

2013 KUMBA IRON ORE Phase I Flexicadastre Implementation for RSA Prospecting Right Management

Flexicadastre User Conference 2014



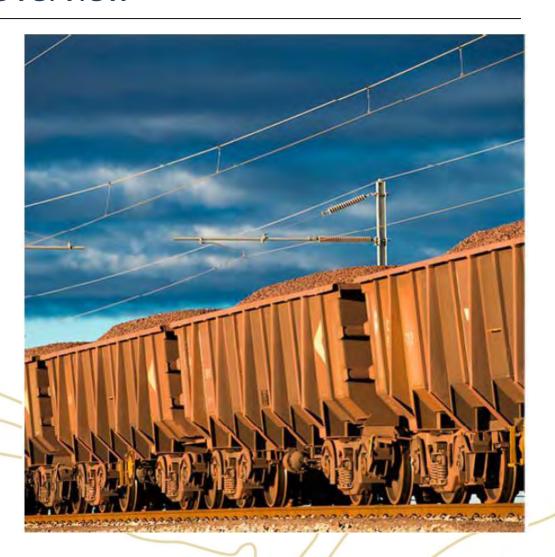
Tankiso Mabote (Senior Specialist - GIS)

Kumba Iron Ore



Overview

- 1. Introduction
- 2. Challenge
- 3. Objective
- 4. Why Flexicadastre?
- 5. Implementation
 - Scoping
 - Project Team
 - Business Process Mapping
 - Workshops
 - Software Installation
 - System Configuration
 - Data Import
 - Training
 - Use Acceptance Testing
- 6. Obstacles
- 7. Conclusion





1. INTRODUCTION

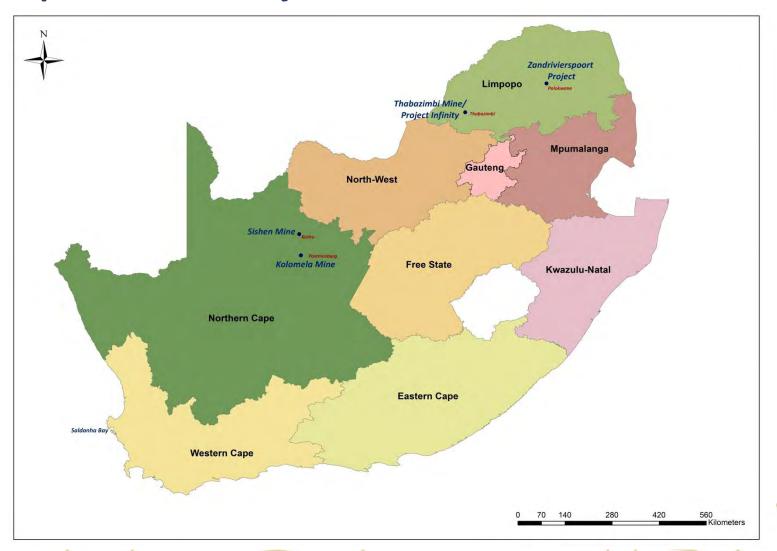
About Kumba Iron Ore

- Kumba Iron Ore is a member of the Anglo American plc group
- Value-adding supplier of high quality iron ore to the global steel industry
- Production per annum 43.1 million tonnes (Mt) in 2012
- Mining Operations (Sishen, Kolomela, Thabazimbi)
- Port Operations (Saldanha Bay)
- 7000 Full time employees and 4000 contractors



1. INTRODUCTION

Operations & Projects



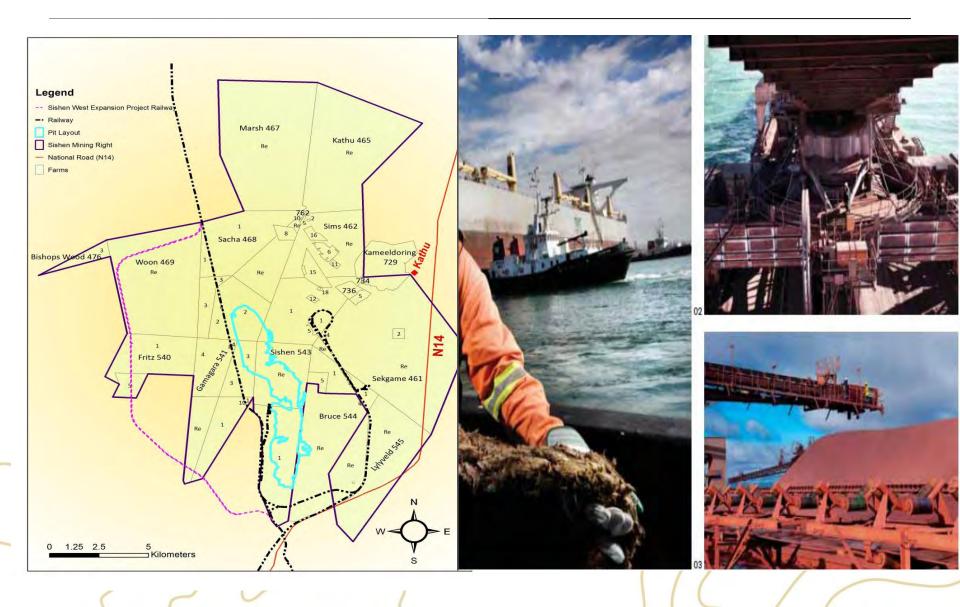


1. INTRODUCTION

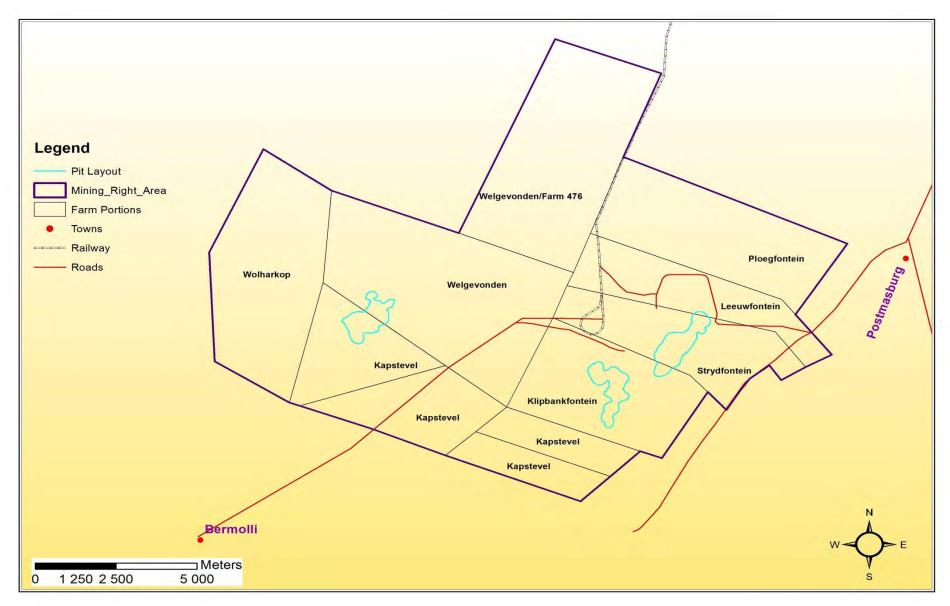
Rights

- Surface Rights 108 Farm Portions
- 25 (12 active) Prospecting Rights 116 Farm Portions
- 4 Mining Rights 65 Farm Portions

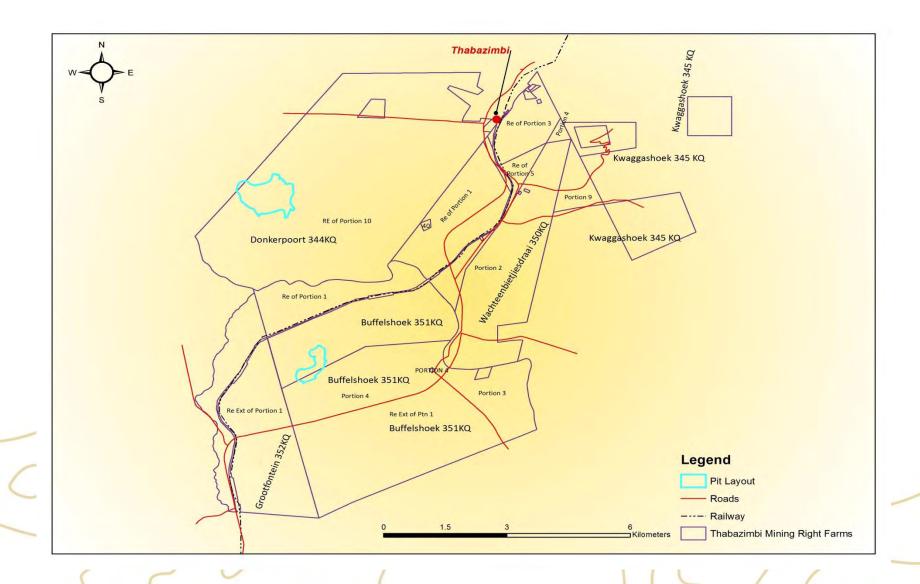












2. CHALLENGE

- Legacy system based on MS Excel
- Not web-based
- Spatial and attribute info not integrated
- Not workflow driven
- Does not ensure compliance to legislation





3. OBJECTIVE

- Ensure land is actively and efficiently administered
- Minimise corporate risk trigger events and reporting
- Integrate spatial and attribute data for prospecting rights
- Better manage third party access agreements
- Avoid loss of prospecting right

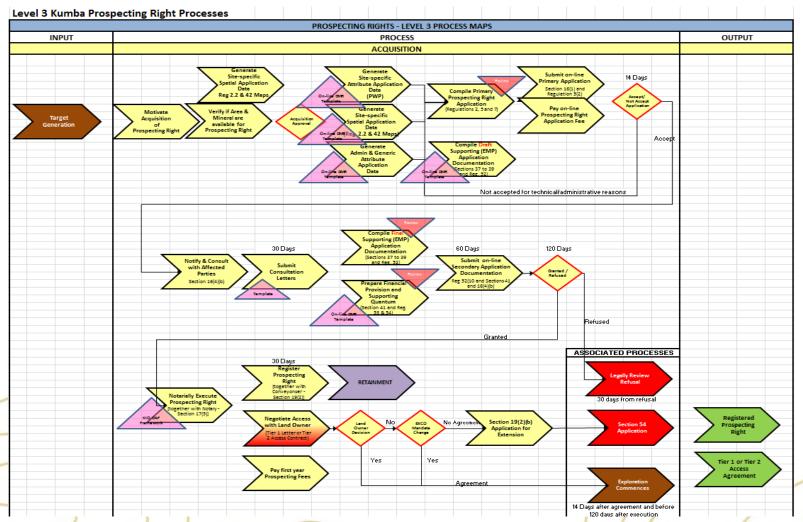


4. WHY FLEXICADASTRE?

- Anglo group standard for mineral rights management (considered best practice in industry)
- Scalability
- Integration of spatial data with attribute data
- Adaptability to match External (adherence to MPRDA) and Internal (Kumba governance processes) requirements



Process Mapping





RACI Matrix

A - Accountable, R_E - Responsible for Execution, R_M - Responsible for Management (guidance and coordination), C - Consult and I - Inform

	INI	PUT										ACQUI										
			1a	1b	1c	2a	2b	2c	2d	4a	2e	3a	3b	4b	4c	4c	5a	6a	3с	3d	7a	8a
OPERATIONS / PROJECTS	Target Generation	Exploration	Motivate Acquisition of Prospecting Right	Verify if Area & Mineral are available for Prospecting Right	Acquisition Approval	Generate Site Specific Attribute Application Data (PWP)	Generate Site-specific Spatial Application Data (Reg 2.2 & 42 Maps)	Generate Admin and Generic Attribute Application Data	Complile Primary Prospecting Right Application	Compile Draft Supporting EMP Application Documentation	Lodge Application and Pay Prospecting Right Application Fee	Notify and Consult with Affected Parties	Submit Consultation Letters	Compile Final Supporting EMP Application Documentation	Prepare Financial Provision and Supporting Quantum	Submit Secondary Application Documentation	Notarially Execute Prospecting Right	Register Prospecting Right	Negotiate Access with Land Owner	Section 19(2)(b) Application for extension	Section 54 Application	Legally Review Refusal
Kumba Corporate Office																						
Data Analyst			- 1	R _E				R _E	$R_{\rm E}$		R _E		\mathbf{R}_{E}			R _E	С	R _E		R _E		
Senior GIS Specialist			- 1																			
		1				1	I I					С		1	1						- 1	
Environmental Manager												_										
Environmental Manager Principal - Exploration			R _M		ı	R _M				R _M	ı	R _M		R _M	R _M		_	ı	R _M	- 1	- 1	
			R _M	R _M	I I	R _M	R _M	R _M	R _M	R _M	I R _M		R _M	R _M	R _M	R _M	C	I R _M	R _M	I R _M	I	
Principal - Exploration			R _M	R _M		R _M	R _M	R _M	R _M	R _M	_	R _M	R _M	R _M	R _M	R _M		I R _M	R _M			
Principal - Exploration Principal - Mineral Resources			T							R _M	R _M	R _M C					С		R _M	R _M	ı	R _E
Principal - Exploration Principal - Mineral Resources Head - Geosciences			T							R _M	R _M	R _M C					С		R _M	R _M	I I	R _E
Principal - Exploration Principal - Mineral Resources Head - Geosciences Legal Compliance Officer			T							R _M	R _M	R _M C					C R _E	A	R _M	R _M	I I R _E	
Principal - Exploration Principal - Mineral Resources Head - Geosciences Legal Compliance Officer Head - Legal			T								R _M	R _M C		ı	I		C R _E	A		R _M	I I R _E	
Principal - Exploration Principal - Mineral Resources Head - Geosciences Legal Compliance Officer Head - Legal Head - Environmental Management			T								R _M	R _M C		ı	I		C R _E	A		R _M	I I R _E	
Principal - Exploration Principal - Mineral Resources Head - Geosciences Legal Compliance Officer Head - Legal Head - Environmental Management Head - Business Development Executive Head - Technical Services Principal - Geotech and Geohydrology			T		1						R _M	R _M C		ı	I		C R _E	A I		R _M	I I R _E	A
Principal - Exploration Principal - Mineral Resources Head - Geosciences Legal Compliance Officer Head - Legal Head - Environmental Management Head - Business Development Executive Head - Technical Services			T		1						R _M	R _M C		ı	I		C R _E	A I		R _M	I I R _E	A
Principal - Exploration Principal - Mineral Resources Head - Geosciences Legal Compliance Officer Head - Legal Head - Environmental Management Head - Business Development Executive Head - Technical Services Principal - Geotech and Geohydrology			T		1						R _M	R _M C		ı	I		C R _E	A I		R _M	I I R _E	A
Principal - Exploration Principal - Mineral Resources Head - Geosciences Legal Compliance Officer Head - Legal Head - Environmental Management Head - Business Development Executive Head - Technical Services Principal - Geotech and Geohydrology AAplc			T		1		A				R _M	R _M C		ı	I		C R _E	A I		R _M	I I R _E	A



Scoping

- After solution research, invited Spatial Dimension to present to Executive Head - Technical Services
- Contracted to do scoping exercise:
 - Review existing land management systems at Kumba
 - Understand Kumba requirements versus Flexicadastre system functionality
 - Review PR business processes and workflows
 - Review system deployment architecture



Scoping - Deliverables

- Business rule creation and workflow definition
- Association of documentation (AA, approvals)
- Payment schedules and obligations (fees, royalties)
- GIS functionality
- SharePoint connector
- Single sign-on using MS Active Directory



Scoping - Deliverables



- Monthly Status Summary Report (dates)
- Audit Trail

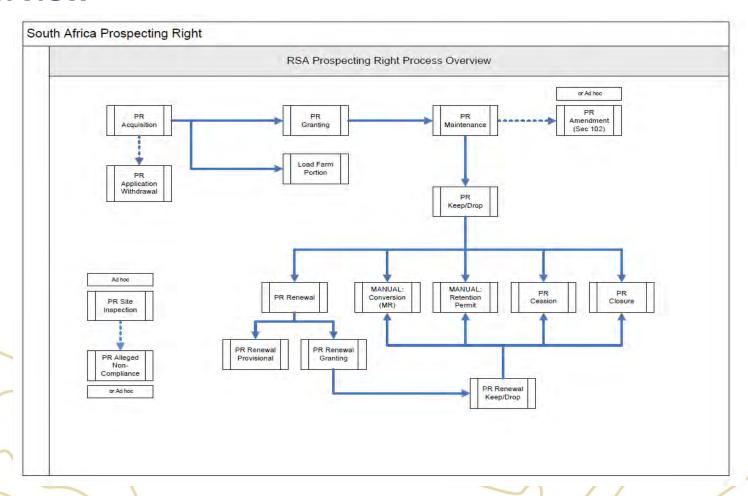


Project Team - Kumba

Name	Role/Responsibility - Project	Role/Responsibility – Post Project Implementation
Daleen Dudley	Project Manager – Overall delivery of the project	None
Stuart MacGregor	Project Owner/Business Lead – Technical inputs into Prospecting Rights to ensure business needs are met	Prospecting Right Management
Jean Britz	Project Sponsor – Provide expert knowledge on workflows, data, verify requirements, user acceptance test and jurisdiction needs	Co-responsible for Prospecting Right Management
Wandisile Mandlana	Legal Compliance – Anglo Group Legal	Legal Counsel
Lukas van Kasterop	Information Management – Vendor contracts and escalation, network and systems set-up (Capital Release, Project Management and Hosting)	Maintain System – SMA/SLA
Tankiso Mabote	GIS Data Management – Capturing the Spatial Data	Flexicadastre Administrator and Super User
Amanda Vonk	Data Analyst/Administration – Administration of the Prospecting Rights	Super User of Flexicadstre

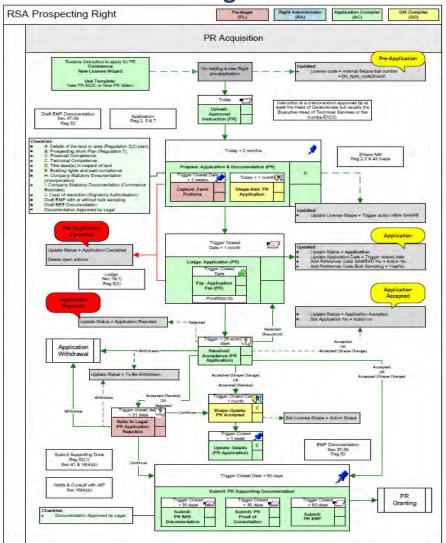


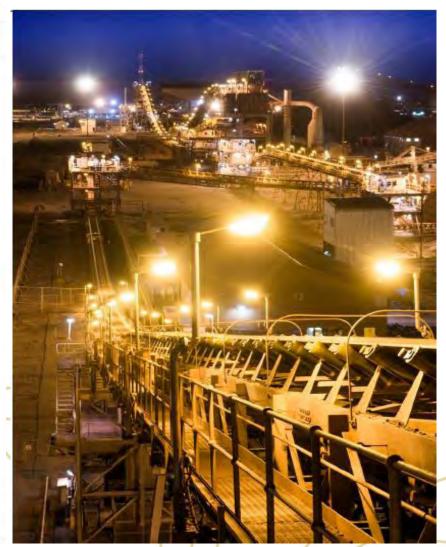
Overview





Flexicadastre Configuration







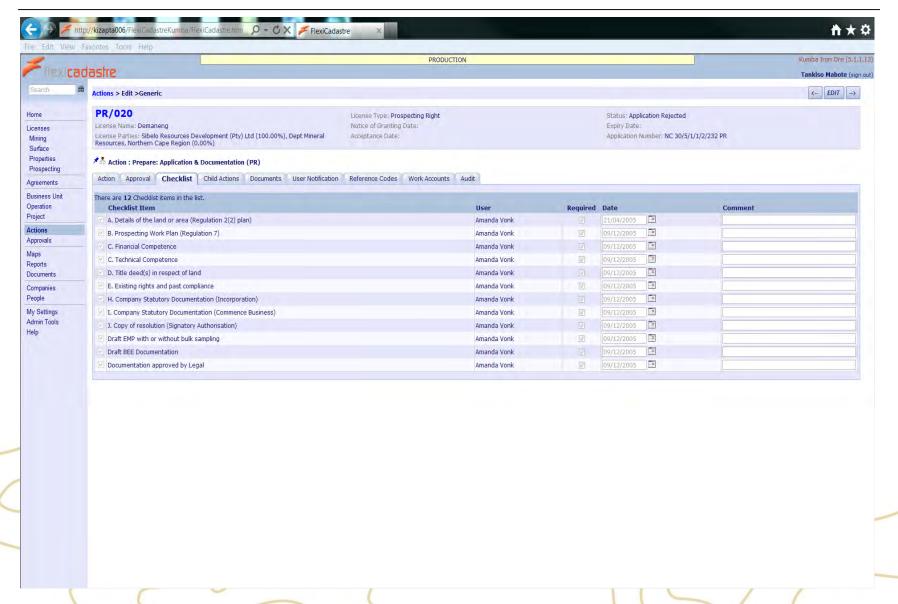
Data Import – PR Lodge



- A. Details of the land or area (Reg. 2(2) plan)
- C. Financial Competence
- C. Technical Competence
- D. Title deed(s) in respect of land
- E. Existing rights and past compliance
- H. Company Statutory Doc. (Incorporation)
- I. Company Statutory Doc. (Commence Business)
- J. Copy of resolution (Signatory Authorisation)
- EMP with or without bulk sampling
- **BEE Documentation**



Action with Checklist items





Supporting Documentation





Data Import – Maintenance/Obligations

20Y1 Pay Prospecting Fee

21Y1 Review EMP & PWP Compliance

22 Y1 Report: PR Annual Progress

23 Y1 Pay: Recalc. Fin Prov & Supp. Quantum (PR)

24 Y2 Pay Prospecting Fee

25 Y2 Review EMP & PWP Compliance

26 Y2 Report: PR Annual Progress Y2

27 Y2 Pay: Recalc. Fin Prov & Supp. Quantum (PR)

28 Y2 Report: PR Perfor. Asses. (Bianually)

29 Y3 Pay Prospecting Fee

30 Y3 Review EMP & PWP Compliance

31 Y3 Report: PR Annual Progress

32 Y3 Pay: Recalc. Fin Prov & Supp. Quantum (PR)

33 Y4 Pay Prospecting Fee

34 Y4 Review EMP & PWP Compliance

35 Y4 Report: PR Annual Progress

36 Y4 Pay: Recalc. Fin Prov & Supp. Quantum (PR)

37 Y4 Report: PR Perfor. Asses. (Bianually)

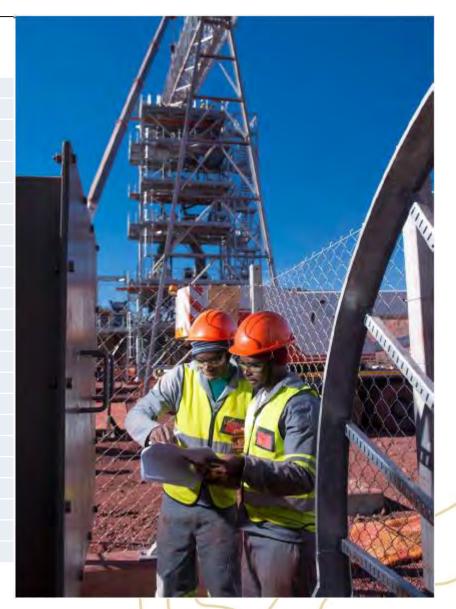
38 Keep / Drop PR

39 Y5 Pay Prospecting Fee

40 Y5 Review EMP & PWP Compliance

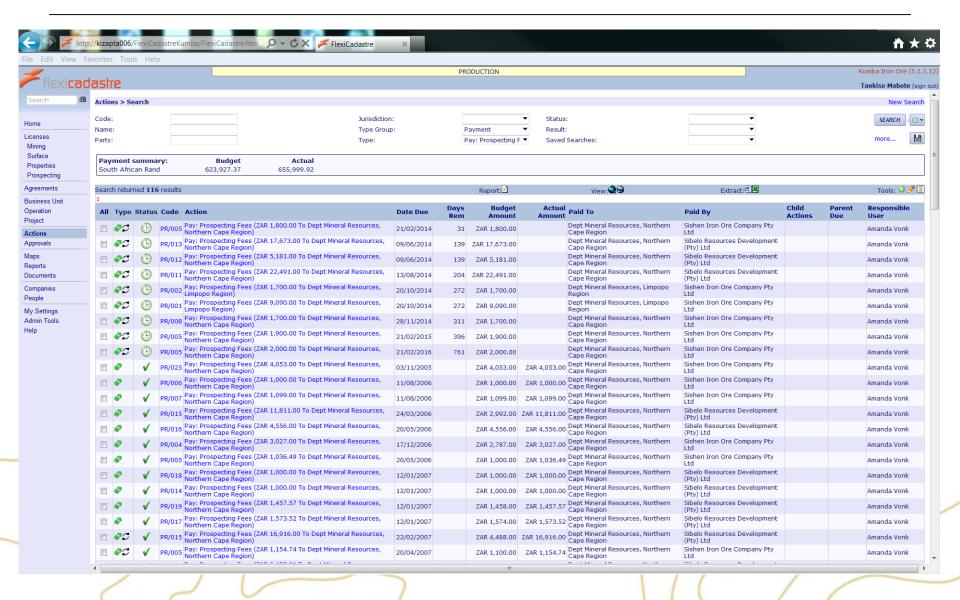
41 Y5 Report: PR Annual Progress

42 Y5 Pay: Recalc. Fin Prov & Supp. Quantum (PR)

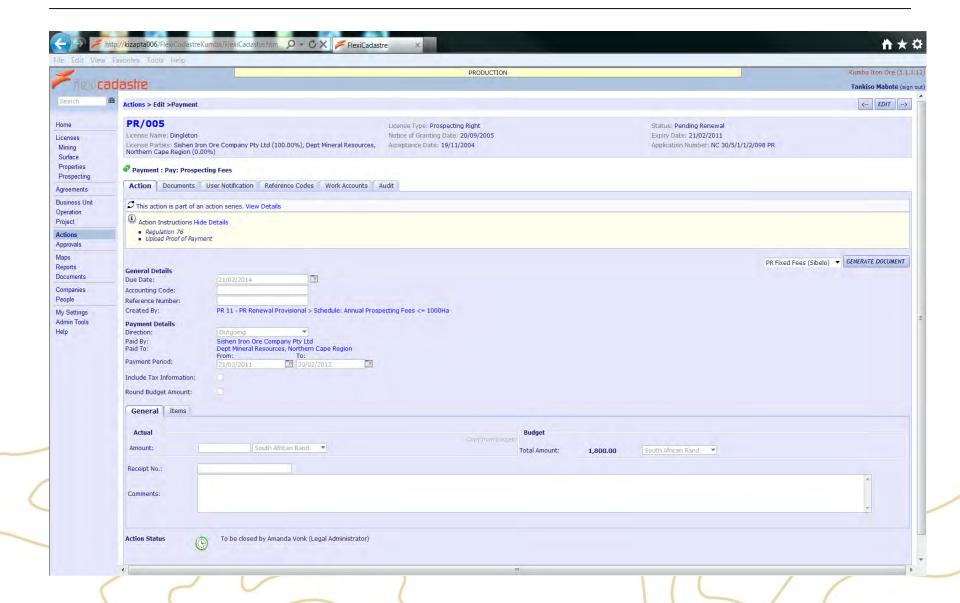














Data Import - Spatial

- Import Excel, shapefile
- Import shape from existing license (Farm Portions)
- Map Services from Anglo Exploration

RSA Cadastre

Parks

Magisterial Districts

Local Municipalities

District Municipalities

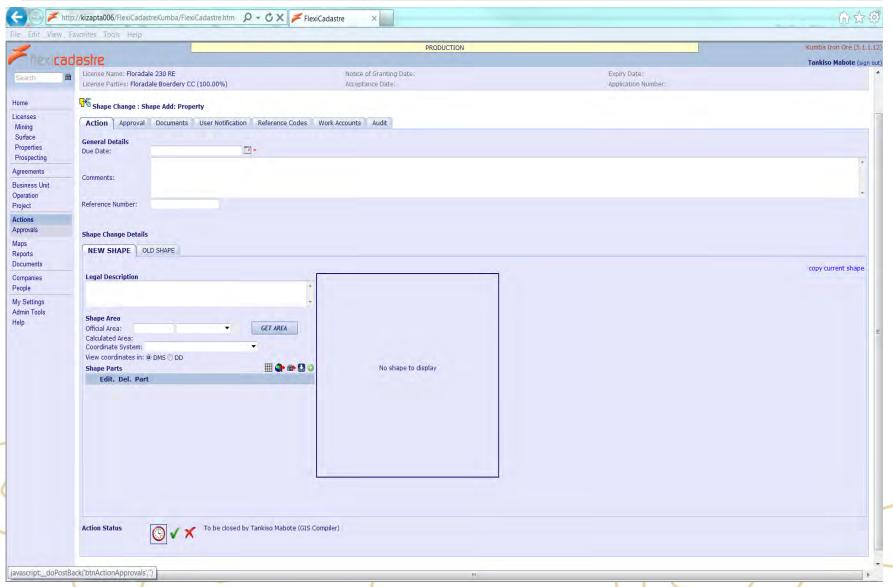
Grids (1 deg, 2 deg, 30 min, 15 min)

50k topo index

50k topo sheets

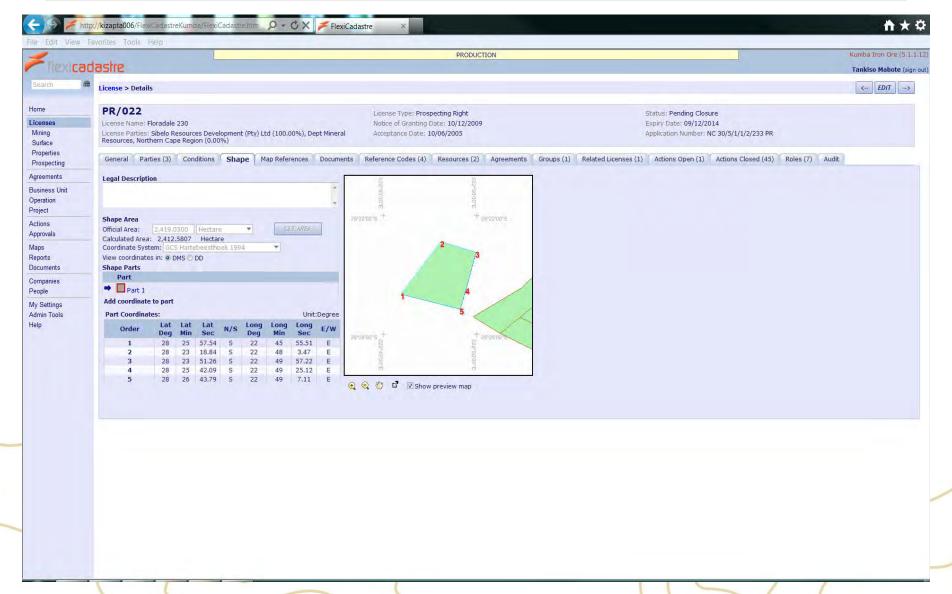


Action – Spatial Data





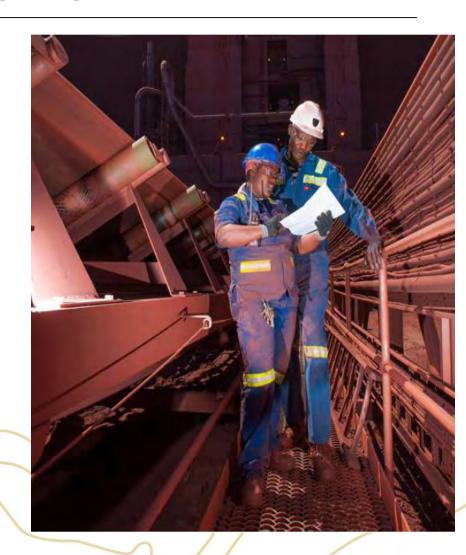
Spatial – Shape Details





6. UAT & Go-Live

- UAT completed without changes
- Go-Live delayed due resource availability and access issues to SharePoint connector



7. OBSTACLES

- Data Import resource availability
- Spatial Data not clean geometric errors
- Availability of personnel corporate plus sites
- IM group procedures (change request, map services)



8. CONCLUSION

- Flexicadastre is the right tool to manage mineral rights
- Flexicadastre will not do your job
- Business process mapping is key
- Involvement of all stakeholders important (workshops)
- Takes time to get fully integrated
- Phase II Mining and Surface Rights



THANK YOU

