



Name:	Gideon Petrus (Deon) du Plessis
Date of Birth:	06 July 1977
Email:	<a href="mailto:deon@earthlabtech.com">deon@earthlabtech.com</a>
Cell:	+27 (0)84 500 0709
Location:	Johannesburg, South Africa
Qualification:	B.Sc (Honours) Geology & Geochemistry, M.Sc. Geology (University of the Free State)
FGSSA:	963338
SACNASP:	Pr.Sci.Nat. Reg No 400050/05
Website:	<a href="http://www.earthlabtech.com">www.earthlabtech.com</a>

## SUMMARY

Deon is a well-versed technical, strategic business development, corporate exploration and mining geologist with proven leadership and management skills. Deon qualifies and undertakes the role of Competent Person and technical expert in Natural Sciences for mineral occurrences from vast geological settings. Deon has 22 plus years of mine technical, and consulting experience including the exploratory development and expansion of open-pit and underground mining of multiple mineral commodities including base metals (lead, copper, zinc, silver), coal, diamonds, platinum group metals, gold, chrome, cobalt, manganese, and lithium (hard rock and brines).

Deon has the proven ability to work with large and complex datasets from vast geographical extents. He can distil the essence and provide the required clarity and simplified process workflow to enable a focused approach to achieve a desired outcome.

## EMPLOYMENT RECORD

Employer:	<b>Earthlab Technical Division (Pty) Ltd.</b>
Technical Role:	Project Geologist, Principal Geologist and Competent Person
Management Role:	Founder, Executive Director, and Chairman
Duration:	03 July 2012 to present
Description:	Technical Advisory, Business Development, and Business Administration (multiple clientele) Experience includes exploration geology, mining geology, mineral resource management, geological modelling, resource estimation, mining studies and financial modelling. Technical due diligence to advise on large-scale investment decisions. Earthlab owns a fleet of nine LDVs. Earthlab owns geological modelling (Datamine Studio RM) and QAQC automation software.
Lithium Projects:	<ol style="list-style-type: none"> <li>1. Hardrock Lithium – Arcadia Project in Zimbabwe (2021) <ul style="list-style-type: none"> <li>• Technical due diligence</li> </ul> </li> <li>2. Lithium in Brine – Rio Grande South in Argentina (2022) <ul style="list-style-type: none"> <li>• Technical Due Diligence, exploration geophysics (CS-AMT), geological mapping, exploration target definition, financial evaluation, and technical report.</li> </ul> </li> <li>3. Hardrock Lithium – Uis Project in Namibia (2023) <ul style="list-style-type: none"> <li>• Geological mapping, structural interpretation, RC drilling supervision, data management, GIS database, and project management.</li> </ul> </li> <li>4. Hardrock Lithium – Chimanmani Project in Zimbabwe (2023) <ul style="list-style-type: none"> <li>• Geological mapping, sampling, ICP-MS assays, XRD analysis, exploration geophysics (ground magnetics and ground radiometrics), and technical report writing.</li> </ul> </li> <li>5. Lithium in Brine – Litarsa Project in Catamarca, Argentina (2023)</li> </ol>

Technical due diligence, geological mapping, water sampling, exploration geophysics (CSAMT and Seismics), exploration target definition, financial evaluation (benchmarking and valuation).

Employer: Prysm Resources (Pty) Ltd.  
 Role: Head of Geology  
 Duration: June 2008 – December 2012  
 Description: Project Geologist seconded to Anglo American Platinum

Employer: Caracle Creek International Consulting Inc.  
 Role: Senior Exploration Geologist / Project Geologist seconded to Anglo American Platinum  
 Duration: Jan 2006 – June 2008  
 Description: Exploration, Geological Modelling, Mineral Resource Estimation, Competent Persons Technical Report writing

Listing of Projects: Western Bushveld Exploration (Ruighoek): consultant to Chrome Corporation at their Ruighoek Chrome Mine. Project entailed exploration project management of the open-pit LG6 and LG6a. Structural and resource modelling as well as Competent Persons Report write-up for an AIM listing.

Eastern Bushveld (Everest Mine): consulting work for Aquarius Platinum on tabulation of the Mineral Resources and Mineral Reserves, database management and reconciliation.

Witwatersrand Exploration and Mining (Middelvlei): consultant to Pamodzi Gold at their Middelvlei Mine involved in exploration drilling, grade control, structural and resource modelling of the Black Reef (Transvaal Supergroup), VCR and the Middelvlei Reefs (Witwatersrand Supergroup). Ninety per cent (90% of my time spent during the two years on this project).

Alluvial Diamonds (Lower Orange River): Resource modelling for Manhattan Corporation on some lower Orange River gravels as part of Competent Persons Report for an AIM listing.

Western Bushveld Platinum (Styldrift): Project Geologist for Anglo Platinum on the Styldrift Feasibility Study.

Employer: Aquarius Platinum South Africa  
 Role: Consulting Geologist (MRM and Projects)  
 Duration: April 2003 – December 2005  
 Description: Mining Geology, Mineral Resources Management, and Projects

Employer: De Beers Consolidated Mines Limited  
 Role: Project Geologist, Staff Geologist, and Senior Geologist  
 Duration: November 2001 – March 2003  
 Description: Exploration, Project Geology, Contiguous Evaluation Programme

Employer: Northern Cape Diamond Mining and Exploration  
 Role: Postgraduate research and field geologist (part-time)  
 Duration: January 1999 to December 1999  
 Description: Mapping and sampling of the Lower Vaal and Mid-Orange River diamondiferous gravels.

Employer: Doe Run Exploration  
 Role: Undergraduate Geologist (part-time)  
 Duration: June 1996 – December 1998  
 Description: Field mapping, decline mapping, and core logging of the MVT Bushy Park deposit in the Griqualand West Basin of the Transvaal Supergroup.

## CONFERENCE PROCEEDINGS

Du Plessis, GP (2001). The relationship between geological structures and dolerite intrusions in the south eastern part of the Witbank Coalbasin, South Africa. 7th Coal Science and Technology Conference. 28 – 30 August 2001.

Prinsloo M. and du Plessis G.P. (2003). Koingnaas Complex Mine – A fluviially dominated West Coast diamond palaeo placer. Diamond Coast Conference 2003. 23 – 26 November 2003.

Vermeulen G.J. and du Plessis G.P. (2016). The geological setting of the Merensky Reef and its relevance to mining operations – Royal Bafokeng Platinum, Styldrift. 31st International Geological Congress – Cape Town. September 2016.

## SOFTWARE SKILLS

Software Package	Duration	Description	Skill levels achieved
Vulcan	2003	Coursework in advanced Geostatistics (De Beers)	Intermediate
Surpac	2003 - 2007	Coursework in advanced Geostatistics (AQP and CCIC), daily user	Advanced
Financial Modelling	2010	Technical and financial evaluation of Mineral Projects – Wits Business School	Intermediate
Datamine Studio3 and StudioRM	2007 - 2020	Daily user (RBPlat & Earthlab) for Mineral Resource Evaluation (Structural and Resource Modelling)	Advanced

## ORGANISATIONS

The Geological Society Northern Cape Branch (Vice Chairperson 2020–2021 Term, Additional Committee Member 2021–2022 Term). The Northern Cape Branch was re-established as of 11 October 2019 after the “Deposits of the Northern Cape” conference held at Red Sands – Kathu.

## AREAS OF STRENGTH

Green- and brownfields exploration | mining geology | mineral resource management | geological interpretation | project geology | structural and resource modelling | geophysics programmes | business development and consulting | public reporting of mineral resources and reserves | conceptual, pre-feasibility, and feasibility studies and reviews | technical due diligence | proven leadership and management skills

## CAREER HIGHLIGHTS

### De Beers Consolidated Mines

- Management of a geological investigation into alluvial diamond deposits on the Rooipoort Nature Reserve, Kimberley. The project entailed drilling and resource modelling some lower Vaal River gravel deposits. Final Mineral Resource report completed as Co-author on the primary exploration phase of the project.
- Contiguous Evaluation Drilling with the BG48 Large Diameter Auger Drill Rig. Drilled a world record depth of 96 metres below the surface at the time during the evaluation drilling of the Megalodon Cretaceous fluvial channel.

## Aquarius Platinum South Africa

- Project Geologist of the approved Pooling and Sharing Agreement No. 2 between Aquarius Platinum and Anglo American Platinum on the Kroondal UG2 expansion.

## Anglo American Platinum (Styldrift BRPM Joint Venture with the Bafokeng Nation)

- Project Leader and Technical Specialist of the Styldrift I Feasibility Study (R11bn capital cost estimate) progressed through the Anglo Platinum, Anglo American, and Bafokeng Nation Stage gate approval process and project execution in terms of value engineering, optimisation.

## Royal Bafokeng Platinum

- 3D Seismic budget planning, execution, and interpretation for mine-wide structural modelling in conjunction with CGG Veritas in France and Schlumberger Oilfield in Leeds UK.
- Styldrift II exploration strategy, budget presentation and approval, drill out of Measured and Indicated Mineral Resources for Pre-Feasibility Study.
- Competent Person for Royal Bafokeng public reporting of Mineral Resources.

## Earthlab Technical Division

- Discovery of a Hydrothermal Greenstone Gold Deposit, Kwara State, Nigeria
- Technical delivery and compliance to Key Performance Indicators of the Gamsberg Grade Control Project for Vedanta Zinc International, Northern Cape Province South Africa
- Technical due diligence of the Arcadia Lithium in pegmatite, Zimbabwe.
- Technical due diligence and exploration geophysics of the Rio Grande South Lithium in brine exploration target definition, Argentina.
- Volspruit North Scoping Study for Sylvania Platinum, South Africa. Method statement development, execution of remodelling, planning and successful execution of the mine design, scheduling, optimisation, Opex, Capex, and Financial Modelling for public reporting.
- Aurora T-Zone: first near-surface discovery of the Bushveld Complex Northern Limb T-zone (South Africa), successful execution of turn-key resource drilling programme, successful execution of modelling and Mineral Resource Estimation for public reporting purposes. Successful execution of the mine design, scheduling, optimisation, Opex, Capex, and Financial Modelling due for public reporting of the client's FY2023.
- Hakra Exploration Target estimate of the Harriets Wish Succession and Troctolite Sequence based on the current and historical exploration diamond core on the farm Harriets Wish due for public reporting purposes of the client's FY2023.
- Volspruit North Metallurgical Large Diameter Core drilling and sampling for Bulk Metallurgical Flotation test work and Ni-sulphide analysis for the regression of Rhodium and Ruthenium (despite access challenges).
- Competent Person of the Volspruit North and South Geology (based on relogging of the diamond drilled core) and Mineral Resource Estimates during 2023.
- Geological mapping, structural interpretation, data analysis and management of a geological mapping campaign of the Uis flagship greenfield Lithium in hard rock pegmatite project portfolio of Askari Metals from January 2023 to December 2023. A team of 11 geologists involved in the work including GIS and Project Management Support Staff.
- Competent Person oversight of the Technical Due Diligence of the Chimanimani hard rock lithium pegmatite project in Zimbabwe. The work entailed geological mapping, sampling, ICP and XRD analysis, magnetic and radiometric geophysical surveys.
- Competent Person oversight of the Technical Due Diligence of the Litarsa lithium brine project in Argentina. The work entailed geological mapping, water sampling and supervision of the seismic

and CSAMT geophysical surveys, processing of the results to define an exploration target. Financial evaluation included benchmarking of production rates, exploration costs, CAPEX, OPEX, and project valuation.

## REFERENCES

Dr Andy Grills

Position: Director and Principal Mineral Resource Consultant  
Zstar Mineral Resource Consultants, Cape Town South Africa  
Mobile +27 (0) 83 3026 952  
Email: [andy.grills@zstar.co.za](mailto:andy.grills@zstar.co.za)

Mr Graham Wheelock

Position: Managing Director Polynatura Corp.  
The company developing the Ochoa Fertilizer project in New Mexico, USA.  
Mobile +27 (0) 83 594 8632