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ENVIRONMENTAL



Prospecting Right and Environmental Authorisation Application for the 7L5 and 7L6 Slimes Dam on Vlakfontein 281 IR

Notification of Intent to Develop

Project Number:

ERG3537

Prepared for:

Ergo Mining (Pty) Ltd

August 2015



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Name	Responsibility	Signature	Date
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1 Introduction

Digby Wells Environmental (Digby Wells) was appointed by Ergo Mining (Pty) Ltd (Ergo) to undertake a Basic Assessment (BA) process for a Prospecting Right Application (GP 30/5/1/1/2 (10349) PR) for the 7L5 and 7L6 Slimes Dam Project (the Project) in the Magisterial District of Nigel. The BA process includes the following:

- Compilation of a Basic Assessment Report (BAR) which consists of:
 - An Environmental Impact Assessment (EIA); and
 - An Environmental Management Programme Report (EMPr).
- Related specialist studies; and
- A summary of the Public Participation Process (PPP).

1.1 Project Location

Table 1-1: Location data for the proposed 7L5 and 7L6 project

Name of property/ies		Vlakfontein 281 IR	
Erf or farm number/s		Remaining Extent, Portion 1 and Portion 9 of the farm Vlakfontein 281 IR	
Coordinates of approximate centre of project area	7L5	-26.331891	28.500367
	7L6	-26.331976	28.506605
Magisterial District		Nigel	
Municipality		Ekurhuleni Metropolitan Municipality	
Maximum extent of proposed development		112 m ² per dam	
Current use		Slimes Dam	
Predominant land use/s of surrounding properties		Mining and Marievale Bird Sanctuary	

2 Project / Development Details

The East Rand Gold Basin extends for approximately 770 km² and includes the areas of Germiston, Brakpan, Heidelberg and Nigel. The East Rand Gold Basin was historically mined and has produced more than 10 000 tonnes of gold, with the mining companies having deposited the gold tailings in numerous tailings dams (slimes dams) and sand dumps throughout the region. Due to the inefficiencies of the historic mining processes, the slimes dams contain low concentrations of gold, as well as low concentrations of other elements such as nickel, silver and uranium. Ergo has developed an efficient, modern process to extract gold from these historic slimes dams.



To determine the economic viability to mine the slimes dams, prospecting activities are required to determine the grade and quantity of gold remaining in the slimes dam.

Ergo intends to prospect slimes dam 7L4 located approximately 10 km to the south east of Springs, Gauteng Province and within the Ekurhuleni Metropolitan Municipality. Slimes Dam 7L5 and 7L6 are located on the Remaining Extent, Portion 1 and Portion 9 of the farm Vlakfontein 281 IR.

The prospecting activities include both invasive and non-invasive methods; non-invasive methods will not manifest any environmental impacts. The non-invasive prospecting methods include a geophysical and literature survey to identify and determine potential drill locations.

Once drill locations have been identified, invasive prospecting activities will be undertaken that will entail the augering into the slimes dam. Auger drilling will be undertaken in a grid pattern (100 m and later 50 m infill drilling) with an estimated total of 112 holes required. These holes will not be drilled deeper than the original surface level and will impact an area of approximately 1 m² per hole on the slimes dams.

2.1 NHRA Section 38 Triggers

The following aspects of Section 38 of the NHRA may be triggered by the proposed project.

Table 2-1: NHRA Section 38 Triggers for the proposed 7L5 and 7L6 project

		NHRA Section 38 (1) Activities / Triggers	Summary description (E.g. 500 m conveyor belt, open cast pit, etc.)
<input type="checkbox"/>	a	Any linear development or barrier >300 m	None: prospecting activities will be undertaken on and in the existing slimes dam footprint and no linear infrastructure will be developed.
<input type="checkbox"/>	b	Any bridge or similar structure >50 m	None: as above.
<input type="checkbox"/>	c	Any development or activity that will change the character of a site:	None: prospecting activities will not change the physical character of the slimes dam, nor will any subdivision of the property take place.
<input type="checkbox"/>	i		
<input type="checkbox"/>	ii		
<input type="checkbox"/>	iii		
<input type="checkbox"/>	d	Rezoning of a site $\geq 10\,000$ m ² in extent.	The slimes dam is already zoned for mining and no rezoning will be required
<input checked="" type="checkbox"/>	e	Other triggers, e.g.: in terms of other legislation, (i.e.: National Environment Management Act, etc.)	An assessment of possible impacts on cultural heritage is required in terms of:



NHRA Section 38 (1) Activities / Triggers		Summary description (E.g. 500 m conveyor belt, open cast pit, etc.)
		<ul style="list-style-type: none"> ■ The Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA) and Regulations; ■ The National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) and the EIA Regulations, 2014; and

2.2 Activities

The following activities will take place during the lifespan of the proposed project.

Table 2-2: Activities for the proposed 7L5 and 7L6 project

Name of Activity	Aerial Extent of the Activity	Listed Activity	Applicable Listing Notice
Non-invasive Prospecting (Geophysical and literature surveys).	N/A	Not Listed	N/A
Auger holes and trenches	112 m ² per dam	X – Activity 20	GNR 983

2.3 Additional Impact Assessment Process

The following impact assessment process/es are currently being undertaken for the proposed project.

Table 2-3: Current legal process for the proposed 7L5 and 7L6 project

Legislation, i.e. NEMA, MPRDA, etc.	MPRDA and NEMA
Consenting Authority that has/will receive information	Department of Mineral Resources (DMR)
Present phase of process at Authority, e.g. Draft Scoping Report	Basic Assessment Report

3 Identified / Known Heritage Resources and Potential Impacts

The 7L5 and 7L6 Slimes Dam are between 63 and 47 years old according to aerial imagery. The two Slimes Dams are not yet present in the 1952 aerial photograph of the project area as shown in Figure 3-1 below. The project area is dominated by agricultural fields within which mining development occurring to the north of the project area.

The dams are present in the 1968 aerial photograph (See Figure 3-2). The dams are well established by 1968 along with four surrounding slimes dams. No aerial photographs are available for the years between 1952 and 1968.



Figure 3-1: 1952 aerial image of the proposed 7L5 and 7L6 project area



Figure 3-2: 1968 aerial image of the proposed 7L5 and 7L6 project area



The following categories of heritage resources as defined in Section 3 of the NHRA are known to occur within the proposed project area.

Table 3-1: Identified heritage resources

<input checked="" type="checkbox"/>	3(2)(a)	Places, buildings, structures and equipment of cultural significance
		<u>Description of resource:</u> The slimes dams represent a historical structure as per the NHRA definition of “structure”, as they may have been established more than 60 years ago.
		<u>Potential impact:</u> The prospecting activities will not cause any significant changes to the historical character of the slimes dams.
<input type="checkbox"/>	3(2)(b)	Places to which oral traditions are attached or which are associated with living heritage
		<u>Description of resource:</u> None
		<u>Potential impact:</u> None
<input checked="" type="checkbox"/>	3(2)(c)	Historical settlements and townscapes
		<u>Description of resource:</u> The 7L5 and 7L6 slimes dam are between 63 and 47 years old. The early slimes dams and other associated mining infrastructure are integral components of the historical mining townscapes and settlements of the East Rand.
		<u>Potential impact:</u> Prospecting activities will not impact the historical cultural landscape at this stage.
<input type="checkbox"/>	3(2)(d)	Landscapes and natural features of cultural significance
		<u>Description of resource:</u> None identified
		<u>Potential impact:</u> None
<input type="checkbox"/>	3(2)(e)	Geological resources of scientific or cultural importance
		<u>Description of resource:</u> The project area is underlain by the Kimberly and the Main/Nigel Reef within the Witswatersrand Supergroup.
		<u>Potential impact:</u> Prospecting activities will not impact any geological resources.



<input type="checkbox"/>	3(2)(f)	Archaeology and/or palaeontology (Including archaeological sites and material, fossils, rock art, battlefields & wrecks)
		<u>Description of resource:</u> The project area is underlain by the Kimberly and the Main/Nigel Reef within the Witswatersrand Supergroup. These formations are of low to insignificant palaeontological sensitivity.
		<u>Potential impact:</u> None
<input type="checkbox"/>	3(2)(g)	Graves and burial grounds
		<u>Description of resource:</u> None identified
		<u>Potential impact:</u> Prospecting will not impact on any burial grounds and graves as the prospecting will not occur past the original surface.
<input type="checkbox"/>	3(2)(a)	Other human remains
		<u>Description of resource:</u> None
		<u>Potential impact:</u> None
<input type="checkbox"/>	3(2)(h)	Sites of significance relating to the history of slavery in South Africa
		<u>Description of resource:</u>
		<u>Potential impact:</u> None
<input type="checkbox"/>	3(2)(i)	Movable objects
		<u>Description of resource:</u>
		<u>Potential impact:</u> None



3.1 Illustrative Material

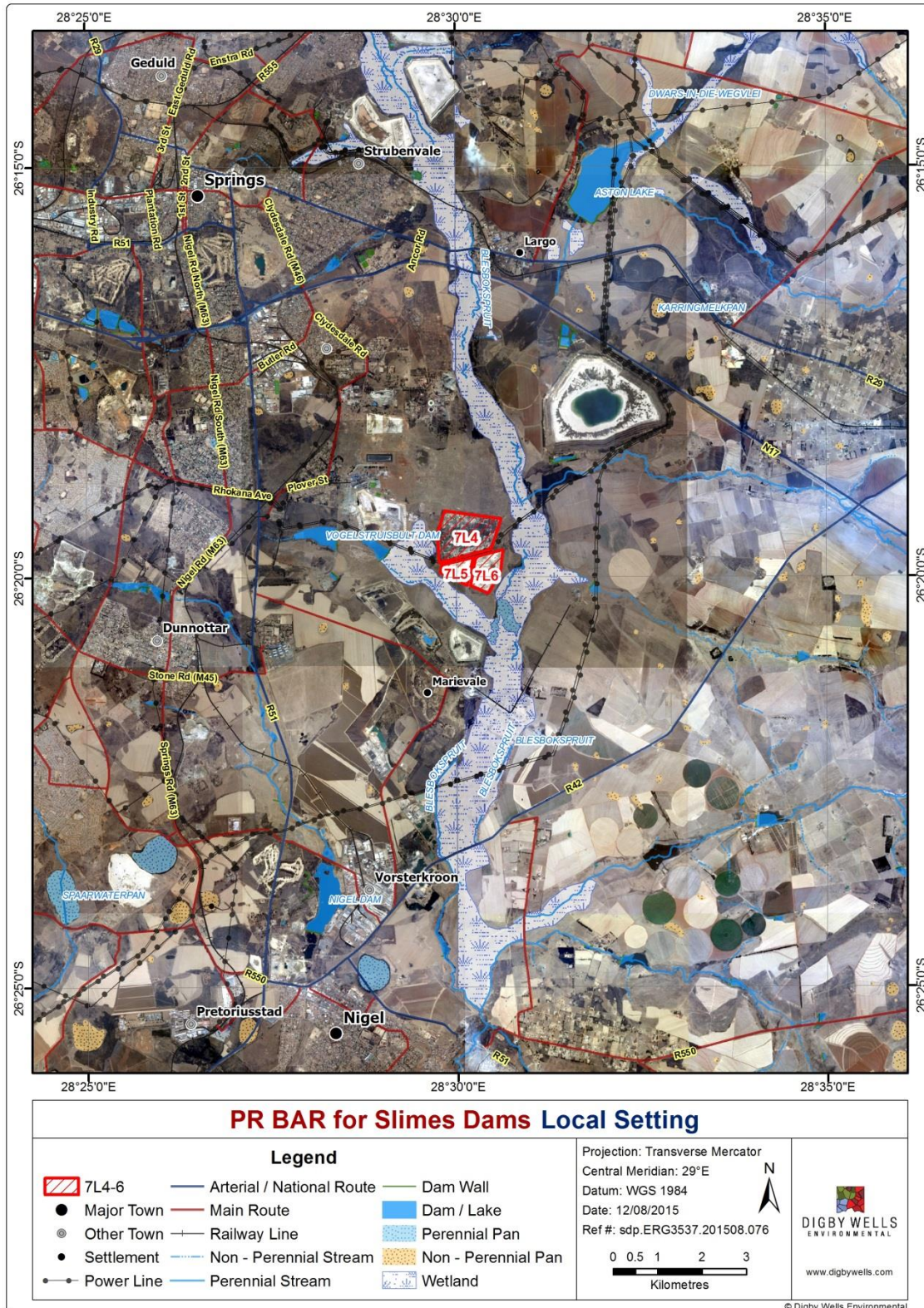


Figure 3-3: Local setting of the 7L5 and 7L6 proposed project area



4 Recommendation

Table 4-1: Recommendations for the proposed 7L5 and 7L6 project

Is a Heritage Impact Assessment required?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
If NO, provide motivation:		
<p>Based on an understanding of the cultural landscape and the identified heritage resources within the project area, Based on an understanding of the cultural landscape and the identified heritage resources within the project area, and the proposed project activities, the following recommendations are made:</p> <ul style="list-style-type: none"> ■ Exemption from any further heritage studies for the Prospection Right Application; ■ Should prospecting show that reclamation of dump 7L5 and 7L6 is feasible, a Mining Right Application process will be required that should include a Heritage Impact Assessment process. 		
<p>Recommendation made by:</p> <p>Name: Natasha Higgitt</p> <p>Capacity: Assistant Heritage Management Consultant: Archaeologist</p>		