Email info@exigo3.com
Tel +27 012 751 2160
Fax +27 086 607 2406

The Village Office Park (Block E),
309 Glenwood Road, Faerie Glen,
Pretoria, 0043

Postnet Suite 74,
Private Bag X07,
Arcadia, 0007

Vat nr: 4910184854

An EOH Company

Innovation in Sustainability

www.exigo3.com

Minutes for the Ramotshere Moiloa Local Municipality Focus Group Meeting held for the:

Proposed Doornhoek Fluorspar Mine

DMR Reference No: NW 30/5/1/1/2/763
NW 30/5/1/1/2/1696
NW 30/5/1/1/2/1728

Focus Group Meeting: Ramotshere Moiloa Local Municipality – Minutes

Date: 11 April 2016
Time: 10:30
Place: Ramotshere Moiloa Local Municipality, Zeerust
Attendees:

Michael Grobler (MG)	EXIGO
Chantal Uys (CU)	EXIGO
Allan E Saad (Snr) (AES)	Project Manager/Applicant
Allan D Saad (Jnr) (ADS)	Project Manager/Applicant
Berlinda Seabi (BS)	Ramotshere Moiloa Local Municipality (MM's Office: Director Planning)
Suping Selau (SS)	Ramotshere Moiloa Local Municipality
Different Mokgalagadi (DM)	Ramotshere Moiloa Local Municipality
Cedric Mtileni (CM)	Ramotshere Moiloa Local Municipality
Julie Amods (JA)	Ramotshere Moiloa Local Municipality
Donald G. Modibetsone (DGM)	Ramotshere Moiloa Local Municipality
Graham Johnson (GJ)	Ramotshere Moiloa Local Municipality

These	Notes	Action
1-2	**Welcoming & Introductions** The meeting was opened by Mrs Berlinda Seabi (BS) who introduced the attendees of behalf of the municipality. The proposed agenda for the meeting and the attendance register was circulated. Mr Michael Grobler (MG) thanked the officials for their time. The project team introduced themselves. MG stated that this was a focus group meeting as part of the consultation process for the Environmental Authorisation process and that no application has yet been lodged. BS requested that a meeting with the Planning and Development Committee be arranged.	
3	**Purpose of the meeting** MG briefly gave the purpose of the meeting as follows: 1. To introduce the proposed Doornhoek Mine 2. To discuss potential impacts and water supply options 3. To obtain input and guidance from the LM 4. To clarify the way forward	

4-17	**Project History / Background & Description** Exigo started working on the project in 2013 when conducting baseline studies. A pre-feasibility study (PFS) was conducted in 2014 to 2015. MG indicated the locality of the proposed project on a map. BS asked whether this was the old Witkop Mine. MG answered in the negative and stated that the proposed Doornhoek Fluorspar Mine was located east of the old Witkop Mine. Mr Allan Saad (AES) elaborated on the location of the proposed mine. AES gave a short overview of the project history to date. In 2005 the mineral rights were consolidated when the legal framework changed and mineral rights reverted back to the state. AES indicated the historical rights on a map. A water supply study was currently underway as water was the most important issue at the moment. He stated that they wished to secure water from the municipality via the old existing pipeline to Witkop if this was feasible. The geology consists predominantly of dolomite which contains the mineral resource. He indicated the ore body which was planned to be mined over a 30 year life of mine (LOM). It is preferred that downstream processing and beneficiation take place instead of exporting the mineral. MG elaborated on the local beneficiation and asked AES to explain the uses of fluorspar. AES listed the general uses for fluorspar, mainly in electronic technological applications. AES indicated the world estimated reserves for fluorspar on slide 14. He stated that the proposed Doornhoek Fluorspar Mine is one of largest fluorspar deposits in the world. He explained that historical prospecting had occurred in the area, additional boreholes were drilled as part of the current exploration activities, a LIDAR survey of the area was done, and surface rights had been acquired. In terms of the economic analysis for the mine the overall LOM for the project was 100 years for the available resources; however the current project is based on a 30 year LOM. He stated that the deposit was located in a single flat line and would be mined through opencast mining. The project team is currently planning to initiate the Environmental Impact Assessment (EIA) process. AES further stated that one of the most important aspects of the project is water provision and the entire project depended upon this.	
18	**Previous Baseline Specialist Studies** MG listed the specialist studies conducted as part of the baseline study.	
19-22	**PFS Specialist Studies** MG continued to list the additional specialist studies undertaken during the PFS Phase. He listed some sensitivities associated with the project area in terms of preliminary identified ecological and heritage sensitivities. Water levels and quality in the project area was assessed as water was a key issue for the feasibility of the project.	
23-24	**Discussion on water supply options & water supply requirements** MG listed the water supply options which are being considered. He stated that there is an existing water supply pipeline to the Witkop Mine. One of the purposes of the meeting was to assess the availability of water from the municipality. He indicated the volume of water required for the mine. He stated that the mine was initially the same size as that of the Witkop Mine. AES confirmed this. He stated that they hoped that the water previously used for the Witkop was available as the mine was currently in care and maintenance.	
25	**Questions** MG opened the floor for questions and requested feedback from the municipality as well as the way forward with regards to water supply. BS asked that a copy of the presentation and any other project information be supplied to the municipality. She said that they could not make any commitments or decisions as they had to first do research with regards to the proposed mine and the availability of water from the municipality.	

	MG stated that a copy of the presentation, the meeting minutes and a consultation letter will be provided to the municipality following the meeting He stated that the municipality would also be registered as an Interested and Affected Party on the project. BS asked that the expectations and requests be submitted to the municipality in writing. MG stated that the key issue for the project was the availability of water from the municipality and the cost thereof. MG asked whether water was currently a challenge in the municipality. BS answered in the affirmative and stated that she would revert back to the consultants and applicant with regard to their requirements after reviewing the requested documentation. Mr Suping Selau (SS) stated that this was the first time he is hearing about the project. He stated that the municipality used mostly underground water for the town but they could not confirm at the moment whether there was sufficient water for the mine. He stated that the availability of water from the municipality by the technical services unit. MG asked who the correct contact person in this regard would be. BS stated that would be the director of technical services, i.e. Mr Donald Modibetsone. MG stated that Exigo had hydrogeological specialists who could assist the Municipality in determining the availability from the aquifer/wellfields as well as whether the resource was being over-or under-utilized. MG asked where the wellfield was located. It was indicated that the wellfield was located south of the town toward Mafikeng. MG asked how many boreholes had been drilled and whether the municipality had a map or a report with the locations of the boreholes which they could access. Mr Donald Modibetsone (DGM) and Mr Graham Johnson (GJ) answered that 9 boreholes had been drilled. Mr Different Mokgalagadi (DM) stated that the 9 boreholes supplied water to the town as well as previously to the old Witkop Mine. GJ stated that there had been a decline in the water levels due to drought and at times with the operation of the Witkop Mine, there was not sufficient water for the town. MG pointed out that it needed to be determined how much the boreholes could be pumped and when they needed not to be pumped in order to obtain a sustainable yield from the borehole, he mentioned that Exigo had a team who specialized in groundwater and who could assist. GJ welcomed this suggestion. SS suggested that water from the Molemane Eye be used. AES stated that this was in all likelihood not feasible due to the environmental sensitivities associated with the eye. SS stated that a study could be done to assess the feasibility thereof. MG asked whether Witkop Mine had its own reservoir. GJ answered in the affirmative. Mr Different Mokgalagadi (DM) explained the Witkop Mine was presently closed. GJ stated that the office was however still open and there were some people and that the mine occasionally requested water from the municipality. AES asked whether the pipeline which supplied water to the Witkop Mine belonged to the mine or the municipality. GJ stated that the pipeline belongs to the municipality however he elaborated on the assistance which the mine had given the municipality with maintenance of the pipeline and the boreholes. BS stated that it was a matter of partnership. MG confirmed that it was the intent of the applicant as well to form a partnership with the municipality. MG requested more technical information be discussed with the relevant parties following the meeting. BS agreed with this approach. BS stated that a workshop would be held at the municipality in two weeks by government to discuss the “Villages, township and small dorpies developments initiative”. If the application/documentation for the mine is submitted prior to this it could be packaged and presented during this workshop and assistance could be requested from the government. MG confirmed that this will be done. He continued to elaborate on the primary, secondary and tertiary benefits of the	

	project. BS asked that the number of jobs be indicated in the project information documentation. SS stated that beneficiation initiatives should also be included. BS also asked that the Social Labour Plan (SLP) be submitted to the municipality. MG stated that the SLP was still in the process of being compiled but would be provided to the municipality as soon as it was available. Ms Julie Amods (JA) asked whether any future groundwater development would be for the applicant's account. MG stated groundwater development for the municipality would constitute a separate project from the Doornhoek Mine project but the two projects would have some overlap. He also confirmed that the SLP would be presented to the municipality upon completion. BS informed the project team that the municipality was currently busy reviewing its IDP and stated that the project could be included in the new IDP. AES explained the proposed development timeframe for the project (approximately 2 years). BS explained that the timeframe didn't matter as long as the project was included in the new IDP in order to form part of the municipal planning. MG asked where the project information documentation and/or application should be submitted too? BS answered to her or to the technical services unit. DGM stated that all submissions should go through the LED and the Director of Planning. BS stated that she would provide the project team with the details for the MM's office. MG asked how much water Witkop used at the peak of production. GJ and DM stated that they could verify this information and provide it to the project team. MG asked whether the Witkop reservoir belongs to the mine. GJ answered that the reservoir belongs to the municipality. AES asked about water allocations from the Zeerust Dam. GJ stated that the water from the dam needs to be treated first and is not currently used by the municipality for potable water supply, as grey water from the sewage treatment plant occasionally overflowed into the river and from there into the dam. AES stated that the mine could use the untreated grey water. DM asked whether the proposed mine was an existing mine or a new mine and whether there would be two mines. AES answered that this was a new mine. DM asked what would happen if both mines opened at the same time. AES said that this was unlikely as the Witkop Mine had largely been mined out. MG asked what rates Witkop was paying for their water. It was indicated that this information was available on the water accounts and could be provided to the project team. DM stated that water from the Zeerust Dam was largely allocated for irrigation purposes. MG stated that it could be investigated whether any allocations still remained. DM stated that the project team would also need to engage with the Department of Agriculture in this regard. MG stated that another alternative would be to use the grey water from the sewage treatment plant.	
27	**Closing** All present was thanked for their time and the meeting was closed.	

Minutes taken by C. Uys

Email info@exigo3.com
Tel +27 012 751 2160
Fax +27 086 607 2406

The Village Office Park (Block E),
309 Glenwood Road, Faerie Glen,
Pretoria, 0043

Postnet Suite 74,
Private Bag X07,
Arcadia, 0007

Vat nr: 4910184854

An EOH Company

Innovation in Sustainability

www.exigo3.com

Annexure A: Meeting Presentation

Annexure B: Meeting Agenda

Email info@exigo3.com
Tel +27 012 751 2160
Fax +27 086 607 2406

The Village Office Park (Block E),
309 Glenwood Road, Faerie Glen,
Pretoria, 0043

Postnet Suite 74,
Private Bag X07,
Arcadia, 0007

Vat nr: 4910184854

An EOH Company

Innovation in Sustainability

www.exigo3.com

Annexure C: Attendance Register

An EOH Company

Innovation in Sustainability

Doornhoek Fluorspar Mine:

Focus Group Meeting - Ramotshere Moiloa Local Municipality

Agenda

Innovation in Sustainability

1. Welcoming & Introductions
2. Purpose of the meeting
3. Additional agenda points
4. Project Description and History
5. Previous Baseline Specialist Studies
6. PFS Specialist Studies Feedback
7. Discussion on water supply options
8. Questions and answers
9. Way Forward
10. Closing

Purpose of the meeting

Innovation in Sustainability

1. Focus group meeting to discuss the work conducted till present for the proposed Doornhoek Mine
2. To discuss potential impacts and water supply options
3. To consult with the municipality wrt the EIR and IWUL
4. To clarify the way forward

Project History / Background

Innovation in Sustainability

1. Baseline Study 2013
2. Pre-feasibility study 2015
3. Mining Right Application/EIA and IWUL 2016

Typical landscape

Innovation in Sustainability

Reverse circulation drilling

Innovation in Sustainability

Aerial view of historical mining by Rand Mines 1980

Innovation in Sustainability

Project location

Innovation in Sustainability

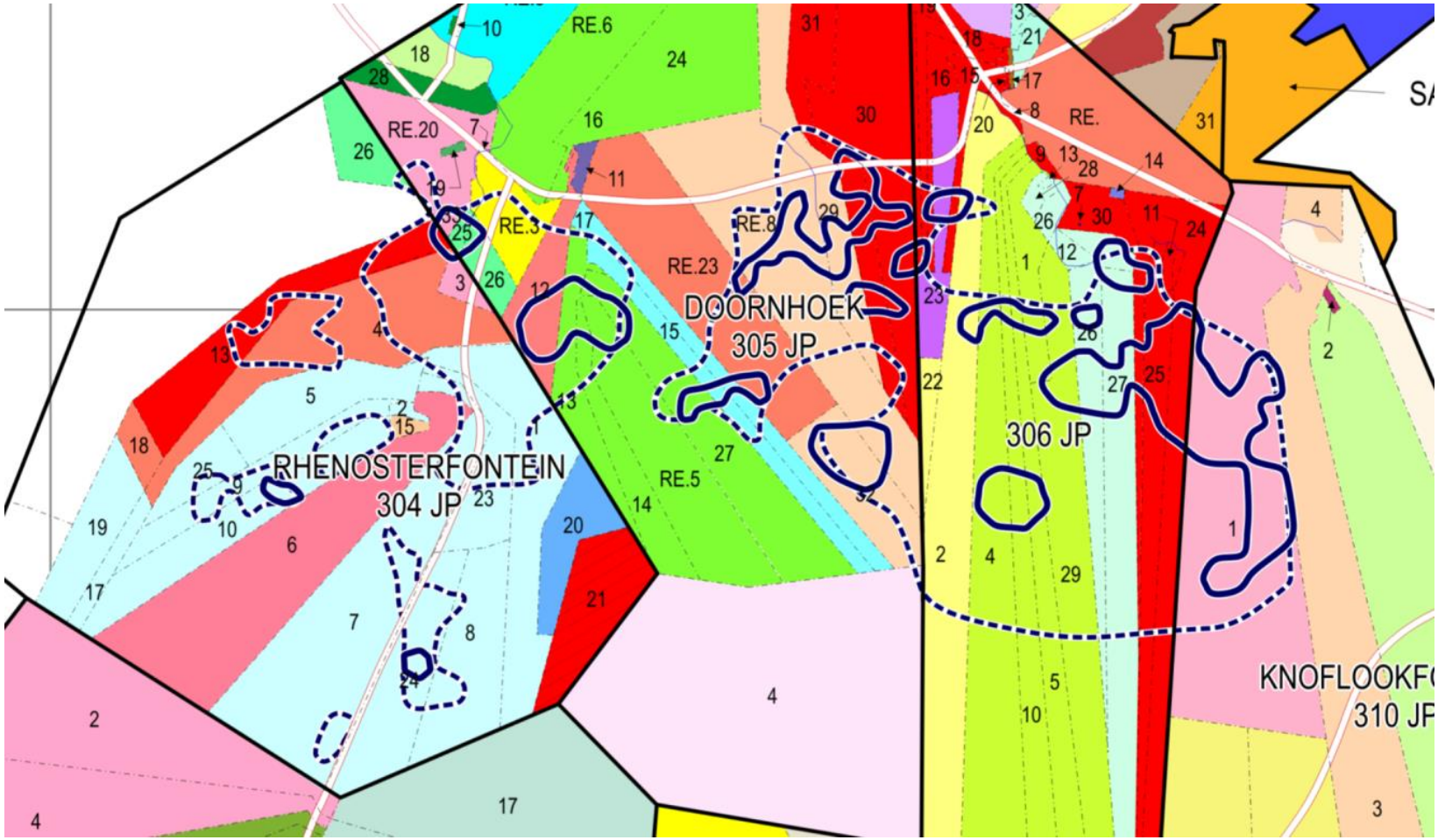
Project history

Innovation in Sustainability

- Private and complex mineral rights holding until 2004
- Historically rights were subdivided together with surface
- Some mineral rights were sold to mining companies and sterilized
- Result was complex ownership with many subdivisions
- 2004 mineral rights revert to State
- 2005 SA Fluorite consolidate and secure mineral rights
  - >23,000 hectares
- 2006 CAMEC secure majority interest
- 2010 ENRC acquire CAMEC
- 2013 RPA complete Preliminary Economic Assessment
  - 43-101 compliant

Historical rights

Innovation in Sustainability



Infrastructure

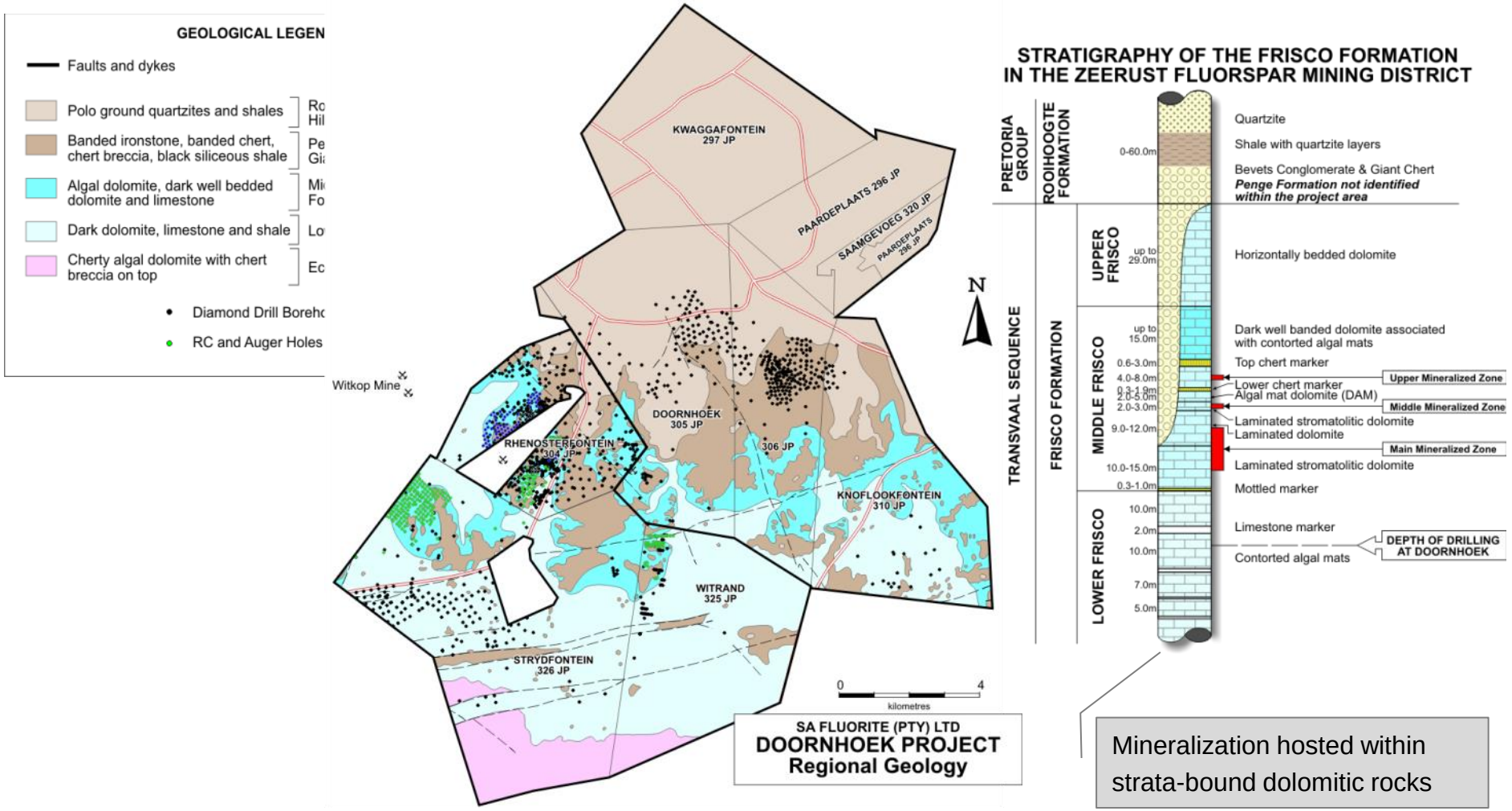
Innovation in Sustainability

- 15km from nearest town and rail siding
  - Tarred road
- Water – studies underway
  - Dolomitic terrain and catchment reservoirs
  - Biggest challenge to date
  - Entire operation dependent on water source and cost
- Power available on site
  - Sub-station on adjoining property
- Mobile communication on site
- Low population density and
- No relocations required

Geology and site

Size: 22,255.32 hectares

Innovation in Sustainability



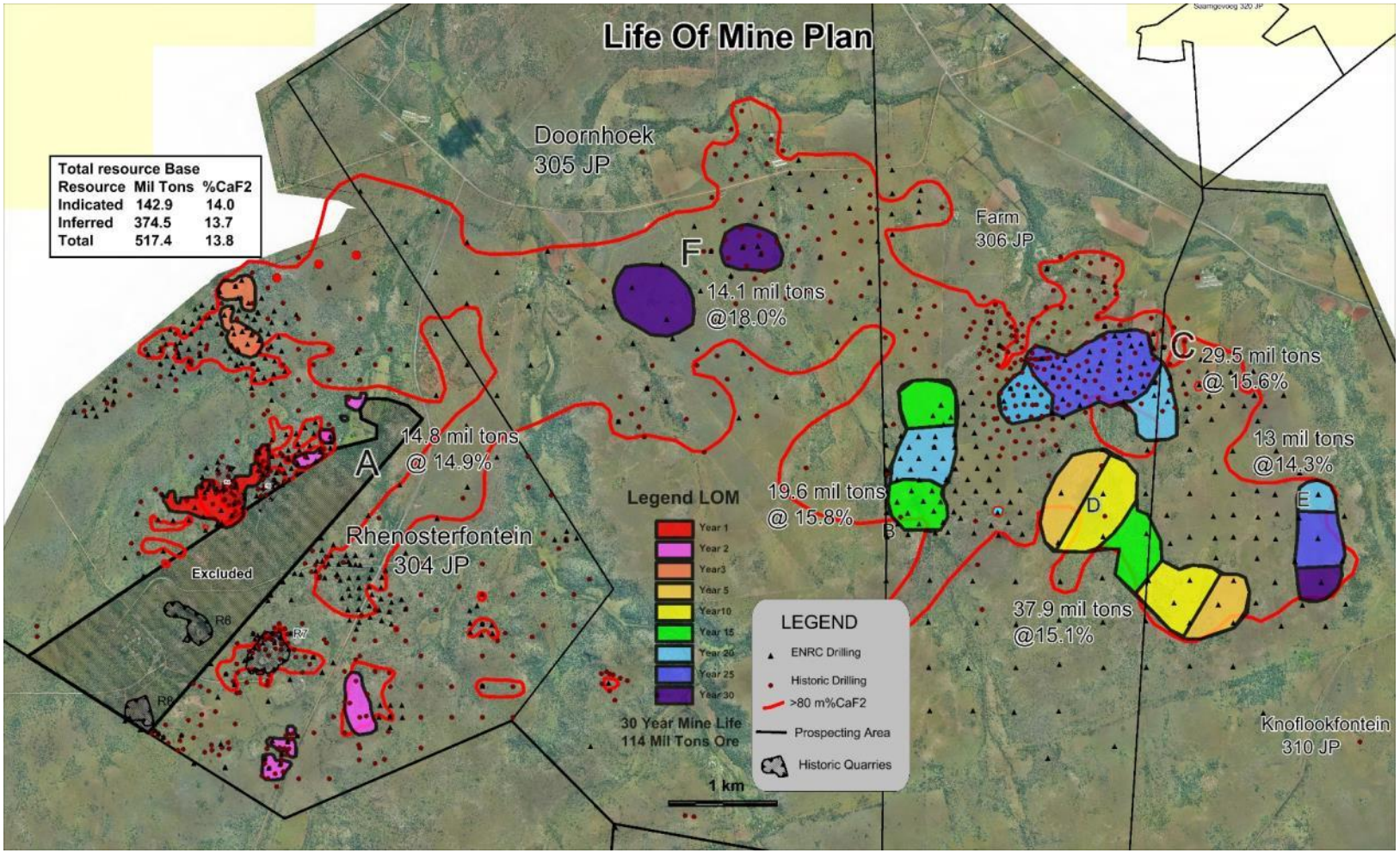
Mineralization hosted within strata-bound dolomitic rocks

Exigo3

EOH

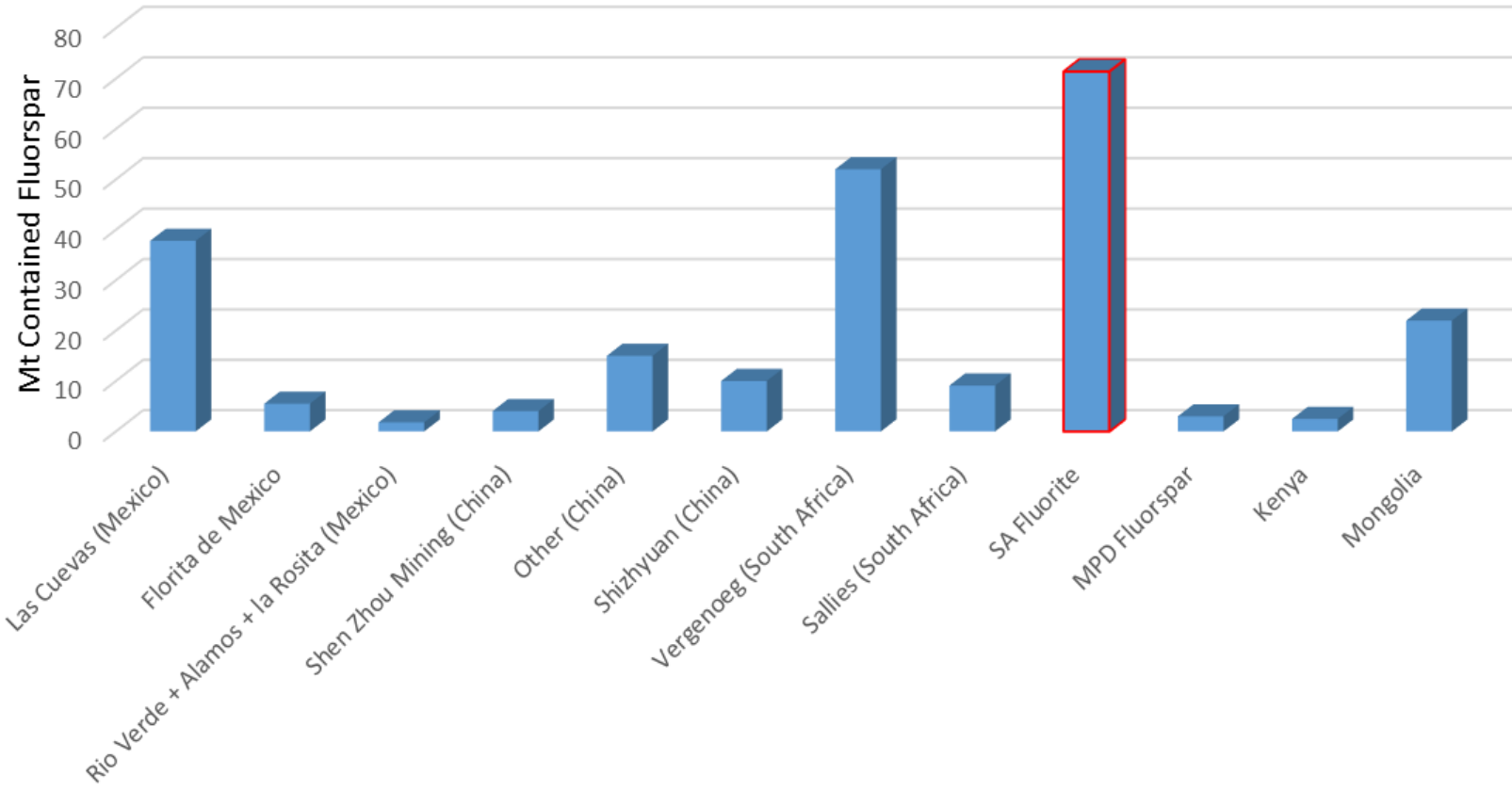
Starter pits and orebody outline – 30 yr LOM

Innovation in Sustainability



Contained fluorspar comparison

Innovation in Sustainability



Work completed to date

Innovation in Sustainability

- **Drilling**
  - 2000 boreholes drilled
    - totalling approx 140,000m
  - 239 auger boreholes drilled
    - totalling approx 1,487m
- **Geological mapping –** detailed groundwork
- **Aeromagnetic survey** – high resolution close spaced
- **Lidar survey –** covers entire area
- **Permitting** - maintained in good standing
- **Surface rights acquisitions** – strategic landholding
- **Metallurgical test work** – underway
- **Environmental studies** – ongoing
- **Preliminary Economic Assessment** – Roscoe Postle Associates Inc - Toronto – completed Nov'13 – NI 43-101 compliant

Economic analysis

Innovation in Sustainability

- Resource sufficient for +100 life-of-mine (LOM)
- Economic analysis calculated on 30 year mine life
- Large opencast operation - staged
- Sensitive to grade, exchange rate and CaF_2 price
- Transport to harbour is single largest cost
- Water is largest challenge and entire mine development dependent on source of water
- Amenable to downstream processing and development of secondary industries

Summary

Innovation in Sustainability

- Largest contained fluorspar deposit in the world
- Single large flat-lying shallow orebody
- Amenable to opencast mining to max depth of 90m
- Good infrastructure
- Favourable metallurgy
- LOM far in excess of 30 years
- Favourable for the development of downstream processing facilities
- Development dependent on source of water – single largest determining factor

A world class fluorite deposit

Previous Baseline Specialist Studies

Innovation in Sustainability

Specialist Field	Company	Author(s)
Lead EIA Consultant	AGES / Exigo	Michael Grobler; Catherine Da Camara
Archaeological Scoping Report	AGES / Exigo	Neels Kruger
Groundwater Baseline Report and Fatal Flaw Analyses	AGES / Exigo	Dr. Koos Vivier & Megan Hill
Ecological Baseline Assessment and Fatal Flaw Analyses	AGES / Exigo	Dr Buks Henning

PFS Specialist Studies

Innovation in Sustainability

Specialist Field	Company	Author(s)
Lead EIA Consultant	AGES / Exigo	Michael Grobler; Herman Gildenhuys
Hydrogeological Assessment Phase A & B	Exigo	Dr. Koos Vivier & Megan Hill
Geochemical Assessment Phase A	Exigo	Dr. Robert Hansen
Wetland Delineation	Exigo	Dr Buks Henning
Aquatic Assessment	SAS	Stephen van Staden / Emile van der Westhuizen
Environmental Legal Risk Register	EOH Legal	Morné Viljoen / Selvan Subroyen
Water and Dust Monitoring	Exigo	Eise Venter

Preliminary Issues Identified

Innovation in Sustainability

Sensitivities in the area include:

- High ecological sensitivity – important fauna corridors and unique habitat
- Medium to high ecological sensitivity – unique vegetation entity with high conservation importance
- Heritage sites
- Area of heritage sensitivity
- Possible heritage sensitive sites such as drainage lines and ridges
- Springs
- Streams and rivers

Geochemical Assessment Results

Innovation in Sustainability

Findings & Conclusions:

- Formation of **AMD** conditions from waste rock and tailings is **unlikely**.
- **Leaching** of **metal** and metalloid contaminants from solution is **unlikely**
- **Sulphate** could potentially leach from the tailings material in concentrations exceeding the groundwater baseline, but **lower than the lowest SANS drinking water standard**
- **Fluoride** concentrations in the tailings material leachate **exceeds the groundwater baseline value**.
- **Waste classifies** as Type 3, i.e. low risk requiring a Type C barrier system design

Hydrogeological Investigation

Innovation in Sustainability

Work conducted to date include:

- Phase A (2013) comprised a baseline assessment, a fatal flaw analysis and development of a monitoring network for baseline characteristics prior to mine initiation.
- Based on the outcomes of the baseline assessment the scope of work for phase B (2014) was formulated and a high level site characterisation study was conducted.

Discussion on water supply options

Innovation in Sustainability

Witkop water supply pipeline:

- Ownership
- Licensing
- Availability/capacity
- Process of determination

Groundwater supply :

- Existing boreholes
- Development of new resources
- Licensing

Other options:

Water Supply Requirements

Innovation in Sustainability

- 5000 tons per day ore mined
- 1 m3 water required per tonne ore mined
- 5000 m3 water per day
- Approximately 57 l/s

Innovation in Sustainability

Q&A

Way Forward

Innovation in Sustainability

- MRA application
- Scoping
- EIA
- IWULA

Innovation in Sustainability

THANK YOU

For any comments or queries please contact:

Michael Grobler/ Chantal Uys

Address: Exigo Sustainability (Pty) Ltd, Postnet 74, Private Bag X07, Arcadia, 0007.

Telephone: (012) 751 2160

Fax: 086 607 2406.

Email: michael@exigo3.com/ chantal@exigo3.com

Email info@exigo3.com
Tel +27 012 751 2160
Fax +27 086 607 2406

The Village Office Park (Block E),
309 Glenwood Road, Faerie Glen,
Pretoria, 0043

Postnet Suite 74,
Private Bag X07,
Arcadia, 0007

Vat nr: 4910184854

An EOH Company

Innovation in Sustainability

www.exigo3.com

Proposed construction and operation of Doornhoek Fluorspar Mine and associated infrastructure located near Zeerust, North-West Province

Focus Group Meeting – Ramotshere Moiloa Local Municipality

VENUE: Ramotshere Moiloa Local Municipality, Zeerust

DATE: 11 April 2016

TIME: 10:30 AM

NO	DESCRIPTION		
1.	**PURPOSE OF THE MEETING**		
	• The purpose of the meeting is to the project and to discuss water supply options for the mine, to obtain feedback and agree on the way forward		
2.	**MEETING AGENDA**		
No	**Agenda Item**	**Speaker**	**Time**
1	Welcoming and Introductions	All	**10:30**
2	Purpose of the Meeting	Michael Grobler	
3	Additional agenda points	Michael Grobler	
4	Project Description and History	Allan Saad	
5	Previous Baseline Specialist Studies	Michael Grobler	
6	PFS Specialist Studies Feedback	Michael Grobler	
7	Discussion on the water supply options	All	
8	Questions and Answers	All	
9	Way Forward	All	
10	Meeting closure	Michael Grobler	**11:30**

FOCUS GROUP MEETING – RAMOTSHERE MOILOA LOCAL MUNICIPALITY

11 APRIL 2016, 10:30 AM – RAMOTSHERE MOILOA LOCAL MUNICIPALITY, ZEERUST

ATTENDANCE REGISTER: PROPOSED DOORNHOEK FLUORSPAR MINE, NORTH-WEST PROVINCE

NAME	ADRESS	CONTACT NUMBER	EMAIL/FAX NUMBER	SIGNATURE
Allan E. Saad	SA Fluorite Pretoria	0828817850	asaad@mweb.co.za	[signature]
Allan. D. Saad		082 356 1375	AllanSaad@gmail.com	[signature]
M. Grobler	Exigo	0824754246	Michael@exigo3.com	[signature]
Chantal Uys	Exigo	012 751 2160	chantal@exigo3.com	[signature]
Seping SELAU	RMLM	063 554 8468	Seping.Selau@ramotshere.gov.za	[signature]
Cedric Mtileni	RMLM	078 509 6666	Mab's Office Cedric.Mtileni@gmail.com	[signature]
B.V. Seabi	RMLM	0787141881	cc. berlinda-seabi@gmail.com	[signature]
L. Mokgalagadi	RMLM	079 869 7667	mokgalagadi...@gmail.com	[signature]
Julie Amods.	Led	0728606898	amodsj@gemail.com	[signature]
Donald Modibetsane	RMLM	073 651 4231	Modibetsanedg@gmail.com	[signature]

NAME	ADRESS	CONTACT NUMBER	EMAIL/FAX NUMBER	SIGNATURE
Graham Johnson	R.M.L.M	07286388375