

CURRICULUM VITAE

WERNER PETRICK

QUALIFICATIONS

B.Eng	-	Civil Engineering	1995
Masters	-	Environmental Management	2004

EXPERTISE

- Environmental Management
- Environmental (and Social) Impact Assessments (EIA's)
- Environmental Feasibility Studies
- Stakeholder Management
- Environmental Management Systems (EMS)
- Environmental Auditing
- Environmental Training and capacity building
- Mine Closure

Werner has over 24 years of work experience. He started out as a Civil Engineer (first 3 years) but soon became involved with environmental related projects. The following 21 years (+) he has been working in the environmental field with experience in Environmental Impact Assessments (EIA's), general environmental management and implementation, Environmental Management Systems (EMS), waste management, environmental compliance, training, stakeholder engagement and capacity building, mine closure and rehabilitation, environmental auditing and monitoring as well as due diligence.

Werner's experience is based on work conducted as a consultant (current position) as well as working for industry (i.e. implementing environmental requirements, etc.)

Sectors of his experience include: exploration or production phases of small, medium and large mining projects, power generation including renewable power initiatives and hybrid power plants, transmission lines, water supply & sanitation, petrochemical industry, linear infrastructure including roads and rail, port related projects, off-shore oil and gas explorations, aquaculture activities, chemical handling and storage, large irrigation projects and other.

EMPLOYMENT RECORD

Year	Company	Responsibility
1996-1998	Africon Engineering International	Engineer – working for the Environmental and Geotechnical Division
1999-2004	Sasol Technology (Environmental and Risk Engineering Division)	Lead Project Environmental Coordinator
2004-2009	Independent Environmental Consultant (Natura Environmental Practitioners)	Managing own Company - Environmental Practitioner
	Sub-contracted to Golder Associates	Environmental Project Manager
	Sub-contracted to Bombela	Environmental Manager for the Turn-Key Contractor for the Gautrain Raid Rail Link
	Sub-contracted to Hatch Africa	Environmental Project Manager
2009-2012	Langer Heinrich Uranium Mine	Environmental Specialist (Overseeing the Environmental Department)
2012-2018	SLR Environmental Consulting (Namibia)	Technical Director and Manager: Environmental Assessment Practitioners (Namibia)
2018-present	Independent Environmental Consultant (Namisun Environmental Projects and Development)	Managing own Company - Environmental Consultant

EXCERPT OF PROJECTS

<p>Kelp Blue Namibia (Pty) Ltd - THE PROPOSED KELP CULTIVATION PILOT PROJECT NEAR LÜDERITZ, KARAS REGION (2020)</p>	<p>EIA applications process for Kelp Blue's proposed Kelp Cultivation Pilot Project. Werner was the Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, PPP and report writing).</p>
<p>Total E and P Namibia B.V. - PROPOSED 3D SEISMIC SURVEY IN LICENCE BLOCKS 2912 AND 2913B, NAMIBIA (2020)</p>	<p>EIA process for TEPNA's proposed off-shore 3D seismic survey activities. Werner was the in-country coordinator for the EIA process (including stakeholder engagement, PPP and document review).</p>
<p>Ongopolo Mining and Processing Tsumeb West mine Rehabilitation Plan (2020)</p>	<p>Ongopolo Mining and Processing (Ongopolo), which is owned by Weatherly Mining Namibia Ltd (Weatherly), owns a dormant, underground mine near Tsumeb, called the "Tsumeb West Mine". Werner was the Lead Environmental Assessment Practitioner managing the process to develop an Environmental Rehabilitation Plan for the old mine.</p>
<p>Shell Namibia Upstream BV – EIA amendment for proposed offshore well drilling (2020)</p>	<p>Shell Namibia Upstream BV holds PEL 39, which is located adjacent to the southernmost Namibian offshore border with South Africa. Shell obtained an ECC for the proposed activities but requires an amendment to the ECC due to a proposed change in the well drilling target area. Werner was the in-country coordinator for the EIA process (including stakeholder engagement, PPP and document review).</p>
<p>Walvis Bay Salt Holdings –Environmental Screening (2019)</p>	<p>Environmental Screening for additional infrastructure development at the Walvis Bay Salt Works. Werner is the Lead Environmental Assessment Practitioner managing the Screening process (including stakeholder engagement, PPP and report compilation).</p>
<p>Areva (now Orano Mining Namibia) – EIA renewals (2019)</p>	<p>ECC renewal applications for the Trekkopje Mine (which is on Care and Maintenance) and the Erongo Desalination Plant.</p>
<p>Namib Lead and Zinc – EIA Amendment process (2019)</p>	<p>EIA amendment process for the proposed changes to the final product transportation method and soil excavation for the mine access road resurfacing. Werner was the Lead Environmental Assessment Practitioner</p>
<p>Cathral Investments and Tulela Processing Solutions' Sinclair Mining Project - Environmental Impact Assessment (2019)</p>	<p>EIA for small scale mining & processing activities and ongoing exploration at the Sinclair mine. Werner was the Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, PPP and report compilation, specialist management and specialist report review).</p>
<p>Galp off-shore exploration projects - Environmental Impact Assessment (2019)</p>	<p>EIA for offshore exploration projects in two separate Petroleum Exploration License areas of the coast of Namibia. In-country EIA project manager, Public participation, review reports, liaison with Authorities, etc.</p>
<p>Gecko Cobalt Mining - Environmental and Social Impact Assessment (2019)</p>	<p>EIA for Gecko Cobalt Mining (Pty) Ltd proposed cobalt and copper mining project on EPL 4346, located approximately 25 km northwest of Opuwo. In-Country Project Manager, Report review and Facilitate the public participation process.</p>

<p>Walvis Bay Salt Holdings –Environmental Screening (2018 - 2019)</p>	<p>Environmental Screening for further expansion (i.e. bittern benefaction ponds and associated infrastructure) at the Walvis Bay Salt Works. Werner was the Lead Environmental Assessment Practitioner managing the Screening process (including stakeholder engagement, PPP and report compilation).</p>
<p>Shell Namibia Upstream BV – EIA for proposed offshore well drilling (2017 -2018)</p>	<p>Shell Namibia Upstream BV holds PEL 39, which is located adjacent to the southernmost Namibian offshore border with South Africa. Shell is proposing to drill one or possibly two exploration wells in the northern portion of the licence area. Werner was the Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, PPP and report review).</p>
<p>Gecko Cobalt Mining - Environmental and Social Screening process (2018)</p>	<p>Gecko Cobalt Mining (Pty) Ltd conducted reconnaissance drilling over a stretch of 24 km length over the cobalt and copper mineralisation in EPL 4346, located approximately 25 km northwest of Opuwo. Depending on the outcome of further exploration activities and the feasibility study, GCM and CR are proposing to apply for a ML to ultimately mine the ore and process it on site. Internal Environmental (and Social) Screening exercise. Lead Environmental Assessment Practitioner managing an internal Environmental and Social Screening process.</p>
<p>Swakop Uranium – Husab Mine Closure plan (2018)</p>	<p>Development of the Husab mine Draft Closure Plan (MCP): In Country Manager and reviewer of the process and the draft MCP.</p>
<p>Areva (now Orano Mining Namibia) (annually)</p>	<p>Annual Environmental (relating to the EMP) Compliance audits for the Trekkopje Mine (which is on Care and Maintenance) and the Erongo Desalination Plant.</p>
<p>Manila Investments – Kombat Copper Mine EIA (2017 - 2018)</p>	<p>Manila Investments (Pty) Ltd holds Mining Licences 73B, 16, 9 (collectively the old Kombat Copper mine, which is currently under care and maintenance). The mine is a past-producing copper, lead and silver mine. Manila is considering implementing the following activities upon completion of the Environmental Impact Assessment process and acquiring the relevant permits and approvals for: Open pit (surface) mining in ML 73B (also referred to as “Asis”) and associated activities; Processing of the ore at the existing process plant, currently being refurbished, and associated activities; and Dewatering the “Asis Far West” (AFW) Shaft and conducting further underground exploration activities in ML 16. Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, PPP and report review).</p>
<p>Swakop Uranium Waste Rock Dump Amendment and Incinerator - EIA amendment (2017 - 2018)</p>	<p>Swakop Uranium owns and operates the Husab Mine in the Erongo Region of Namibia; they propose an amendment to their Waste Rock dump and also to implement a new on-site waste incinerator. Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, PPP and report review).</p>
<p>EIB and NamPower Encroacher Bush Biomass Power Project – EIA (2017 - busy)</p>	<p>European Investment Bank and NamPower: Environmental Impact Assessment (EIA) for the proposed Encroacher Bush Biomass Power Project in Namibia. Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>Alten Energy - 37 MW Hardap Solar (Photo Voltaic (PV)) Power plant, near Mariental (end of 2017 – October 2018).</p>	<p>Project Manager and provides ongoing support to the on-site Environmental Manager (who provide full time Environmental and Social Management Support on site) and conducts environmental performance audits.</p>

<p>Igneous Mining (Pty) Ltd – Application for Environmental Clearance (2016)</p>	<p>Igneous Mining (PTY) LTD Environmental is seeking a Clearance Certificate (ECC) Renewal for small scale mining activities on ML 135 in Sarusus Area, Skeleton Coast Park. Lead Environmental Assessment Practitioner managing the ECC Renewal Process including an audit of their onsite activities.</p>
<p>Manila Investments – Kombat Copper Mine Environmental Due Diligence (Sep 2016)</p>	<p>Lead Environmental Assessment Practitioner managing and conducting the due diligence audit (including site inspection, review of 'environmental management system' and documentation, gap analysis and recommendations for Environmental compliance) and report compilation.</p>
<p>City of Windhoek Gammams Waste Water Treatment Works Upgrade EIA (2017)</p>	<p>The Gammams Waste Water Treatment Plant (GWWTP) located in the Wanaheda suburb of Windhoek, is the City of Windhoek's (CoW) largest wastewater treatment plant. Develop an environmental Scoping Report (including Impact Assessment) for the planned GWWTP upgrade. Lead Environmental Assessment Practitioner managing the completion of the EIA process, report compilation / review.</p>
<p>B2Gold Otjikoto Gold Mine Closure plan (2017)</p>	<p>Development of the Otjikoto Gold Mine Draft Closure Plan (MCP): In Country Manager and reviewer of the process and the draft MCP.</p>
<p>NAMPARKS Facility Amendments at Mudumu NP – EIA amendment (2016 - 2018)</p>	<p>NAMPARKS Environmental Scoping Report for Infrastructure Development: Amendment for the proposed addition of an Entrance Gate, Tourist Reception and Staff Housing at Mudumu National Park. Lead Environmental Assessment Practitioner for the EIA amendment process required for infrastructure development. Report review.</p>
<p>Gecko Salt (Pty) Ltd Cape Cross Salt Project - EIA (2016 - 2018)</p>	<p>Gecko Salt (Pty) Ltd Environmental Impact Assessment for the proposed Cape Cross Salt Project. Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and review reports.</p>
<p>Namibia Construction (Pty) LTD Sand Mining Project – 20 km South West of Okahandja</p>	<p>Namibia Construction (Pty) Ltd (NC) is mining sand in the upper reaches of the Swakop River on Farm Osona 65, located approximately 20 km south-west of Okahandja town and 6 km East of Gross Barmen Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>Namibia Rare Earths – Proposed Lofdal Mine and linear infrastructure – EIA (2015 - 2016)</p>	<p>NRE holds the EPL at Lofdal located west of Khorixas, exploring for rare earth. They wish to apply for a mining license in 2016, for which an EIA would is required. Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>Rössing Uranium – Impacts of the TSF on biota and desert ecology – Management of study (2015 - 2016)</p>	<p>Impacts of the TSF at Rössing Uranium and related dust dispersion on biota and desert ecology. Managing the process and coordinating various specialists for input into the study (i.e. vegetation, air quality, biological soil crust, invertebrates and hyperspectral work). Compiling consolidated report summarising all the findings.</p>
<p>High Speed Railway Lines – Environmental Screening Process (2015 - 2016)</p>	<p>Feasibility studies for a railway line between Windhoek and Katutura, as well as a study for a railway line between Windhoek and Okahandja. Lead Environmental Assessment Practitioner managing the environmental Screening process (including limited stakeholder engagement, managing specialists, etc.) and compiling reports.</p>

<p>Swakop Uranium Reagents – EIA for storage at the Manica facilities (2015)</p>	<p>Swakop Uranium is developing the Husab Mine in the Erongo Region of Namibia (70 km north-east of the Walvis Bay port). The reagents and chemicals that will be used in the processing plant will be imported through the port of Walvis Bay. It will be sourced in advance and stored in Manica warehouse facility (on a temporary basis – “phase 1 project”) and container yard in the industrial area of Walvis Bay.</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports</p>
<p>Sand Miners Association of Swakopmund – EIA for sandmining in the Swakop River (2015 – 2018)</p>	<p>The members of the Sand Miners Association have been mining sand from the Swakop River, within the Swakopmund Municipal boundaries, for many years. The sand they mine supplies Swakopmund, Long Beach and Walvis Bay with sand for construction purposes. The Sand Miners Association has had to look for an alternate source of sand for construction activities in their area and EIA had to be done.</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>Swakop Uranium Reagents storage at a new facility in the Port of Walvis Bay – EIA (2015)</p>	<p>Swakop Uranium is developing the Husab Mine in the Erongo Region of Namibia (70 km north-east of the Walvis Bay port). The reagents and chemicals that will be used in the processing plant will be imported through the port of Walvis Bay. It will be sourced in advance and stored in a warehouse facility within the boundaries of NamPort’s harbour area (long term – “phase 2” project).</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>Namibia Rare Earths – Lofdal mine – Environmental baseline development (2015)</p>	<p>NRE holds the EPL at Lofdal located west of Khorixas, exploring for rare earth. They wish to apply for a mining license in 2016, for which an EIA would be required. The baseline environment needs to be described in detail to feed into such an EIA process.</p> <p>Compile the environmental baseline project plan. Manage specialists and develop Baseline data/report with input from various specialists.</p>
<p>Swakop Uranium – Husab Mine amendments - EIA (2015)</p>	<p>Swakop Uranium is developing the Husab Mine in the Erongo Region of Namibia (70 km north-east of the Walvis Bay port). The EMP needs to be implemented during construction Swakop Uranium and their contractors. It further needs to be rolled out into a management system for operations.</p> <p>Lead Environmental Assessment Practitioner managing the various EIA processes and compiling reports. Provide guidance and support to Environmental Control Officer(s), training to ECOs and contractors. Develop EMS procedures and other relevant documentation.</p>
<p>B2Gold – Otjikoto Gold Mine landfill site - EIA (2013 – 2014)</p>	<p>B2Gold is developing the Otjikoto (gold mine) Project, located approximately 70 km north-east of Otjiwarongo in the Otjozondjupa Region of Namibia. B2 Gold proposed to develop a landfill site (waste disposal facility) on site to cater for non-hazardous waste. They also proposed to construct and operate an on-site (heavy fuel oil) Power Plant.</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>

<p>B2Gold – Otjikoto Gold Mine development - EIA (2012 – 2013)</p>	<p>B2Gold applied for Mining Licence (ML 169) to developed the Otjikoto (gold mine) Project, located approximately 70 km north-east of Otjiwarongo in the Otjozondjupa Region of Namibia. As part of the ML application process, a detail EIA process needs to be conducted.</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports. The Scoping phase was already completed by another company.</p> <p>Completed the EIA process – i.e. assessment phase. Develop Mine Closure Framework.</p>
<p>Arandis Power Plant - EIA amendment (2014)</p>	<p>Arandis Power proposed to construct and operate a ‘hybrid’ thermal/PV plant with the maximum output capacity of 120 MW.</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>EPL’s for exploration activities – various EIA’s (2013 – 2015)</p>	<p>Various exploration companies planning to conduct exploration activities on the EPLs they hold. Prior the activities commencing, and EIA process needs to be conducted.</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports. Also review of reports.</p>
<p>Commissiekraal Coal Mine – EIA Scoping Report (2015)</p>	<p>Development of the proposed Commissiekraal Coal Mine including services and associated infrastructure in South Africa.</p> <p>Compiled EIA Scoping Report.</p>
<p>Various Mining and Exploration companies - various services (2012 – 2015)</p>	<p>Various Mining and exploration companies across Namibia sought assistance.</p> <p>Provided various services and support to various mining and exploration companies, including amongst others external audits, training, rehabilitation planning, compiling EMS procedures and other relevant documents, compile environmental performance reports, etc.</p>
<p>Various Mining, Exploration and Infrastructure Projects – various services (2012 – 2015)</p>	<p>Various Mining and exploration projects as well as infrastructure projects across Namibia sought assistance with EIAs, EMPs and review processes.</p> <p>Review process and reports for various projects managed by other environmental practitioners, including amongst others rail sidings; Nanomill which will produce 150,000 tons rebar’s and billets per year from scrap steel; Okorusu Fluorspar Mine expansion; Offshore exploration drilling (Murphy); water and waste water treatment facilities EIA and EMPs; Dundee Precious Metal Tsumeb Hazardous Waste Site expansion; Walvis Bay Salt Holdings Expansion; and others.</p>
<p>Pietersite Mining License – EIA (2013)</p>	<p>Mining Pietersite (gemstone) on Mining License (ML) 57 in the Kunene Region, north-central Namibia.</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>TransNamib – sulphuric acid transport – EIA (2014)</p>	<p>TransNamib plans to transport sulphuric acid by rail from Dundee Precious Metals (Tsumeb) to Rössing Uranium Mine and to Walvis Bay.</p> <p>Lead Environmental Assessment Practitioner managing the EIA processes and compiling reports.</p>

<p>Rössing Uranium Z20 deposit – EIA (2012 – 2014)</p>	<p>It is envisaged that the Z20 uranium deposit would be mined as a satellite open pit as it contains uranium bearing alaskite rocks, utilising conventional blast, load and haul methodology. An infrastructure corridor would need to be established to link the Z20 site to the existing Rössing Uranium Mine across the Khan River.</p> <p>Managing the EIA processes and compiling reports in a 'joint venture' with Aurecon.</p>
<p>Desalination Plant – Managing SEIA processes (2014)</p>	<p>A new Desalination Plant (located approximately 6 km north of Swakopmund, at the premises of the existing Swakopmund Salt Works.) to supply water to the for Rössing Uranium Mine. The plant will have a design capacity of 8,800 m³/day.</p> <p>Managing the SEIA processes and compiling reports in a 'joint venture' with Aurecon.</p>
<p>Coal Storage at Walvis Bay Harbour – EIA (2012)</p>	<p>Environmental Screening/ fatal flaw analysis for the proposed expansion of coal storage at the Walvis Bay Harbour.</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>Arandis Power HFO and recycled oil power plant - EIA (2012)</p>	<p>Arandis Power proposes to develop an independent power generation plant east of the town of Arandis, located in the Erongo Region, Namibia. Arandis Power is proposing a power station with a nominal output capacity of approximately 120MW which utilises reciprocating engines. Arandis Power will utilise a residual fuel known as heavy fuel oil (HFO) and recycled oil from a waste oil recycling plant.</p> <p>Lead Environmental Assessment Practitioner managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>Langer Heinrich Uranium Mine – expansion projects – Specialist environmental support (2009 – 2012)</p>	<p>Langer Heinrich is an operational Uranium Mine in Namibia Naukluft National Park.</p> <p>Specialist environmental support to ensure EIAs for expansion projects are correctly managed and implemented. Also to provide support, guidance and management in terms of environmental management implementation at the mine i.e. EMS development and implementation; environmental training; etc.). .</p> <p>Developed the draft Mine Closure and restoration strategy and Draft Mine Closure plan.</p>
<p>Port Expansion Projects in SA – Project environmental management (2008 - 2009)</p>	<p>Port expansions and development (Port Elizabeth, Coega and Richards Bay).</p> <p>Project Environmental Manager - managing the EIA process (including stakeholder engagement, managing specialists, etc.) and compiling reports.</p>
<p>Gautrain Rapid Rail Link - EIA (2006 - 2007)</p>	<p>Development of the Gautrain Rapid Rail Link.</p> <p>Appointed (on contract basis) to provide specialist input into the very challenging EIA processes and EMP development for the project. Also appointed as the Environmental Manager for the Bombela Turnkey Contractor, the managing contractor, for the Gautrain Rapid Rail Link Project.</p>

MEMBERSHIPS

EAPAN	Certified as a Lead Environmental Practitioner and a Reviewer under the Environmental Professionals of Namibia (Membership No. 114)
--------------	---

PUBLICATIONS

Paper on the integration of the EIA process with the project execution model through the University of Pretoria.