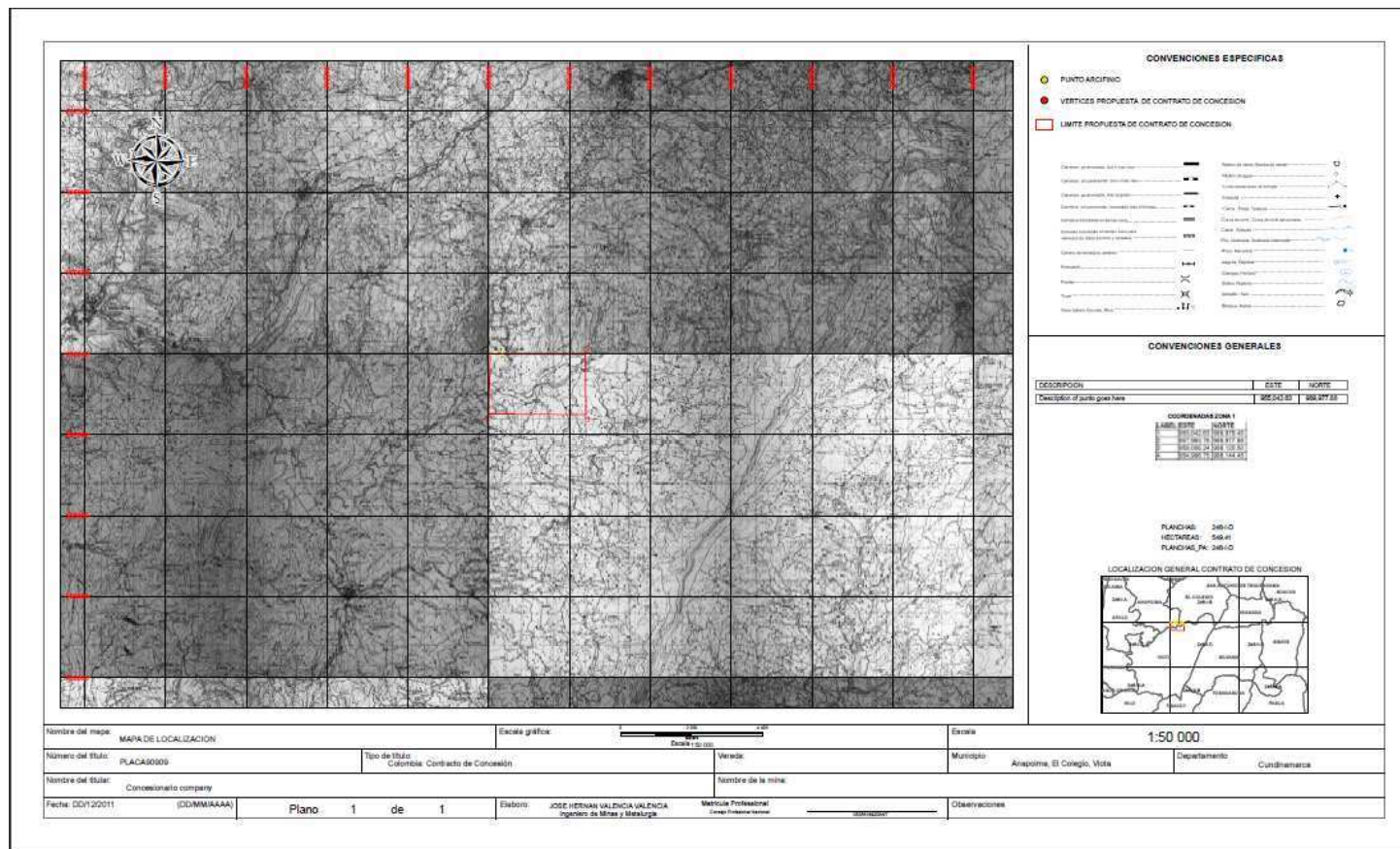
Examples

Thanks for allowing me to share these with everyone!



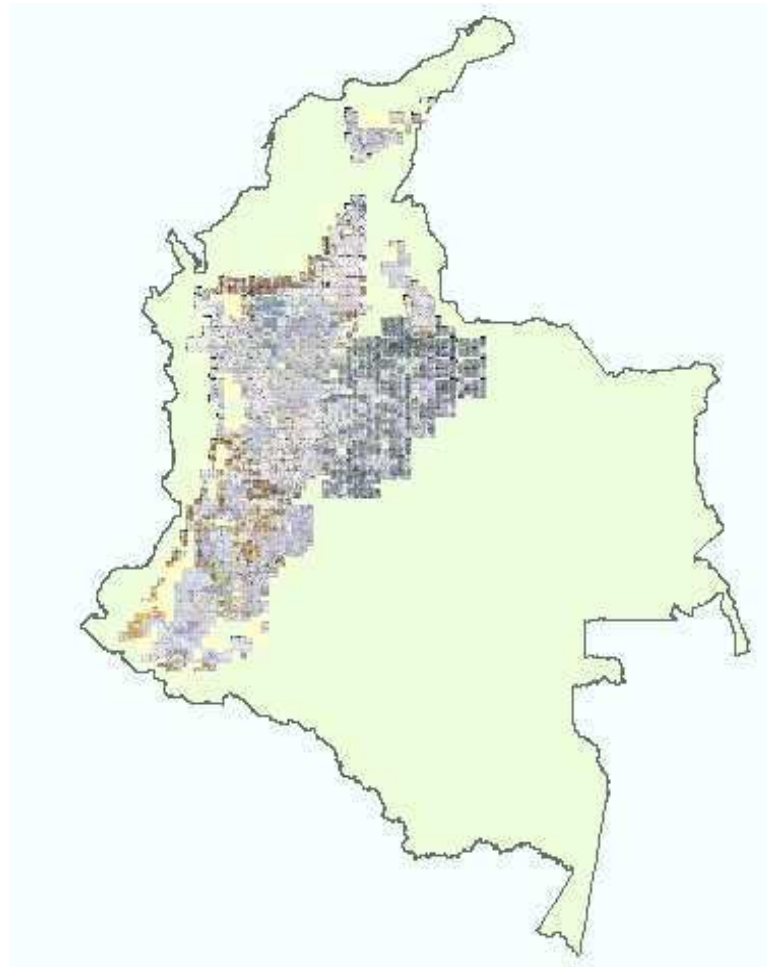
Application Requirements in Colombia

- Map with topographic sheets



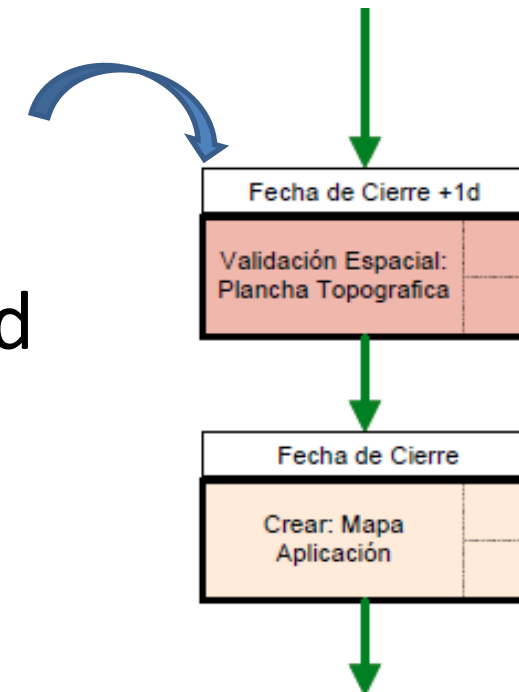
Problem

- Do not have topographic sheets for the whole country



Requirements from FlexiCadastre

- Check whether topographic map(s) exist for the application area
- Validation in the Application workflow before the Application map is generated



Edit index sheet featureclass

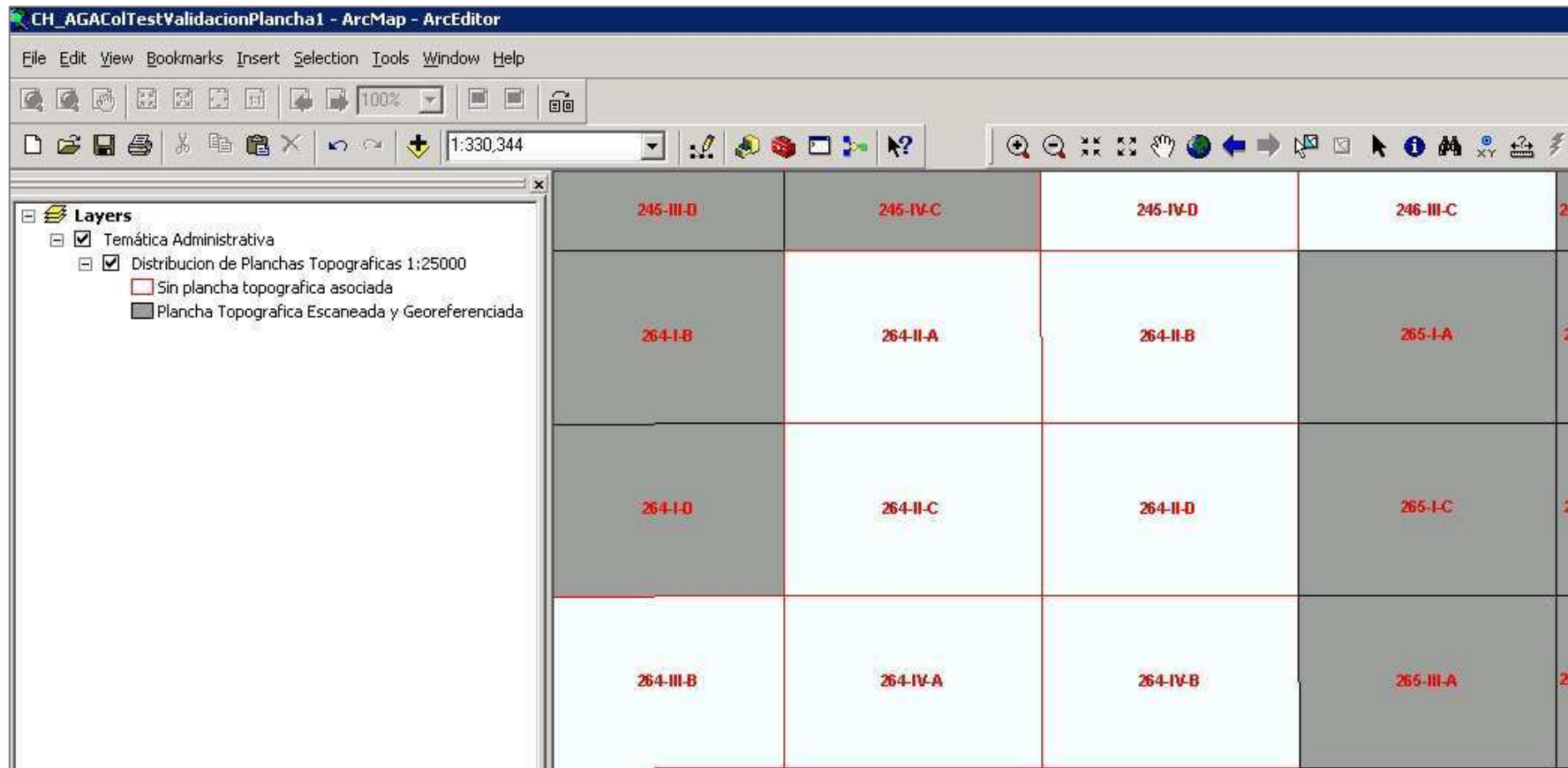
7-III-C	7-III-D	7-IV-C	7-IV-D	8-III-C	8-III-D	8-IV-C	9-III-D
13-I-A	13-I-B	13-II-A	13-II-B	14-I-A	14-I-B	14-II-A	15-I-B
13-I-C	13-I-D	13-II-C	13-II-D	14-I-C	14-I-D	14-II-C	15-I-D
13-III-A	13-III-B	13-IV-A	13-IV-B	14-III-A	14-III-B	14-IV-A	15-III-B
13-III-C	13-III-D	13-IV-C	13-IV-D	14-III-C	14-III-D	14-IV-C	15-III-D
20-I-A	20-I-B	20-II-A	20-II-B	21-I-A	21-I-B	21-II-A	22-I-B
20-I-C							
20-III-A							



Attributes of FlexiCadastreSDE.SDE.MapIndex25KLL84

OBJECTID *	ID	PLANCHA	NIVEL	NIVELVECT	Shape *	intExist	Shape.area	Shape.len
223	223	110-IV-A	6	0	Polygon	1	0.012276	0.452388
224	224	110-IV-C	6	0	Polygon	1	0.012273	0.452326
225	225	111 bis-I-A	0	0	Polygon	0	0.012317	0.453295
226	226	111 bis-I-B	0	0	Polygon	0	0.012318	0.453314
227	227	111 bis-I-C	0	0	Polygon	0	0.012314	0.453239
228	228	111 bis-I-D	0	0	Polygon	0	0.012316	0.45326
229	229	111 bis-II-A	0	0	Polygon	0	0.012318	0.453298

Create map service for shape validation action



Create map service for shape validation action

Map Service Name: [Test Connection](#)

GENERAL | LICENSE TYPES | MAP LAYERS | BUSINESS OBJECTS

Please define the business objects that are displayed by the map service
Selecting no search indicates that all the objects of the particular type will be displayed in the map service (when ticked)

Licenses

Contains licenses:

License Search:

Agreements

Contains agreements:

Agreement search:

Actions

Contains Actions:

Action Search:

Shape Validation action

Shape Validation Details

Validation Result	Validation Shape	Comparison Shape	Result Shape	Validation Shape Configuration	Result Shape Configuration
-------------------	------------------	------------------	--------------	--------------------------------	----------------------------

Validation has been run

[RUN VALIDATION](#)

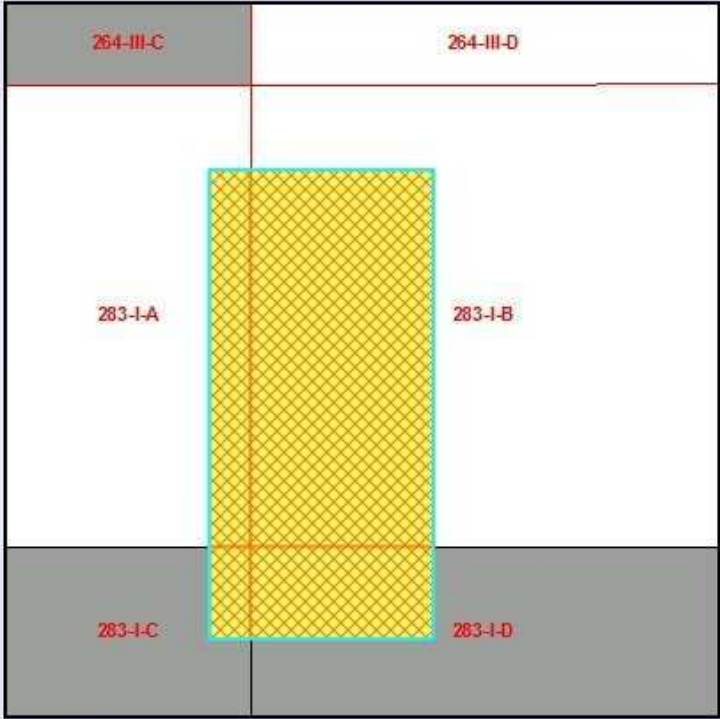
The validation shape is: **Valid with warnings**

Message

Shape overlaps 4 restricted areas

The validation shape overlaps 4 restricted areas:

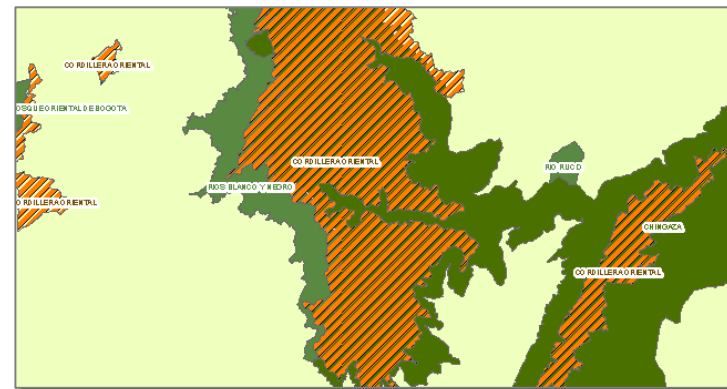
	Name	Feature Class	Overlap	
🟡	283-I-A	MapIndex25KLL84	724.5609 Ha	highlight
🟡	283-I-B	MapIndex25KLL84	3,223.0272 Ha	highlight
🟡	283-I-C	MapIndex25KLL84	176.4495 Ha	highlight
🟡	283-I-D	MapIndex25KLL84	784.8507 Ha	highlight



Map navigation icons: 🔍 🗺️ 🖱️ ↗️ Show preview map

Application Requirements in Colombia

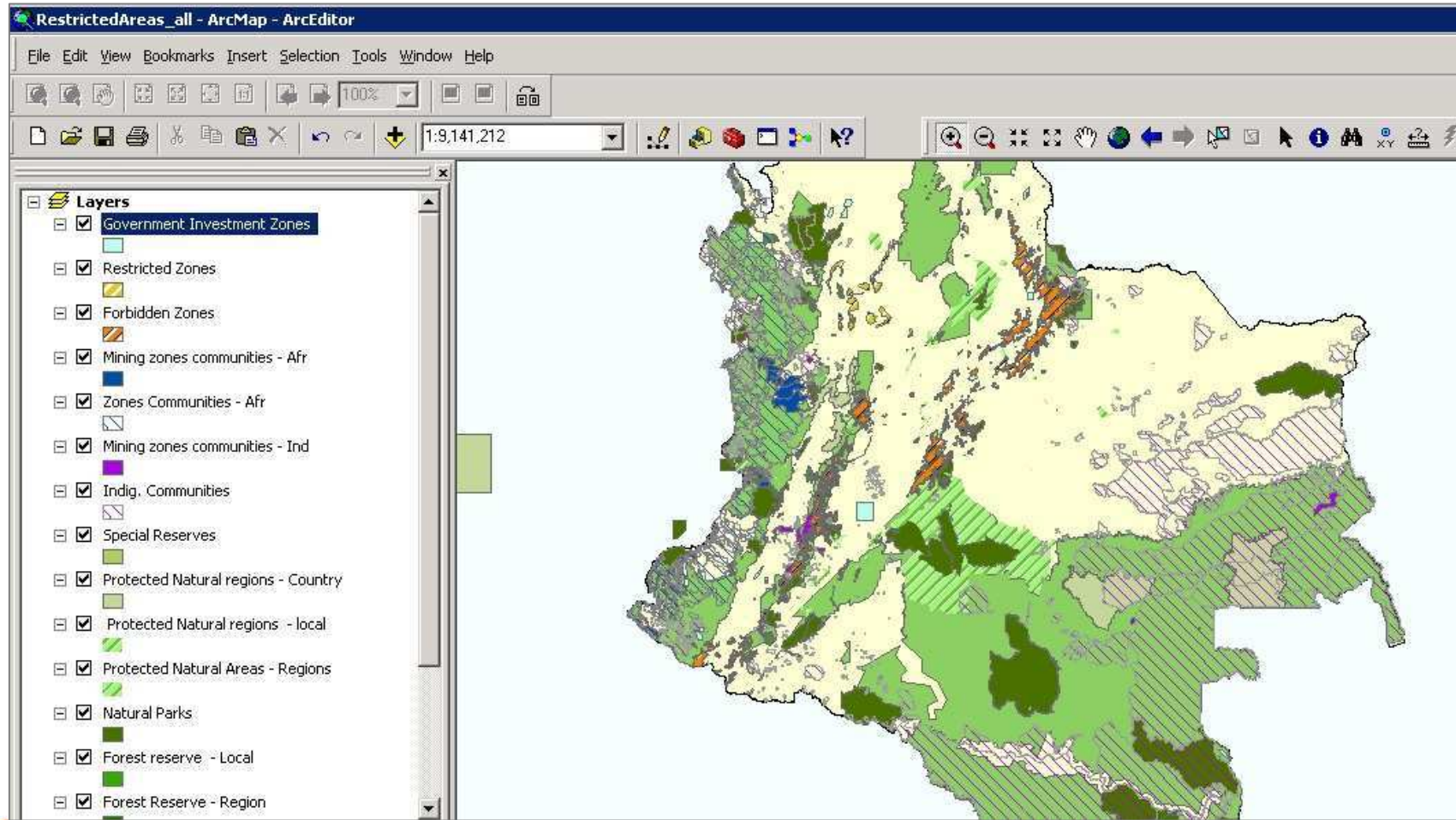
- Overlap with certain areas forbidden
 - forest reserves, natural parks, forbidden zones
- Restriction on many other areas
 - protected areas, government investment zones, mining zones for indigenous communities



Requirements from FlexiCadastre

- Check whether the application area overlaps any of these forbidden/restricted areas
- List overlapping areas & view overlaps in map

Create Map service for validation



Shape Validation

RUN VALIDATION

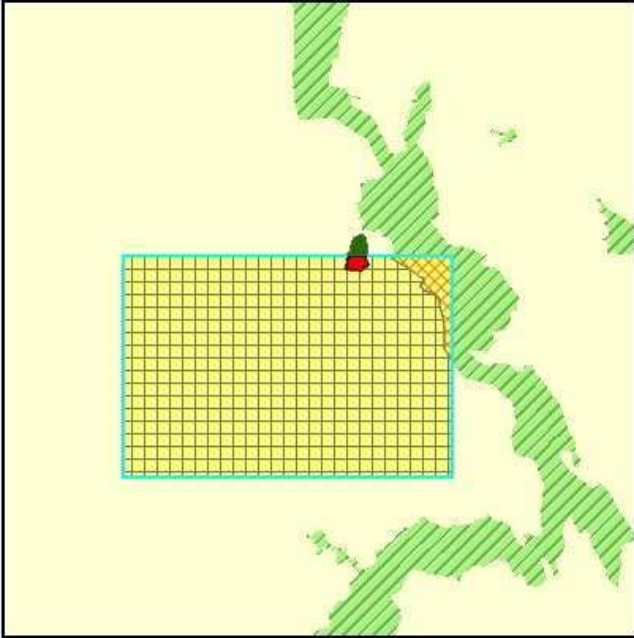
✖ The validation shape is: **Invalid**

Message

- ⚠ Shape is larger than maximum area (10,000.0000 Hectare)
- ✔ Shape does not have more than maximum number of parts (1 parts)
- ✖ Shape overlaps 3 restricted areas

The validation shape overlaps **3** restricted areas:

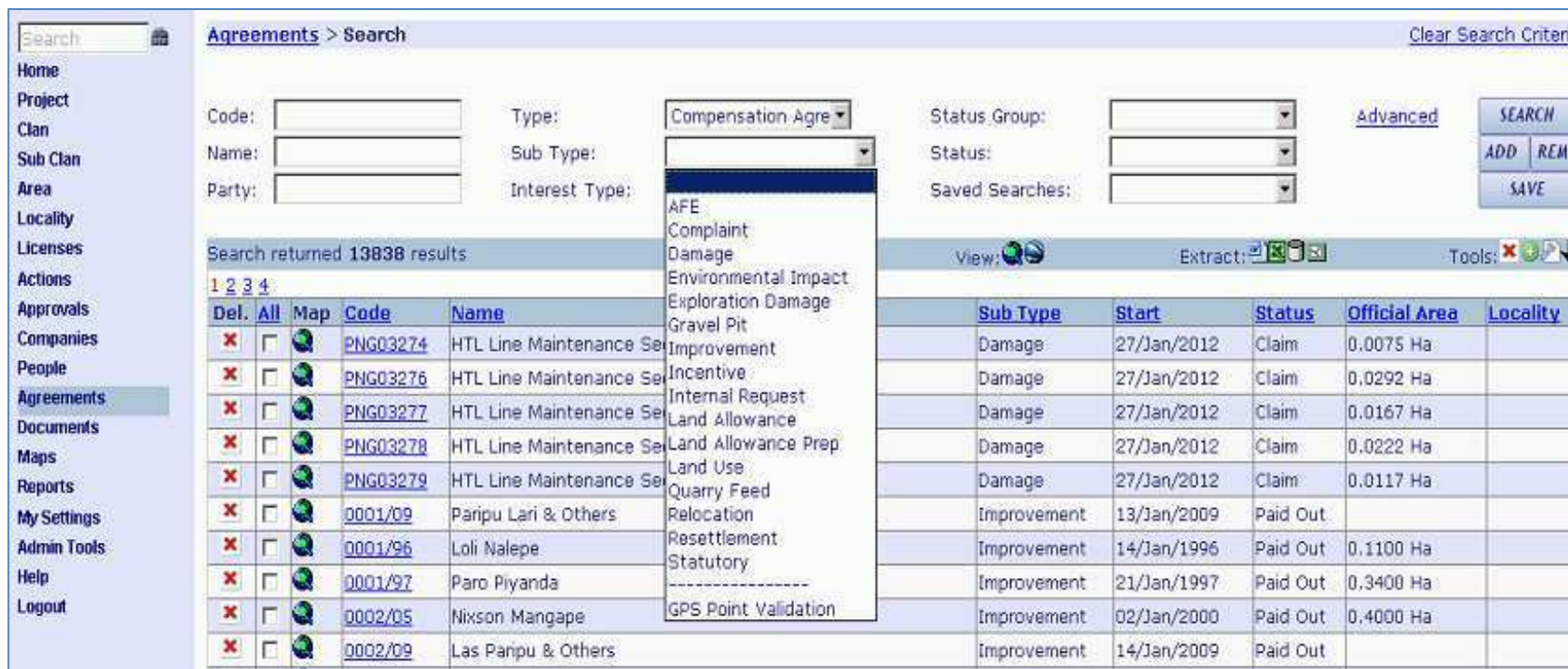
	Name	Feature Class	Overlap	
➡ ✖	LAGUNA DE PEDRO PALO	CoVeColRegFstResLLW84	53.9623 Ha	remove highlight
⚠	SALTO DEL TEQUENDAMA Y CERRO MANJUI	CoVeColRegAreasProtectedLLW84	436.0801 Ha	highlight
⚠	RED RESERVAS PEDRO PALO	CoVeColLocAreasProtectedLLW84	5.5153 Ha	highlight



🔍 🗨️ 🖱️ 📄 Show preview map

Map services for Agreements

- BarrickGold Papua New Guinea has many different types of land and compensation agreements

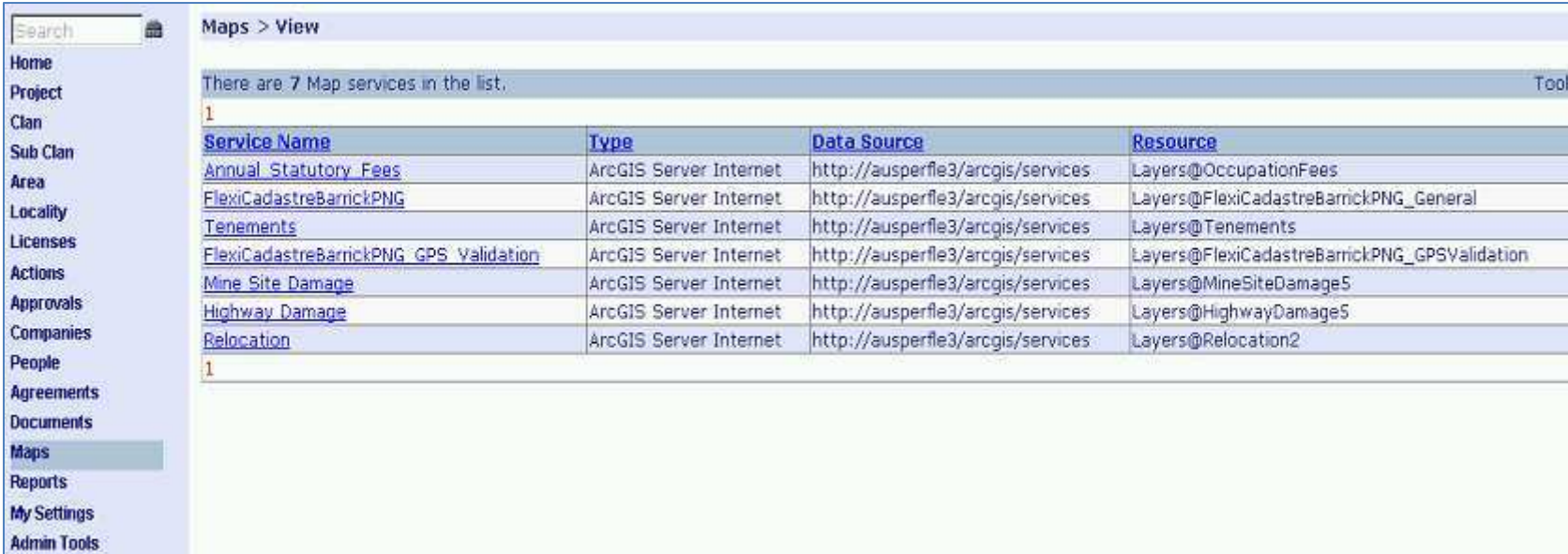



Search returned 13838 results

Def.	All	Map	Code	Name	Sub Type	Start	Status	Official Area	Locality
<input checked="" type="checkbox"/>	<input type="checkbox"/>		PNG03274	HTL Line Maintenance Se	Damage	27/Jan/2012	Claim	0.0075 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		PNG03276	HTL Line Maintenance Se	Damage	27/Jan/2012	Claim	0.0292 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		PNG03277	HTL Line Maintenance Se	Damage	27/Jan/2012	Claim	0.0167 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		PNG03278	HTL Line Maintenance Se	Damage	27/Jan/2012	Claim	0.0222 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		PNG03279	HTL Line Maintenance Se	Damage	27/Jan/2012	Claim	0.0117 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0001/09	Paripu Lari & Others	Improvement	13/Jan/2009	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0001/96	Loli Nalepe	Improvement	14/Jan/1996	Paid Out	0.1100 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0001/97	Paro Piyanda	Improvement	21/Jan/1997	Paid Out	0.3400 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0002/05	Nixon Mangape	Improvement	02/Jan/2000	Paid Out	0.4000 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0002/09	Las Paripu & Others	Improvement	14/Jan/2009	Paid Out		

PNG Map services

- A number of different map services have been set up



Search  Maps > View

There are 7 Map services in the list. Tools:

1

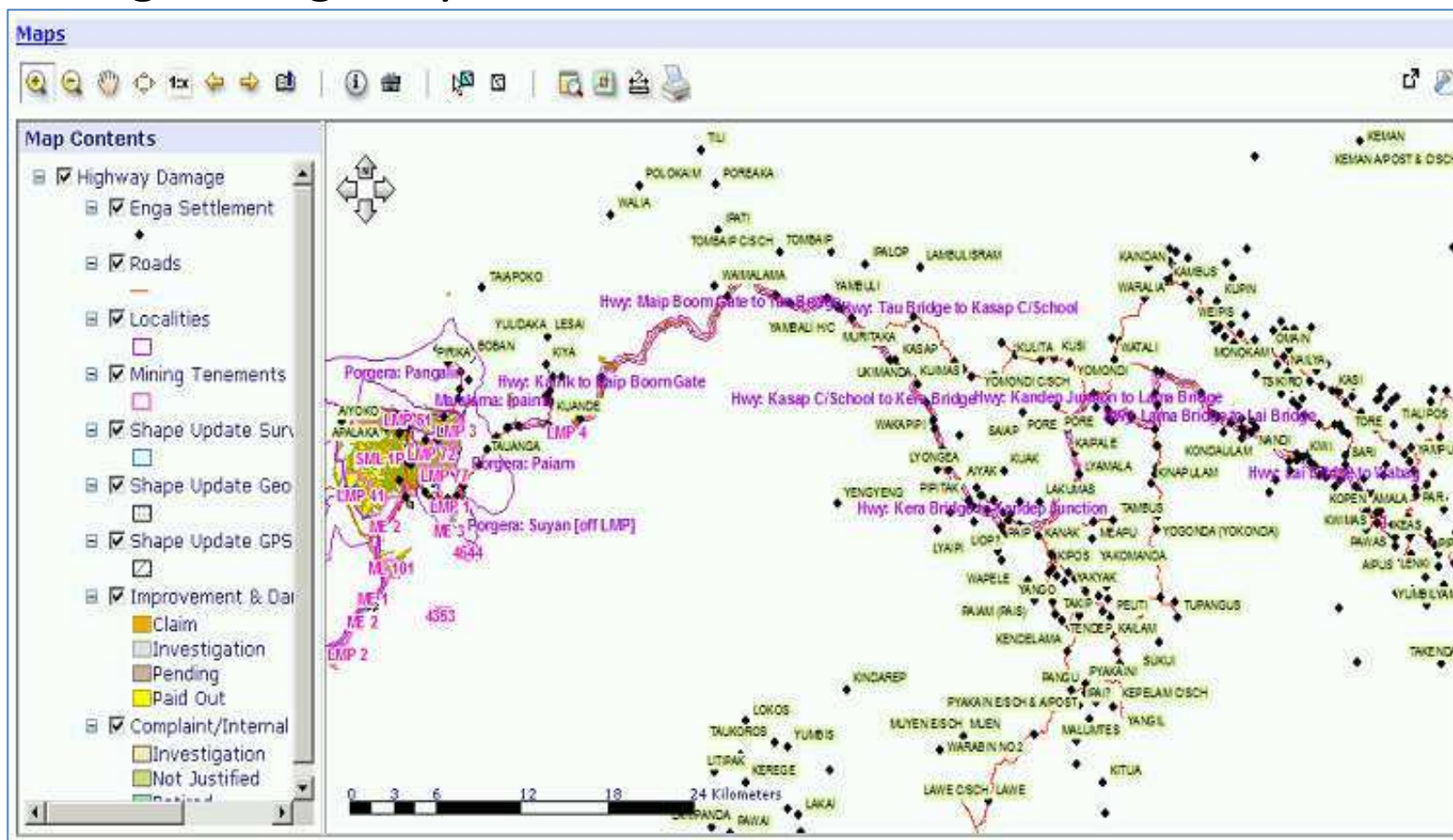
<u>Service Name</u>	<u>Type</u>	<u>Data Source</u>	<u>Resource</u>
Annual Statutory Fees	ArcGIS Server Internet	http://ausperfle3/arcgis/services	Layers@OccupationFees
FlexiCadastréBarrickPNG	ArcGIS Server Internet	http://ausperfle3/arcgis/services	Layers@FlexiCadastréBarrickPNG_General
Tenements	ArcGIS Server Internet	http://ausperfle3/arcgis/services	Layers@Tenements
FlexiCadastréBarrickPNG GPS Validation	ArcGIS Server Internet	http://ausperfle3/arcgis/services	Layers@FlexiCadastréBarrickPNG_GPSValidation
Mine Site Damage	ArcGIS Server Internet	http://ausperfle3/arcgis/services	Layers@MineSiteDamage5
Highway Damage	ArcGIS Server Internet	http://ausperfle3/arcgis/services	Layers@HighwayDamage5
Relocation	ArcGIS Server Internet	http://ausperfle3/arcgis/services	Layers@Relocation2

1

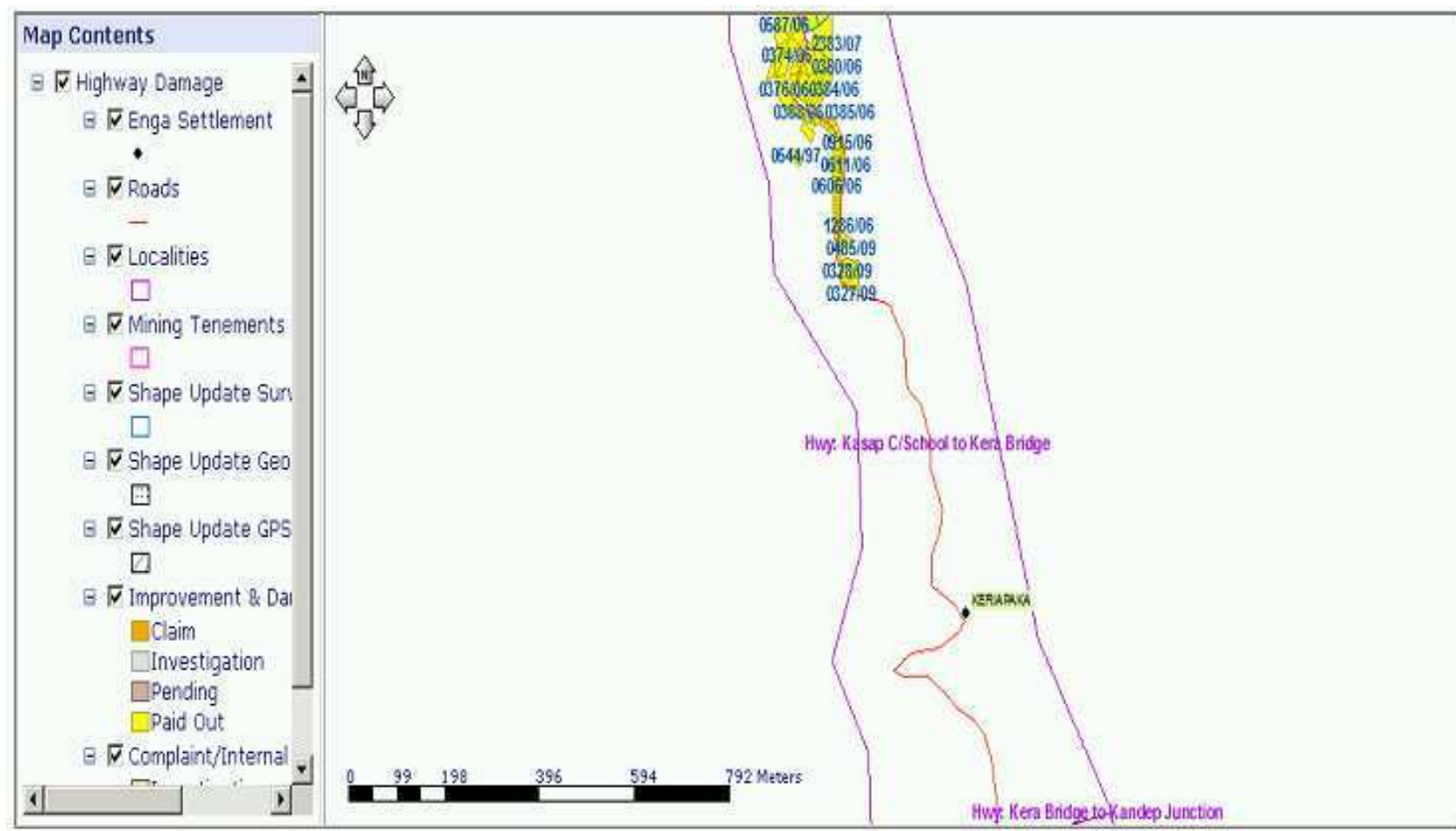
Home
Project
Clan
Sub Clan
Area
Locality
Licenses
Actions
Approvals
Companies
People
Agreements
Documents
Maps
Reports
My Settings
Admin Tools

Map service for Damage Compensation

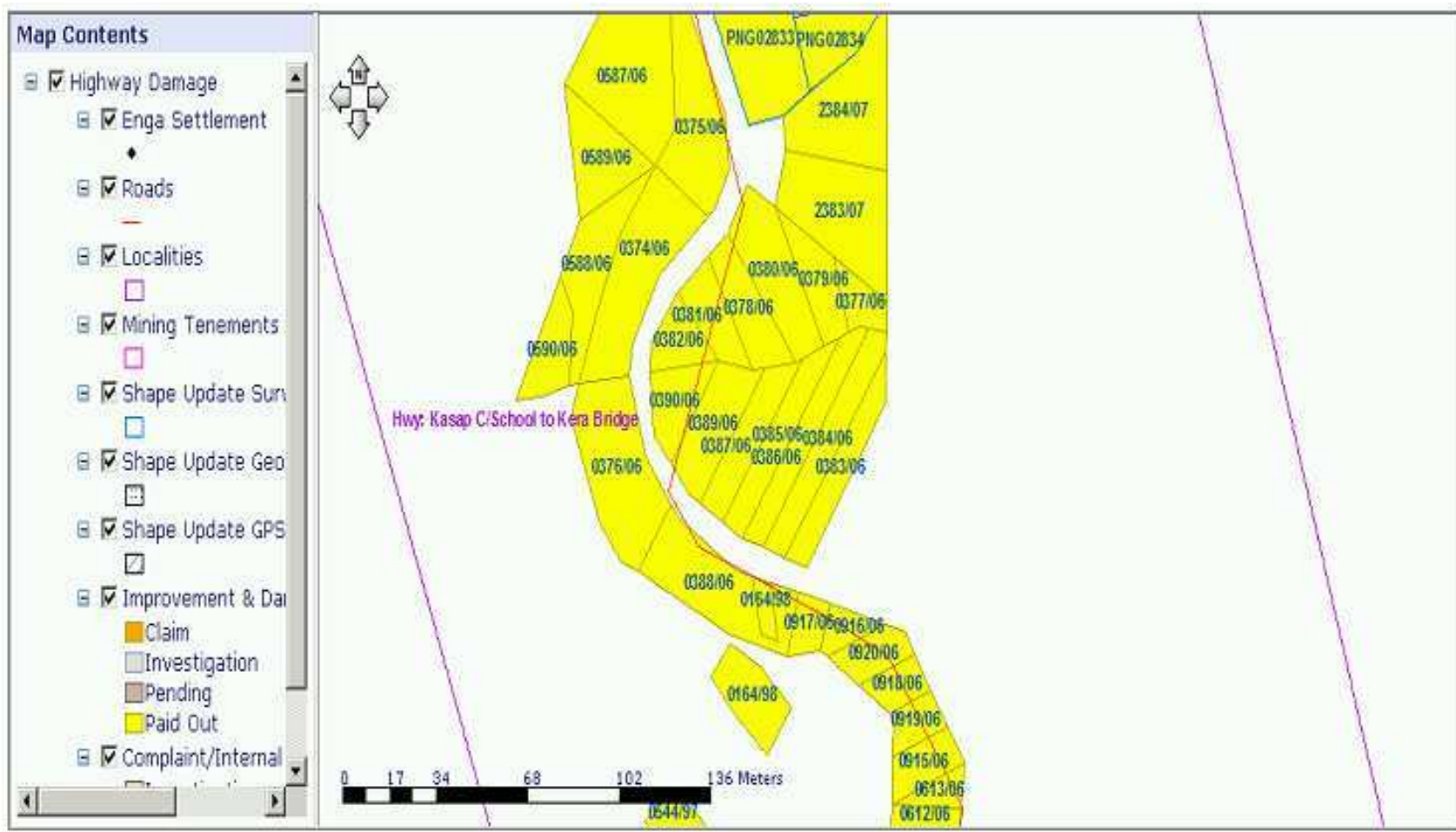
- Along the highway



Map service for Damage Compensation

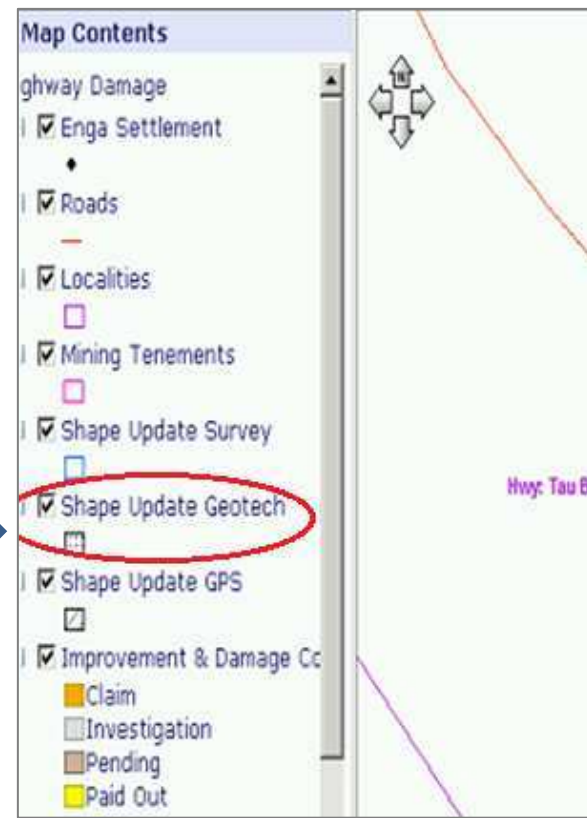
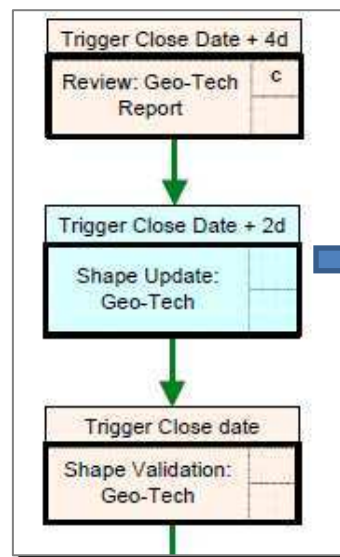


Map service for Damage Compensation

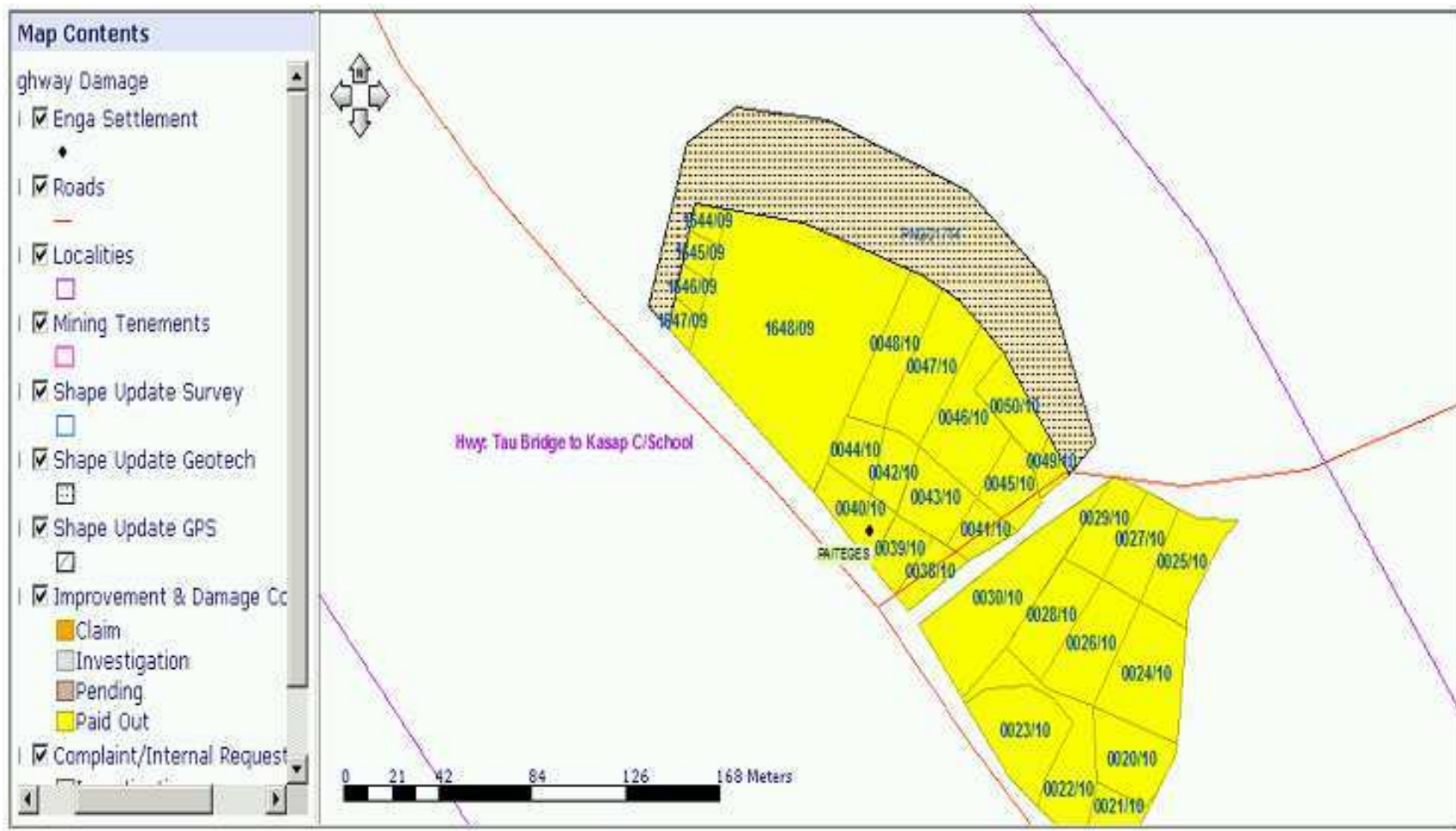


Map service for Damage Compensation

- Include Action Shapes in the map service
 - Shape Update: GPS
 - Shape Update: Geo-Tech
 - Shape Update: Survey



Map service for Damage Compensation



Map service for Damage Compensation

- Use map service for the Shape Update actions

Shape Change : Shape Update: Geo-Tech

Action: Approval Documents User Notification Reference Codes Work Accounts Audit

General Details

Due Date: 17/Jun/2011

Comments: The area Paitengis Dump GR has been assessed and is pending block survey. The area plotted is just the proposed assessed area.

Reference Number:

Created By: [Damage: Investigation - Internal Request >Schedule: Shape Update GeoTech](#)

Shape Change Details

NEW SHAPE OLD SHAPE

Shape Area

Official Area: 0.6647 Hectare

Calculated Area: 0.6647 Hectare

Coordinate System: GCS_Aus66

View coordinates in: DMS DD

Shape Parts

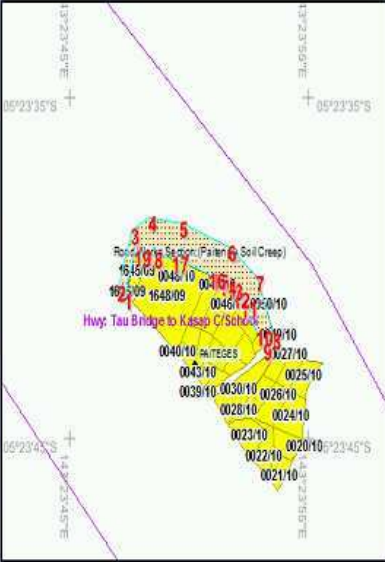
Part

Part 1

Add coordinate to part

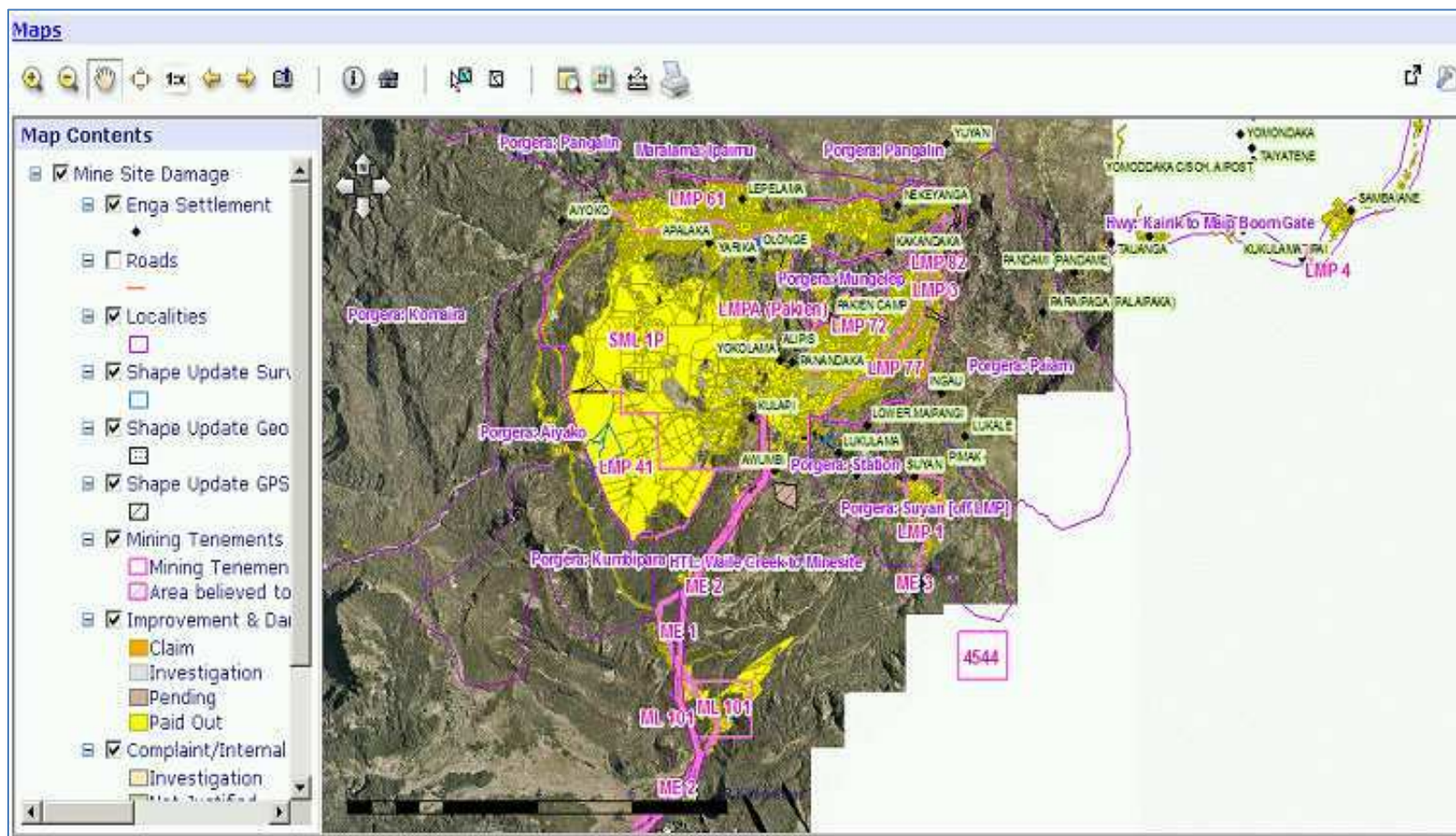
Part Coordinates: Unit: Degree

Order	Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
1	5	23	40.77	S	143	23	47.31	E
2	5	23	40.53	S	143	23	47.03	E
3	5	23	38.88	S	143	23	47.58	E
4	5	23	38.51	S	143	23	48.31	E
5	5	23	38.65	S	143	23	49.65	E
6	5	23	39.36	S	143	23	51.68	E

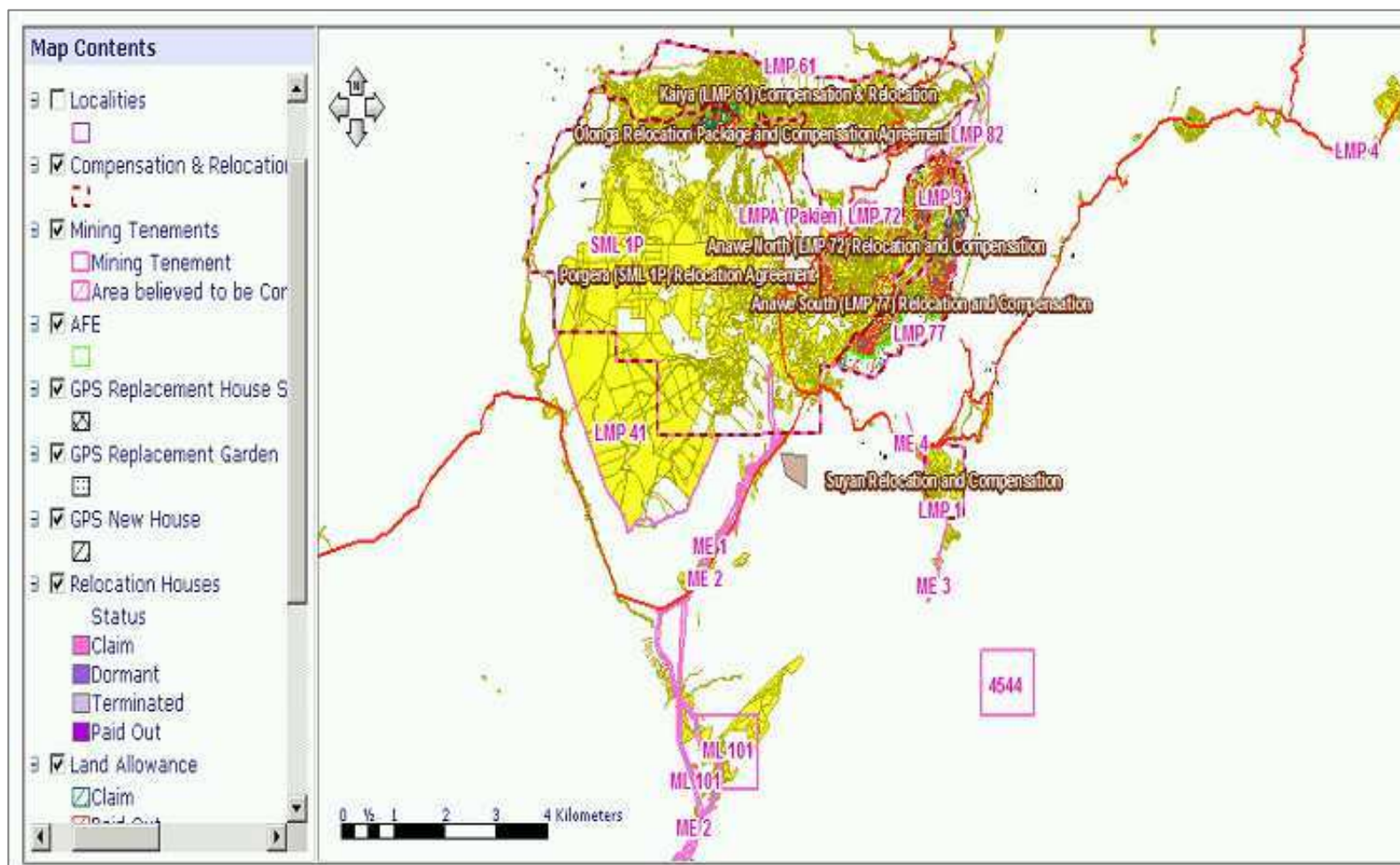


Map service for Damage Compensation

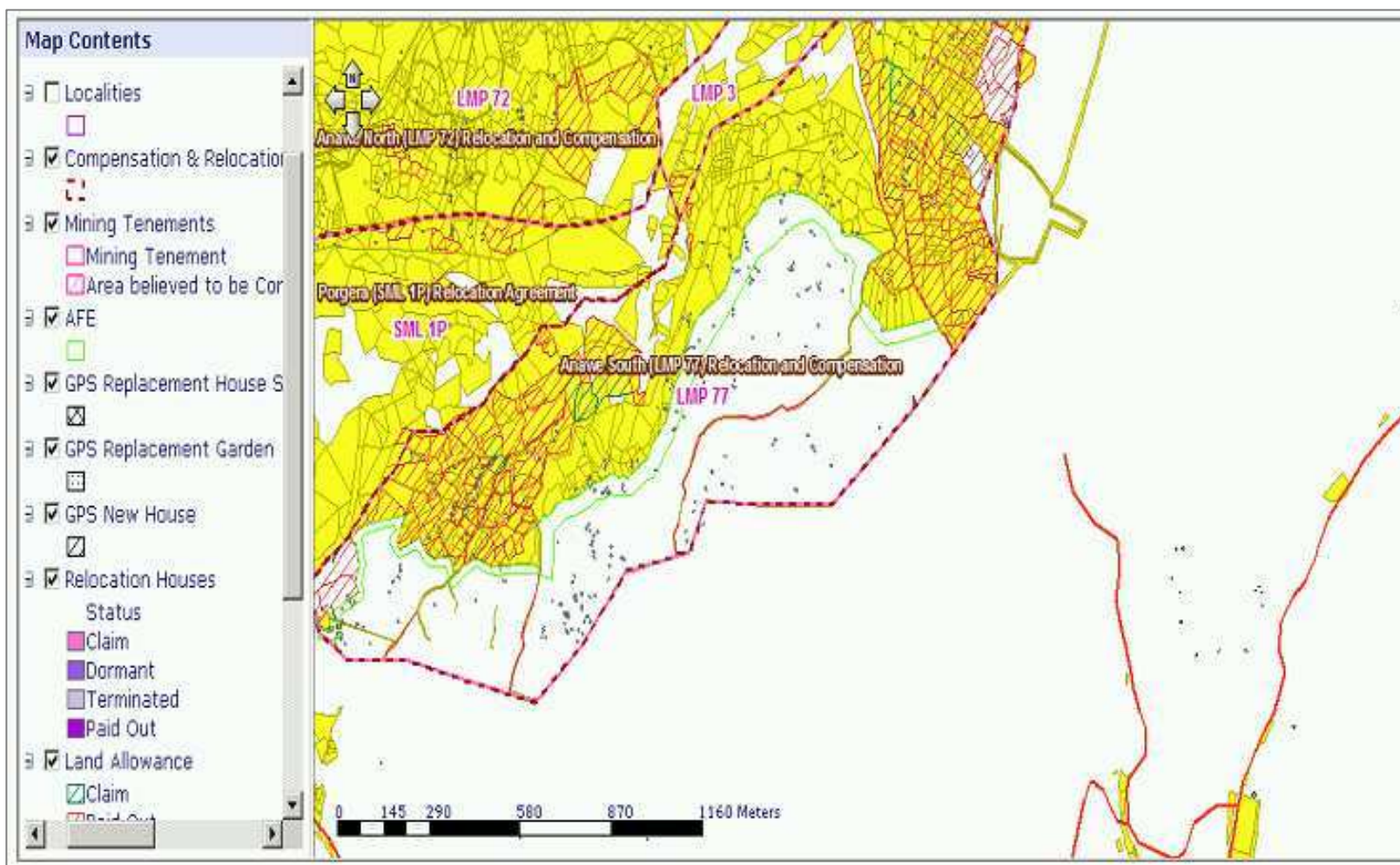
- On the mine site



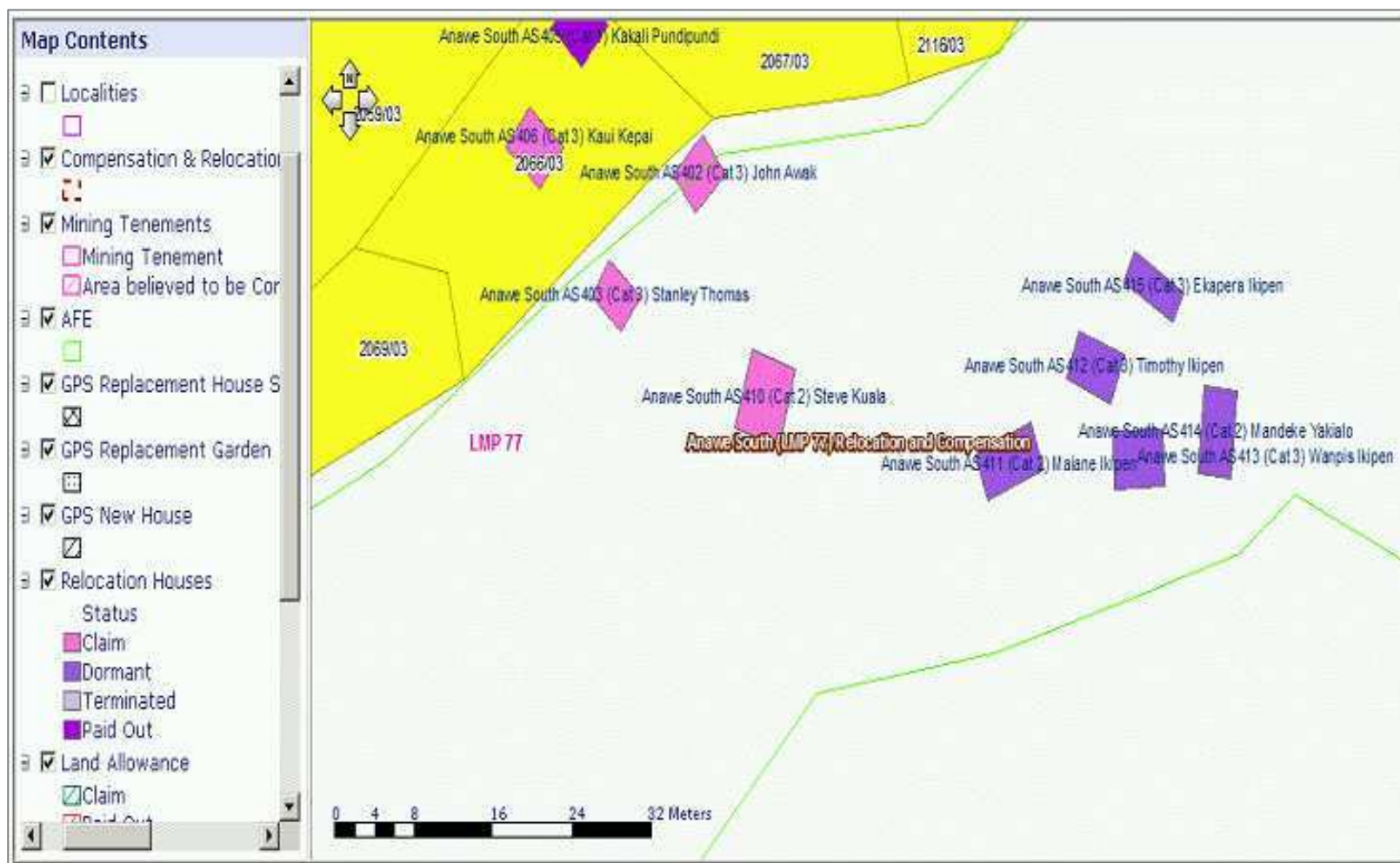
Map service for Relocation



Map service for Relocation



Map service for Relocation



Map service for Relocation

Name: Olonga OL008 (Cat 1) Mila Apel	Sub Type: Relocation	Status: Claim
Code: PNG01180	Project: Porgera Mine	Area: SML
Parties: Barrick (Niugini) Limited, Barrick (Niugini) Limited, Mila Apel, Mila Apel, Mila Apel, Mineral Resources Enga Limited, Operations, Porgera Joint Venture	Start Date: 05/Mar/2010	End Date:

General
Parties
Conditions
Reference Codes
Signatories
Licenses
Shape
Map References
Documents
Groups
Actions Open
Actions Closed

Jurisdictions
Resources
Related Agreements
Roles
Work Accounts
Audit

Shape Area

Official Area: Hectare [GET AREA](#)

Calculated Area: 0.0027 Hectare

Coordinate System:

View coordinates in: DMS DD


Shape Parts

Part
<input checked="" type="checkbox"/> Part 1

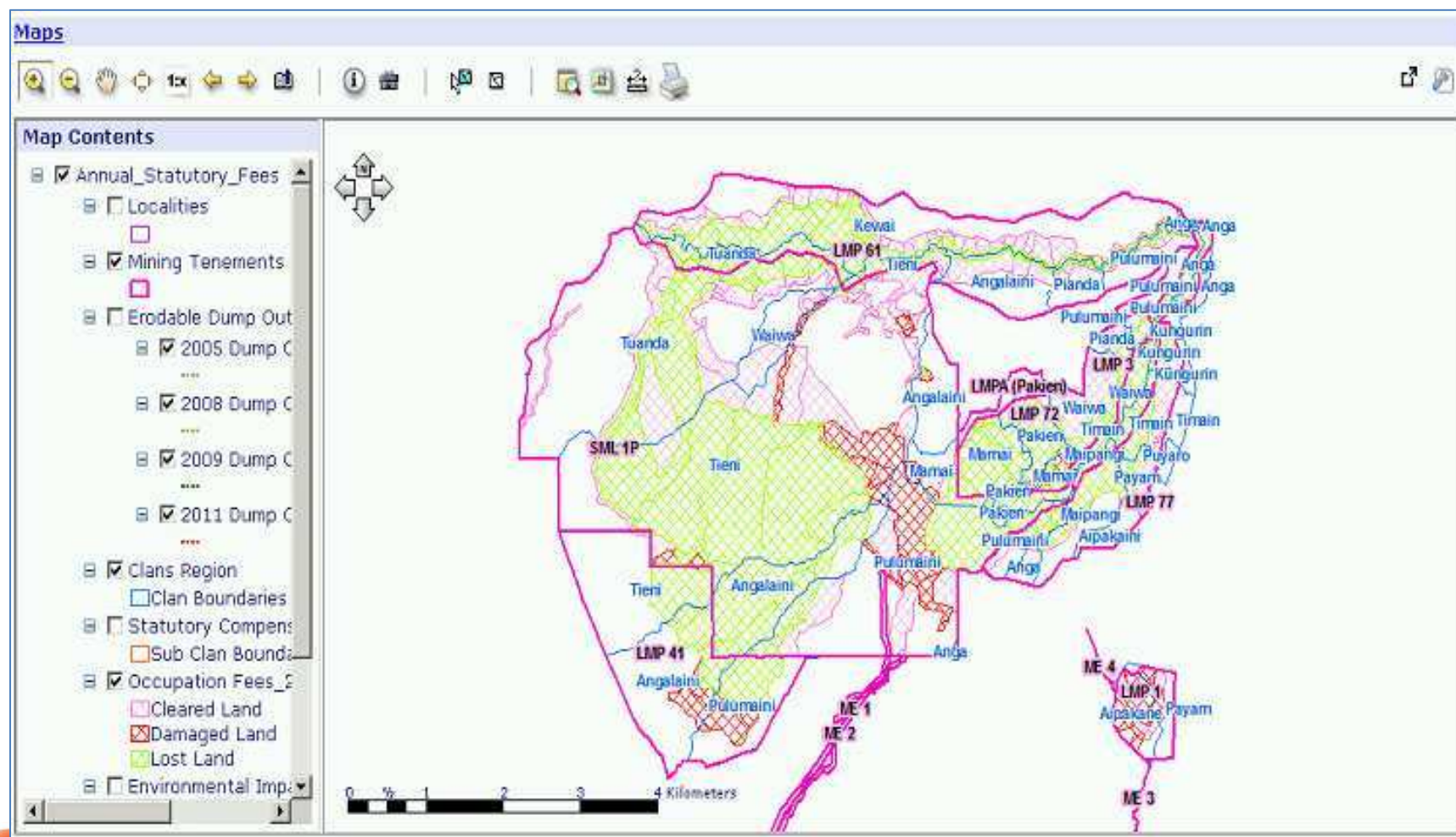
Add coordinate to part

Part Coordinates: Unit: Degree

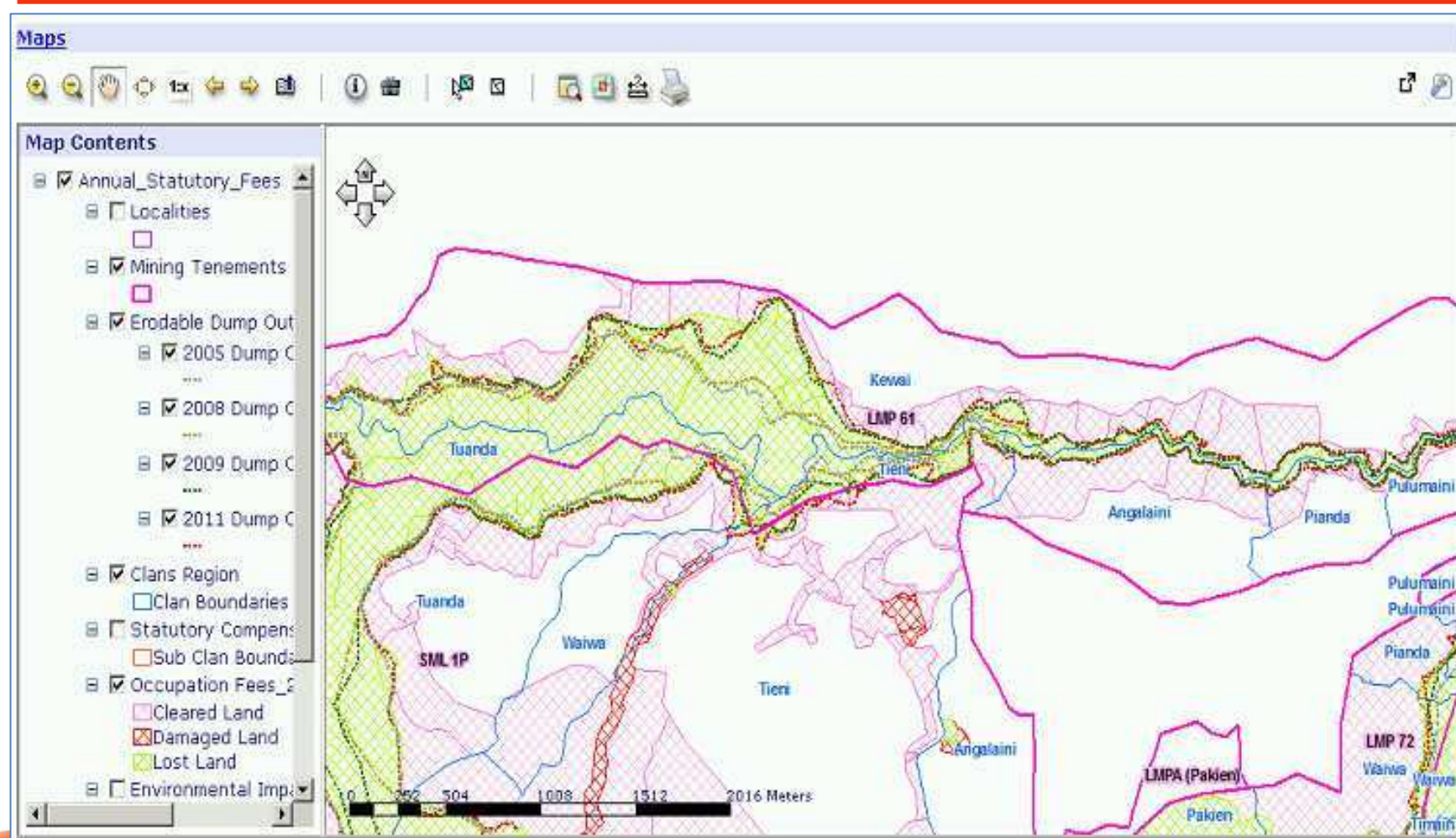
Order	Lat Deg	Lat Min	Lat Sec	N/S	Long Deg	Long Min	Long Sec	E/W
1	5	26	48.08	S	143	5	56.70	E
2	5	26	48.02	S	143	5	56.85	E
3	5	26	48.19	S	143	5	56.93	E
4	5	26	48.24	S	143	5	56.78	E



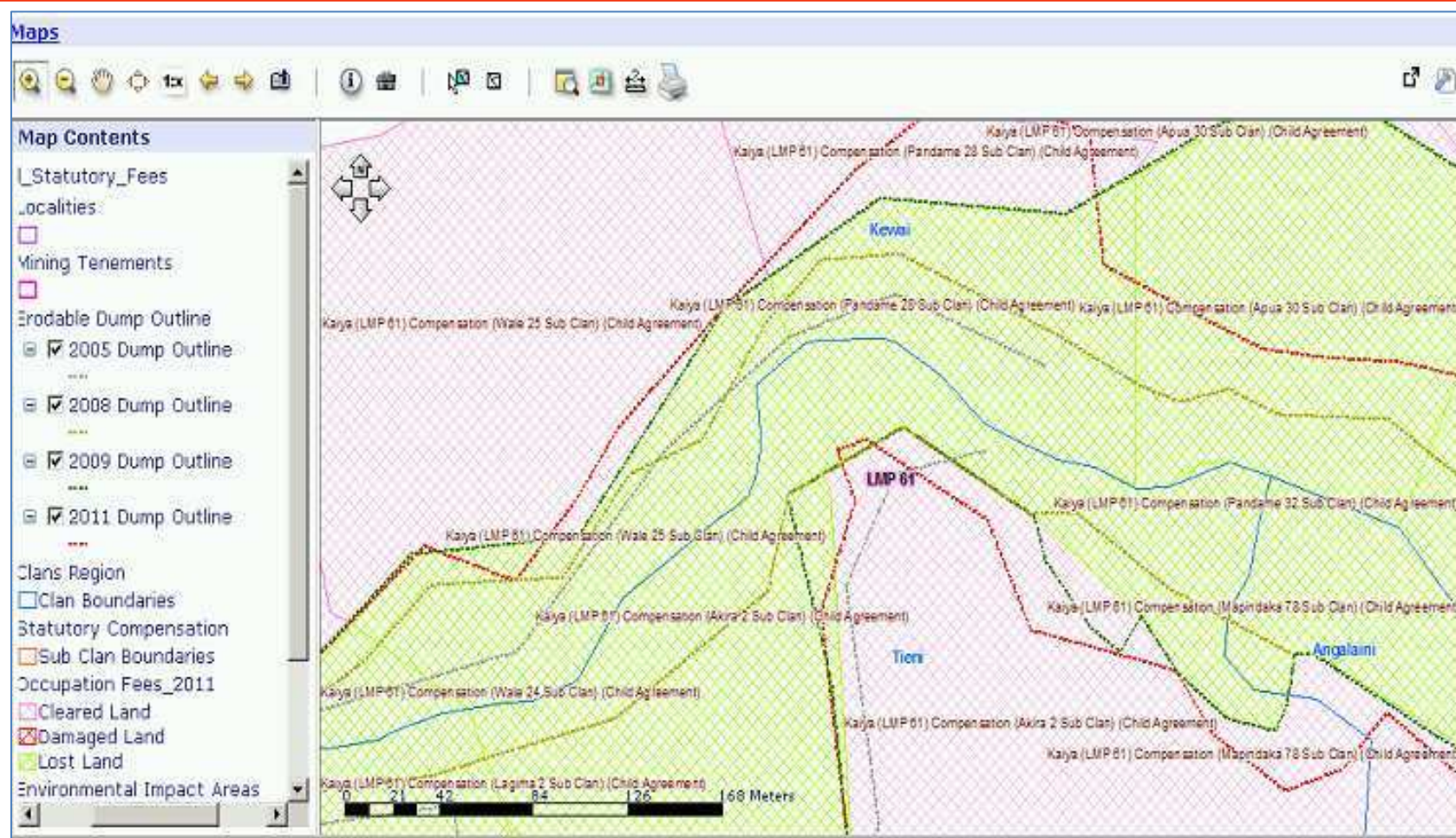
Map service for Statutory Agreements



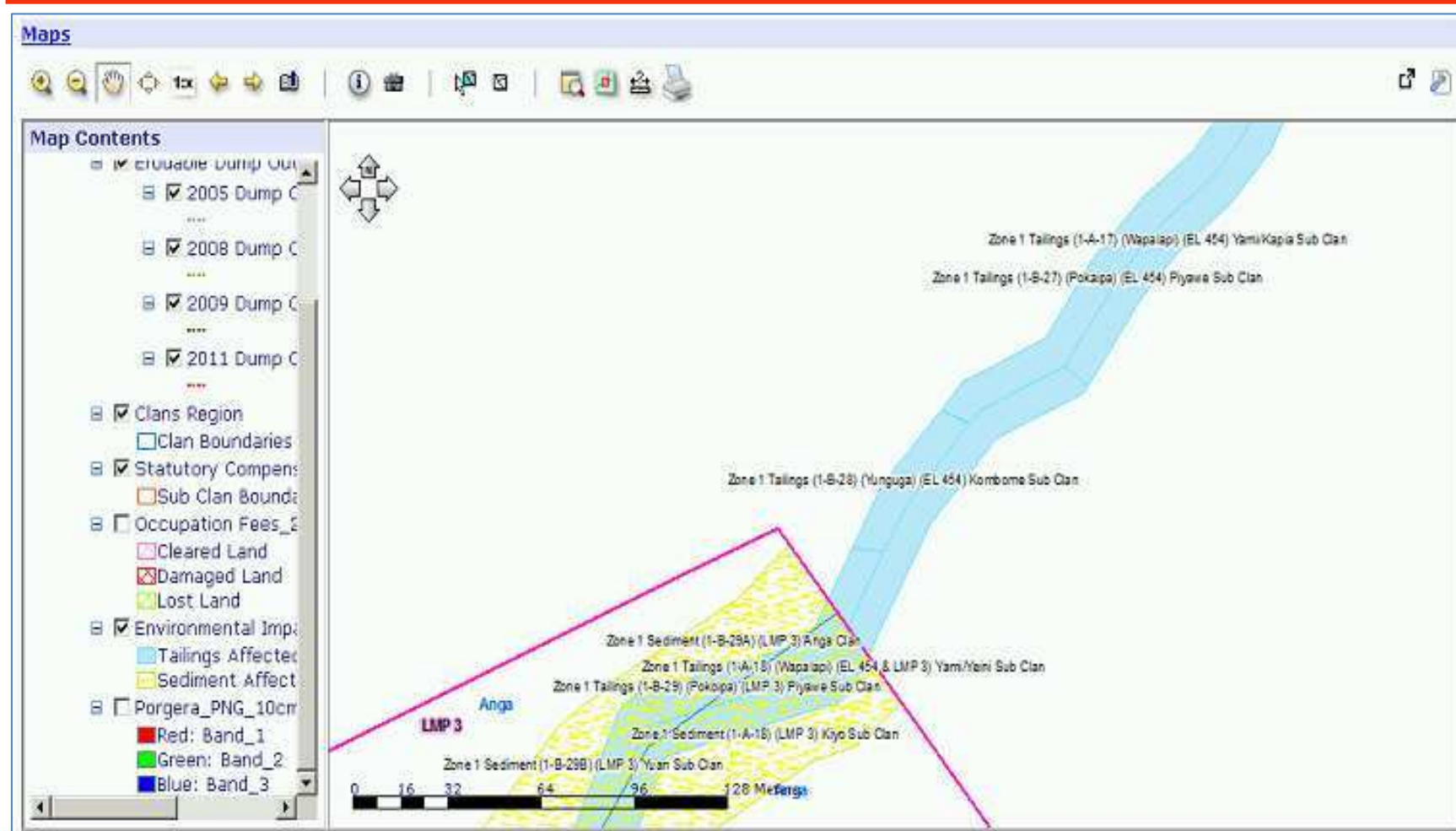
Map service for Statutory Agreements



Map service for Statutory Agreements

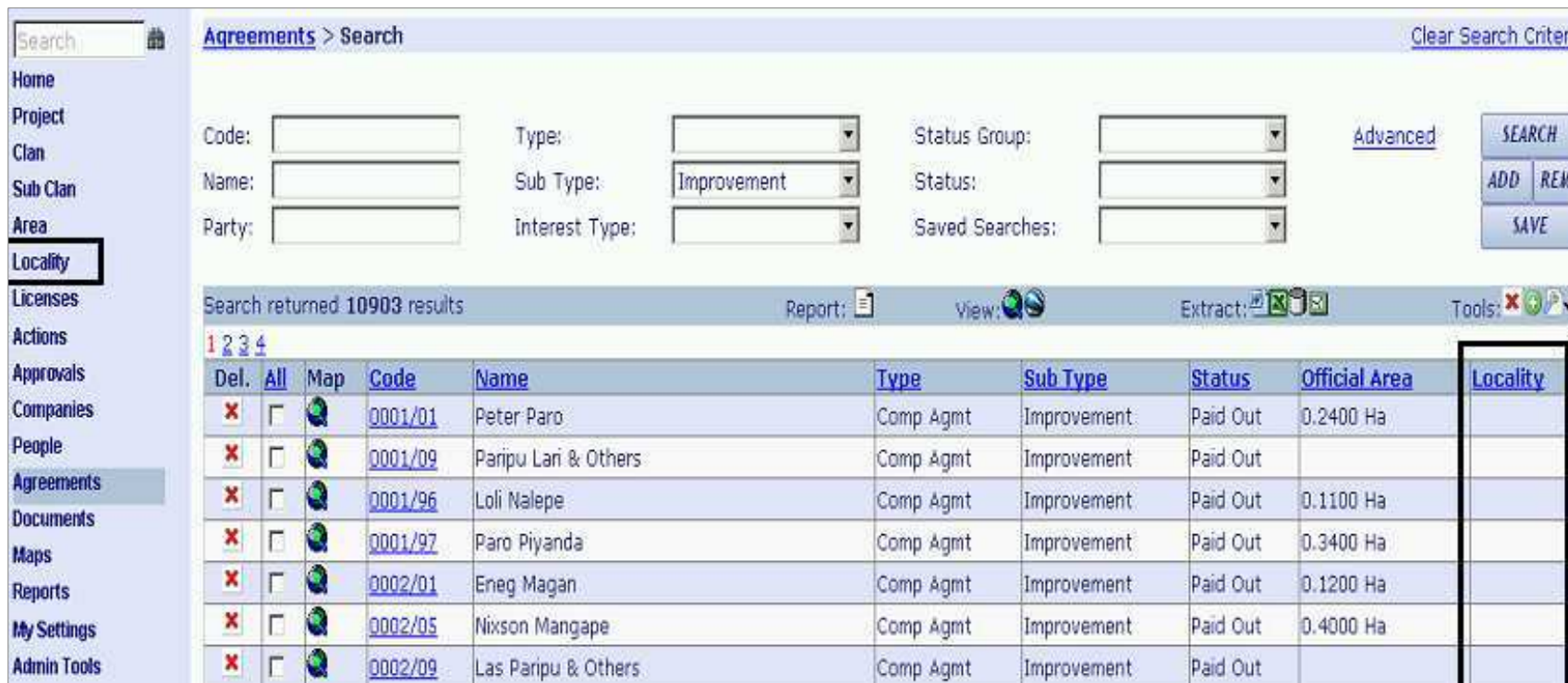


Map service for Statutory Agreements



Selection by Location

- Using the Select tool on the map to identify and link agreements to the correct Locality



The screenshot shows the 'Agreements > Search' interface. The search criteria are: Code (empty), Name (empty), Party (empty), Type (empty), Sub Type (Improvement), Interest Type (empty), Status Group (empty), Status (empty), and Saved Searches (empty). The search returned 10903 results. The table below shows the first seven results, with the 'Locality' column highlighted by a black box.

Del.	All	Map	Code	Name	Type	Sub Type	Status	Official Area	Locality
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0001/01	Peter Paro	Comp Agmt	Improvement	Paid Out	0.2400 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0001/09	Paripu Lari & Others	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0001/96	Loli Nalepe	Comp Agmt	Improvement	Paid Out	0.1100 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0001/97	Paro Piyanda	Comp Agmt	Improvement	Paid Out	0.3400 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0002/01	Eneg Magan	Comp Agmt	Improvement	Paid Out	0.1200 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0002/05	Nixson Mangape	Comp Agmt	Improvement	Paid Out	0.4000 Ha	
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0002/09	Las Paripu & Others	Comp Agmt	Improvement	Paid Out		

Map service requirements

- Map service to include layers for
 - Localities
 - Agreements with the missing localities



Selecting the Locality

- Either through selecting locality directly on the map
- Or finding locality in groups list & viewing in map



Search [Clear Search Criteria](#)

Home
Project
Clan
Sub Clan
Area
Locality
Licenses
Actions
Approvals
Companies
People
Agreements
Documents
Maps
Reports
My Settings
Admin Tools

Locality > Search

Name: Group Type: Status:

Code: Region:

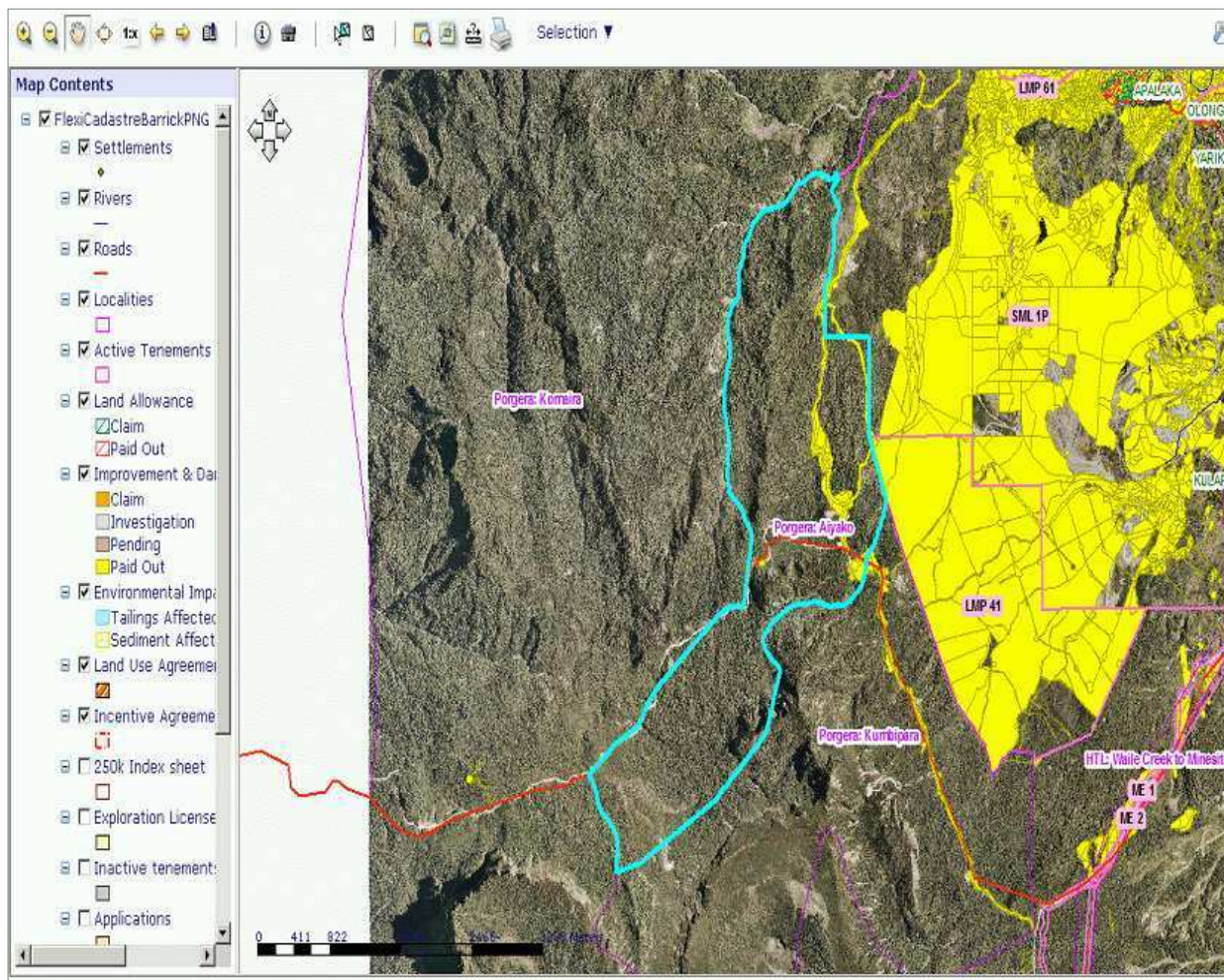
Party: Jurisdiction:

[Advanced](#) [SEARCH](#) [ADD](#) [REM](#) [SAVE](#)

There are 40 Groups in the list. Report: View: Extract: Tools:

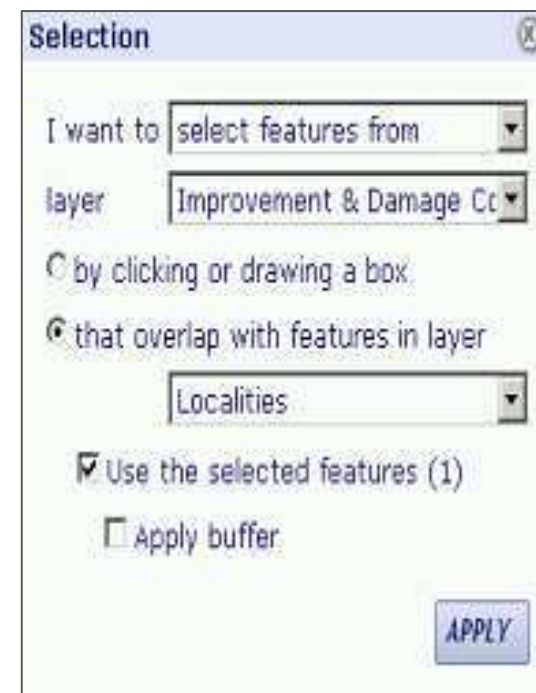
Del.	All	Map	Name	Code	Parties	Licenses	Agreements
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Porgera: Aiyako	Ayako		0	2
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Maralama: Ipaimu	Ipaimu		0	6
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Tau Bridge to Kasap C/School	HWY		0	2
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Maip Boom Gate to Tau Bridge	HWY		0	3
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Lama Bridge to Lai Bridge	HWY		0	0
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Lai Bridge to Wabag	HWY		0	0
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Kera Bridge to Kandep Junction	HWY		0	0

Locality Selected

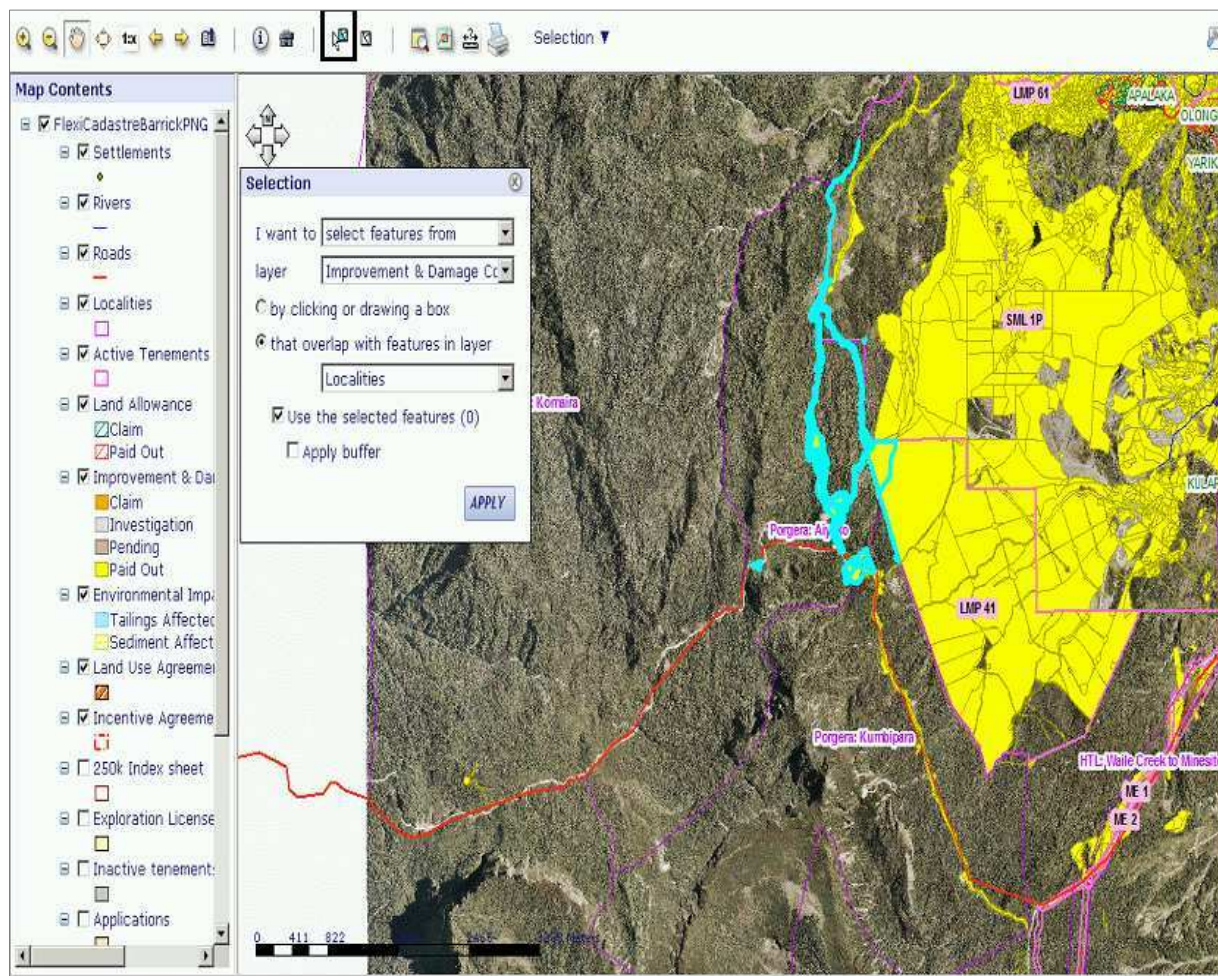


Select agreements in this locality

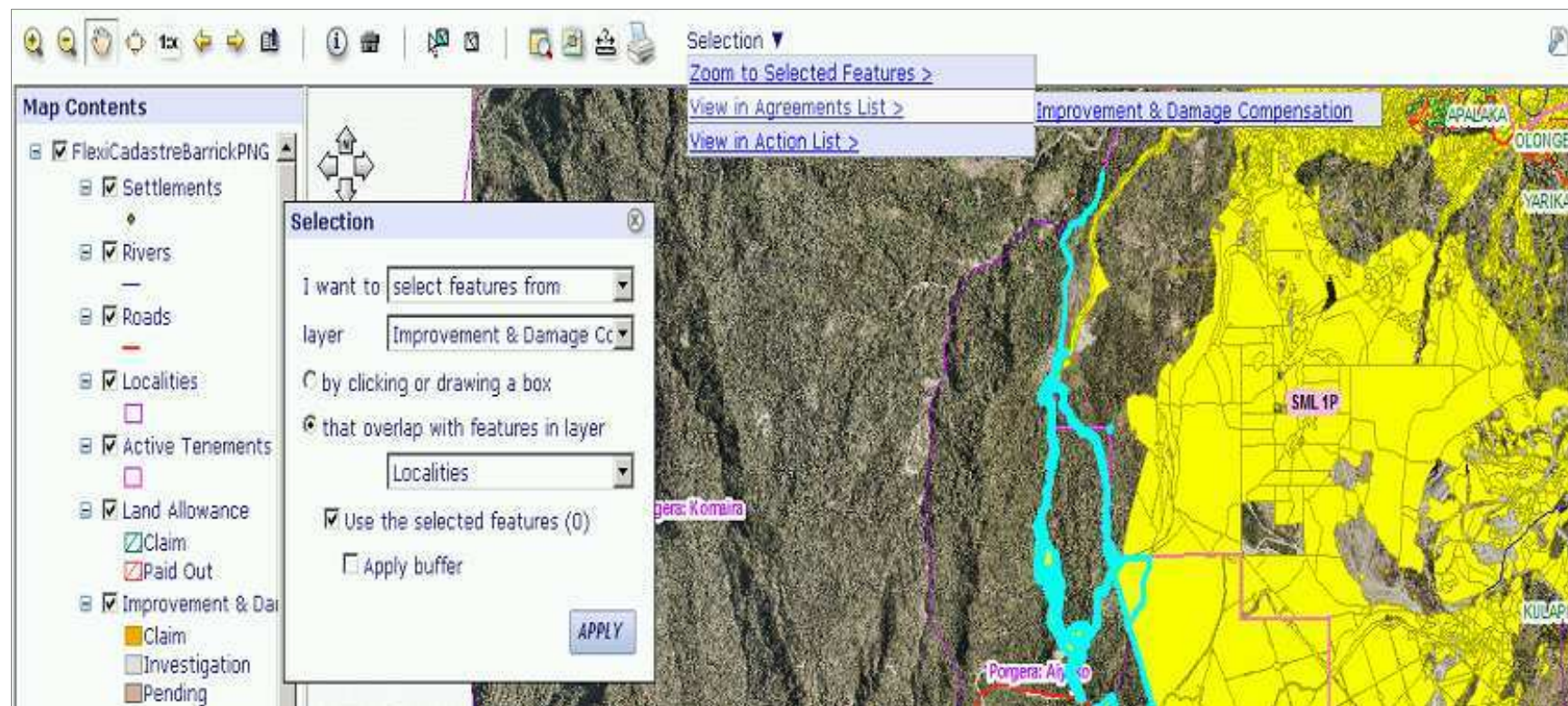
- Using the Select Tool
 - What to do...
 - Which layers to select from..
 - How to select them...
 - Specify which layer...
 - Used selected features in layer only?



Agreements in locality selected



View selection in agreement List



List of selected agreements

Search [Clear Search Criteria](#)

Agreements > Search

Code: Type: Status Group: [Advanced](#)

Name: Sub Type: Status:

Party: Interest Type: Saved Searches:

Search returned 46 results Report: View: Extract: Tools:

Del.	All	Map	Code	Name	Type	Sub Type	Status	Official Area	Locality
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0006/07	Nixon Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0007/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0008/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0009/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0010/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0011/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0012/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0013/07	Nixon Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0014/07	Nixon Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0015/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>	<input type="checkbox"/>		0016/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		

Link agreements in list to locality

Locality > Details SAVE CANCEL

Group Name: **Porgera: Aiyako**

General Parties Licenses Reference Codes Shape Map References Agreements Documents Actions Open Actions Closed Resources
 Related Groups Roles Work Accounts Audit

There are 2 Agreements associated with this group. Report: View: Extract: Tools:

Del.	All	Map Code	Name	Sub Type	Start	End	Status	Clan	Sub Clan	Locality
<input checked="" type="checkbox"/>	<input type="checkbox"/>	 PNG02210	Mine Department	Damage	15/May/2011	29/May/2011	Paid Out	Tieni Clan	Uape/Tata Sub Clan	Porgera: Aiyako
<input checked="" type="checkbox"/>	<input type="checkbox"/>	 PNG03178	Anawe South- Paul Apakali (LA Test)	Land Allowance	13/Dec/2011		Claim	Pulumaini Clan	Nalap Sub Clan	Porgera: Aiyako

Using sticky searches

AgreementSearchPopup - Microsoft Internet Explorer provided by Barrick Gold Corporation

Group > Select multiple Agreements [Clear Search Criteria](#)

[ADD SELECTED](#)

Code: Type: Status Group: Advanced [SEARCH](#)

Name: Sub Type: Status: [ADD](#) [REM](#)

Party: Interest Type: Saved Searches: [SAVE](#)

Search returned 46 results [Report](#) [View](#) [Extract](#) [Tools](#)

All	Map	Code	Name	Type	Sub Type	Status	Official Area	Locality
<input checked="" type="checkbox"/>		0006/07	Nixon Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0007/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0008/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0009/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0010/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0011/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0012/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0013/07	Nixon Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0014/07	Nixon Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0015/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0016/07	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0023/08	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0024/08	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0025/08	Terry Mangape	Comp Agmt	Improvement	Paid Out		
<input checked="" type="checkbox"/>		0026/08	Margalo Koria	Comp Agmt	Improvement	Paid Out	0.4000 Ha	

Agreements linked to locality

Search:  **Locality > Details** <-- EDIT -->

Group Name: **Porgera: Aiyako**

General Parties Licenses Reference Codes Shape Map References Agreements Documents Actions Open Actions Closed Resources

Related Groups Roles Work Accounts Audit

There are 48 Agreements associated with this group. Report:  View:  Extract:  Tools: 

1 2 3

All	Map	Code	Name	Sub Type	Start	End	Status	Clan	Sub Clan	Locality
<input type="checkbox"/>		0005/07	Nixon Mangape	Improvement	26/Jan/2007	26/Jan/2007	Paid Out	Tieni Clan	Uape Sub Clan	Porgera: Aiyako
<input type="checkbox"/>		0007/07	Terry Mangape	Improvement	26/Jan/2007	26/Jan/2007	Paid Out	Tieni Clan	Uape Sub Clan	Porgera: Aiyako
<input type="checkbox"/>		0008/07	Terry Mangape	Improvement	27/Jan/2007	27/Jan/2007	Paid Out	Tieni Clan	Uape Sub Clan	Porgera: Aiyako
<input type="checkbox"/>		0009/07	Terry Mangape	Improvement	26/Jan/2007	26/Jan/2007	Paid Out	Tieni Clan	Uape Sub Clan	Porgera: Aiyako
<input type="checkbox"/>		0010/07	Terry Mangape	Improvement	25/Jan/2007	25/Jan/2007	Paid Out	Tieni Clan	Uape Sub Clan	Porgera: Aiyako
<input type="checkbox"/>		0011/07	Terry Mangape	Improvement	27/Jan/2007	27/Jan/2007	Paid Out	Tieni Clan	Uape Sub Clan	Porgera: Aiyako

Agreements linked to locality

Search Locality > Search Clear Search Criteria

Name: Group Type: Status: [Advanced](#)

Code: Region:

Party: Jurisdiction:

There are 40 Groups in the list. [Report](#) [View](#) [Extract](#) [Tools](#)

1 2

Del.	All	Map	Name	Code	Parties	Licenses	Agreements
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Porgera: Aiyako	Ayako		0	48
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Maralama: Ipaimu	Ipaimu		0	6
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Tau Bridge to Kasap C/School	HWY		0	2
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Maip Boom Gate to Tau Bridge	HWY		0	3
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Lama Bridge to Lai Bridge	HWY		0	0
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Lai Bridge to Wabag	HWY		0	0
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Kera Bridge to Kandep Junction	HWY		0	0
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Kasap C/School to Kera Bridge	HWY		0	0
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Kandep Junction to Lama Bridge	HWY		0	0
<input checked="" type="checkbox"/>	<input type="checkbox"/>		Hwy: Kairik to Maip Boom Gate	HWY		0	19

The End

Thank- you!