

APPENDIX A

Curriculum Vita of DWA Personnel

STEVE HORAK

Mr Steve Horak
Manager Social Sciences
Digby Wells & Associates

EDUCATION

2005: BA Masters Environment and Society – University of Pretoria
1999: BA Honours Development Administration – University of South Africa
1994: BA Applied Anthropology-Development studies – University of Pretoria

PROFESSIONAL AFFILIATIONS

International Association for Impact Assessment: South Africa

EMPLOYMENT

December 2008 – present: Digby Wells and Associates, Manager Social Sciences Department

1998 – 2008 Self employed, Perisseuo Consulting CC, CK98/68973/23 Founding member

1996- 1998 Junior Lecturer, University of South Africa (Unisa) Department of Development Administration, Co-ordinator, Centre for Development administration

EXPERIENCE

Whilst self employed I have been involved in numerous projects and have managed a number of these projects. These include Public Participation Processes, Social Assessments, Capacity Building and Facilitation. I have also worked on contract to the department of Water Affairs and Forestry firstly as the Strategic Environmental Assessment project co-ordinator for the Usutu – Mhlatuze Water Management area 1999 – 2002 and then more recently 2005 – 2008 as a Member of the Business Intelligence Team in the Water Services Directorate: Planning and Information. Now as part of Digby Wells and Associates I manage the social sciences department.

SELECTED PROJECT LIST

- **Consultation Process:** Prospecting Right Application Vista Resources (Makhado Local Municipality, Limpopo Province) 2008
- **Public Participation Process** IFC and World Bank standards Proposed ConRoast Platinum Smelter TWP (Rustenburg, North West) 2008
- **Social Impact Assessment:** IFC and World Bank standards proposed Wesizwe Platinum Mine TWP (Ledig, North West) 2007-2008
- **Public Participation Process:** Closure Plan Black Mountain Mine Umsizi (Aggeneys, Northern Cape) 2007-2008
- **Social Impact Assessment:** Closure Plan Black Mountain Mine Umsizi (Aggeneys, Northern Cape) 2007
- **Public Participation:** Super Dump (EIA) Mintails Umsizi (Randfontein Gauteng)

- Province) 2008
- **Special Intervention Programme:** Data Management Specialist Free Basic Water Implementation Department of Public Works, Bigin Africa (National) 2008
 - **Consumer Survey:** Water Services: Regulation Department of Water Affairs and Forestry WRP (National) 2008
 - **Business Intelligence Team:** Water Services: Planning and Information Department of Water Affairs and Forestry (National) 2009-2005
 - **Preliminary Environmental, Social and Transition Management Assessments:** for possible sites for National Government Head Offices the Department of Public Works BKS (Pretoria, Guateng) 2007-2008
 - **Monitoring and Evaluation Framework:** Department of Provincial and Local Government Focus BI (National) 2006
 - **Public Participation:** for the conversion of the old order mining rights: extension of existing opencast mining operations, construction of a river diversion and application for an integrated water use licence on the farm Halfgewonnen 190 is, CT Environmental (Mpumalanga) 2006
 - **Environmental Impact Assessment:** (EIA): and Environmental Management Programme (EMP) for Boschmanskop Coal Mine CT Environmental (Mpumalanga) 2006
 - **Socio-Economic Profiling:** of Kromme, Seekoei Catchments, Reserve Determination Department of Water Affairs and Forestry, Coastal & Environmental Services (Eastern Cape) 2006
 - **Public Participation:** Taba Romana Granite CT Environmental (Britz, North West) 2006
 - **Social Plan Development:** BHP Billiton, Digby Wells and Associates (Revilo North West) 2005
 - **Public Participation:** Environmental Management Program Report (EMPR) new coal mine development Boschmanskop CT Environmental (Hendrina, Mpumalanga) 2005
 - **Public Participation:** Spitzkop Colliery (EMPR amendment), Digby Wells and Associates, (Ermelo, Mpumalanga) 2005
 - **Resettlement Action Plan:** Tselentis Colliery, Digby Wells and Associates (Mpumalanga) 2004
 - **Feasibility Study:** Mankwe Campus University of the North West Price Waterhouse Coopers (Mogwassie, North West) 2004
 - **Social Plan Development:** BHP Billiton, Digby Wells and Associates (Revilo North West) 2004
 - **Preliminary Public Participation:** Environmental Management Program Report (EMPR) new coal mine development Boschmanskop (Hendrina) 2004
 - **Social and Labour Plan Development:** Chemwes Recovery Operation, Digby Wells and Associates (Stillfontien) 2004
 - **Resettlement Action Plan:** Digby Wells and Associates Koidu (Serraleone) 2004
 - **Social Plan:** Closure of Pering mine Digby Wells and Associates (Revilo North West) 2004
 - **Public Participation:** Spitzkop Colliery (EMPR amendment), Digby Wells and Associates, (Ermelo) 2003
 - **Public Participation:** (EMPR) & Water License Application new diamond mining development, Etruscan, Digby Wells and Associates (Ventersdorp) 2003
 - **Public Participation:** (EMPR) Diamond Mining Development, Digby Wells and Associates (Vaal River) 2003
 - **Project Coordinator Strategic Environmental Assessment:** Usutu – Mhaltuze Water Management Area Department of Water Affairs and Forestry (Kwa-Zulu Natal) 1999-2003
 - **Socio-Economic Impact Assessment:** Winning Business Systems, Woman's Development Bank (Boipatong, Daveyton, Katlehong) 1999

- **Social Impact Assessment:** (EMPR) Tavistock Collieries, Digby Wells and Associates (Ogies) 1999
- **Social Impact Assessment:** (Expansions to Tselentis colliery), Digby Wells and Associates (Breyten) 1999
- **Khylami Community Health Education Programme:** BKS Consultburo: Consulting Engineers for the Khylami Metropolitan Council (Gauteng Province) 1998
- **Anthropological Research:** Chizumulu Island, Lake Malawi (Malawi) 1996

Capacity Building and Facilitation

- **Workshop facilitations**, chair public meetings, various projects, Perisseuo Consulting
- **Workshop facilitation and chairing meetings** for the SEA Usutu to Mhlatuze WMA, Department of Water Affairs and Forestry
- **Training and workshop facilitation** for small business development, Winning Business Systems Skills Accel / South Atlantic Plastics
- **Workshop facilitation and training** in small business development, Client BKS / Consultbro
- **Co-ordinator** Centre for Development Administration, Teaching Programme in Community Based Development,
- **Teaching Participatory Development Management** during attendance sessions, University of South Africa
- **Junior lecturer**, Development Administration first year, Teaching first year development administration,
- **Tutoring** Development Administration first year, University of South Africa
- **Project trainer**, MA Political Science, Managing simulation game: Exaction, Stellenbosch University
- **Project trainer**, Air traffic controllers students, Managing simulation game Green Revolution, Atlas Aviation Company,
- **Medical Instructor**, Teaching the Operational Medical Orderly course, South African Medical Services South African National Defence Force

ELIZABETH HILTON GRAY

Mrs Elizabeth Hilton Gray
Manager of Environmental Management Services Department
Digby Wells & Associates

EDUCATION

2002 –2003: BA Hons. Geography and Environmental Management – Rand Afrikaans University (RAU)
1999 – 2001: BA Geography with a major in Geography and Information Science – (RAU)

EMPLOYMENT

October 2003 – present: Digby Wells and Associates, Environmental Consultant , Departmental Manager

ASSOCIATIONS

IAIA: Member of the International Association for Impact Assessment (ID 2073)

EXPERIENCE

While at Digby Wells I have been involved in a number of projects, at various levels, including project management. These projects have been predominantly in South African but I have also worked in Botswana. The majority of the projects I have been involved with have been Coal Mining and Gold Mining projects. Projects I have worked on include Environmental Management Programme Reports (EMPR's), Environmental Impact Assessments (EIA's), Scoping Reports, Bankable Feasibility Studies and Water Use Licenses. My work involves organisation of resources, management of the EIA/ WULA process, project management, report compilation and review and authority liaison. The work conducted at Digby Wells focuses predominantly on the mining industry and I have worked with both the social and environmental fields.

For three years (2006 – 2009) I have been working on the Mmamabula Mine and Power Plant EIS based in Botswana. DWA worked with an internationally accredited environmental consulting firm to produce a BFS, EIS and ultimately an ESHIA to IFC standards for the project. This included the management of the EIS process, co-ordination with specialists, impact assessment, time management and report compilation.

Projects that I have worked on include:

- Xstrata Coal EIA for new mining rights
- Mmamabula Energy Project which involves the construction of a coal mine and power station in Botswana
- Environmental Impact Assessment for Coal of Africa
- Updating of Mining Manual for GDACE
- Bankable Feasibility Study and EIA for Riversdale Holdings

- Surface Water Monitoring and interpretation for baseline studies

ANDREW HUSTED

Mr Andrew Husted
Aquatic Ecologist
Digby Wells & Associates

EDUCATION

2006 - 2007: BSc Masters in Aquatic Health – University of Johannesburg (UJ)
2005 – 2006: BSc Hons. Zoology – Aquatic Health – Rand Afrikaans University (RAU)
2005 – 2003: BSc Natural Science – Zoology & Botany (RAU)

EMPLOYMENT

January 2006 – June 2007: Econ@UJ, as an aquatic ecologist
August 2007 – present: Digby Wells and Associates, as an aquatic ecologist:

EXPERIENCE

Before joining DWA I was employed by Econ@UJ, a consortium based at the University of Johannesburg specializing in aquatic ecology as a researcher and project manager. I was involved in a number of projects at all levels. Through this I gained a wealth of experience in terms of aquatic assessments, project management and co-ordination and report writing. I was also responsible for the management of other master degree studies, ensuring work was completed correctly and the deliverables were met as well as written articles were correct and accurate.

Special areas of interest include:

- **Aquatic ecosystem integrity, importance and sensitivity:**
 - Fish survey
 - Fish Assemblage Integrity Index (FAII) or if required the Fish Response Assessment Index (FRAI).
 - Fish Health Index (FHI)
 - Biodiversity report highlighting IUCN listed species.
 - Invertebrate survey
 - South African Scoring System Verison 5 index and if required the Macro Invertebrate Response Assessment Index (MIRAI).
 - Biodiversity report highlighting IUCN listed species.
 - Riparian and wetland vegetation survey

Application of the Vegetation Response Assessment Index (modification from RVI).

Rapid assessment of the ecological state of Wetland ecosystems.

Biodiversity report highlighting IUCN listed species.

- Habitat surveys
 - § Index of Habitat Integrity (IHI)
 - § Integrated Habitat Assessment System (IHAS)
 - § Habitat Quality Index (HQI)
- Water quality assessment
 - § Oxygen content and saturation, conductivity, pH and temperature (in situ).
 - § General nutrient, salinity and toxic components of the samples.

- **Wetland Delineation:**

- **Wetland & Riparian Delineation Training - DWAF**

- Terrain Unit Indicator – helps to identify those parts of the landscape where wetlands are more likely to occur
 - Soil Form Indicator – identifies the soil forms, which are associated with prolonged and frequent saturation
 - Soil Wetness Indicator – identifies the morphological “signatures” developed in the soil profile as a result of prolonged and frequent saturation
 - Vegetation Indicator – identifies hydrophilic vegetation associated with frequently saturated soils
 - Present Ecological State (PES) of wetlands
 - Ecological Importance and Sensitivity (EIS) of wetlands
 - Ecological services provided by wetlands (Wet-Ecoservices)

- **Estuarine Ecological State, Importance and Sensitivity Assessments:**

- Estuarine Fish Condition Index

PAST PROJECTS

- Coal of Africa, Mpumalanga: GVM – Aquatic Assessment, Wetland Delineation

- Exxaro, Mpumalanga: Arnot Conveyor – Wetland Delineation & Aquatic Biomonitoring
- Kevin Ridge, Gauteng: GDACE – Basic Assessment
- Randgold, Ivory Coast: Tongon – Aquatic Assessment, River Diversion
- Merafe Resources, Mpumalanga: Schoongezicht – Wetland Delineation
- Xstrata, Mpumalanga: Butterfly Pit – Aquatic Assessment, River Diversion
- Xstrata, Mpumalanga: Spitzkop - Wetland Delineation & Aquatic Assessment

Jacques Groenewald

Jacques Groenewald

Manager: Hydrogeology, Senior Hydrogeologist

Digby Wells and Associates

Education

Masters Degree in Hydrogeology, University of the Free State, Bloemfontein, South Africa, 2004.

National Higher Diploma (Baccalaureas Technology), Geology, Technikon Pretoria, South Africa, 1996.

National Diploma, Geotechnology, Technikon Pretoria, South Africa, 1992.

Employment

Digby Wells and Associates, Johannesburg, June 2009-current.

KLM Consulting Services, Johannesburg, South Africa, January 2009-June 2009.

Knight Piesold, Johannesburg, South Africa, July 2008-January 2009.

ERM, Johannesburg, South Africa, March 2008-June 2008.

URS, Darwin Australia, August 2007-March 2008.

Council for Geoscience, Parastatal, Pretoria, South Africa, Senior hydrogeologist, June 2003–July 2007.

Department of Water Affairs and Forestry-Government, Pretoria, South Africa, October 1997 – June 2003.

Geodass Pty Ltd, Johannesburg, South Africa, December 1996 – October 1997.

Council for Geoscience, Pretoria, South Africa, February 1993 – December 1996.

Rocklabs CC, Pretoria, South Africa, January 1992 – October 1992.

Experience

Key experience in the field of geosciences comprises 16 years of work in the geophysical and hydrogeological fields.

Groundwater resource assessment – Several large scale research projects to assess and verify aquifers in rural South Africa

Groundwater supply – Following on assessment large scale supply projects was launched with drilling programs

Mine water supply and dewatering – Several mining projects in South Africa and Australia

Contamination studies – Using Geophysical techniques to delineate plumes from mines and industry and hydrochemistry to predict origin

Aquifer hydraulics and dynamics – Used to characterise aquifers for water supply and dewatering and feeding into numerical and conceptual models

Geophysics – Used for mineral exploration to groundwater applications

Career Summary

- Review of the proposed heap leach pads (Simmer and Jacks) around the Pilgrims rest area, GCS-EIA reports for DEAT Mpumalanga as part of the IUCN karst protection initiative.
- De Beers Venetia pit slope stability, installation of piezometers and monitoring.
- Review of Discovery metals LTD, Boseto Copper project – SRK bankable feasibility study.
- Manage and initiate the Eskom Kusile power station dewatering and aquifer characterisation project and geophysical interpretation.
- OmegaCorp Mutanga Uranium Project, 2008-Bankable Feasibility Study, management of dewatering-drilling, aquifer testing and conceptual modelling.
- Drilling observation and recommendation at Itruscan mine in Ivory Coast.
- De Beers Oaks closure, manage hydrogeological review and study component.
- Nkomati Mine RSA, 2008- Mine dewatering and modelling
- Bootu Creek, Australia, 2007-Mine dewatering and modelling
- Tshwane municipality, ad hoc environmental investigation, hydrocensus and sampling.
- DME- Small scale mining. 2006-2007
- SIDA/Chalmers-DWA&F combined project, 1999-2001. Remote sensing research project.
- IAEA Sponsored Project and DWA&F, Groundwater resources assessment and research of local aquifer systems and its groundwater potential, for the Alldays-Taaiboschgroet area in the Limpopo Province using natural isotope and other integrated methods. (2001-2004).
- Characterization of the Saldanha-Langebaan primary aquifer system, utilizing geophysical methods, DWA&F regional project. (2001-2002)
- Anglo Vaal Minerals, Copper exploration, Chingola, Zambia. Gravity surveys
- Southern Cross Explorations, Diamond exploration, Potgietersrus , South Africa. Gravity survey and groundwater supply survey.
- Red Cross Groundwater exploration, 1995-1996, Mozambique and Malawi.
- Interpretation of the regional magnetic and gravity data of Burundi. 1995. Research project for the CGS. Interpretation of data, design of new standard magnetic and gravity curves for the area using Magixxl software.
- Gravity survey for a large housing project at Irene Pretoria, 1996. A gravity survey, planning, execution and interpretation was done to delineate zones within the dolomitic Karst where building practices would be unsuitable.
- Titaniferous Magnetite exploration on the Bushveld Igneous complex 1992, Steelpoort Valley, SA.
- Andalusite mineral exploration, 1992. Groot Marico, SA.

HENDRIK SMITH

Hendrik Smith
Soil Scientist
Digby Wells & Associates

EDUCATION

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| 2005 | PhD (Interdisciplinary), Commonwealth Open University. |
| 1990 | MSc (Agric) Soil Science, University of Pretoria. |
| 1983 | BSc (Agric) Hons. Soil Science, University of the Free State. |
| 1978 | BSc (Agric) Soil Science and Plant Nutrition, University of Pretoria. |

AFFILIATIONS

1. Registered as a soil scientist with the South African Council for Natural Scientific Professions (Pr.Sci.Nat. Soil Science)
2. Member of the following relevant bodies:
 - Soil Science Society of South Africa since 1981
 - South African Soil Surveyors Organization

EMPLOYMENT

January 1981 -July 1999. Institute for Soil Climate and Water, Agricultural Research Council, Pretoria.

July 1999 – September 2003. Freelance soil consultant and franchise owner.

September 2003 – January 2008. University of Pretoria, Department Plant Production and Soil Science.

January 2008 – February 2009. Free lance soil consultant.

February 2009. Joined Digby Wells and Associates as Soil Scientist.

EXAMPLES OF PROJECT RELATED EXPERIENCE

- The effects of soil properties and electrolyte concentration on surface sealing crusting and runoff.
- Reclamation of soil surface sealing and crusting using soil ameliorants.
- The effects of industrial effluents (water quality) on soils.
- Evaluation of organic composted products, lime, gypsum and fertilizers for heavy metals and other health-related micro-elements.
- The influence of heavy metals and other health-related micro-elements on the soil, plant and water system.
- Reclamation of a sacrificial sewage sludge dumping site.
- Reclamation of sodic and saline industrial sites.
- Reclamation of a coarse ash dump site.
- Reclamation of a kimberlite dump site.
- Soil surveys and agricultural potential studies.
- Wetland delineation soil surveys.
- Using wetting front detectors in managing orchard root zone electrical conductivity and fertility.

HELEN KNIGHT

Ms. H Knight
Public Participation Practitioner
Digby Wells & Associates

EDUCATION

Certification course (Techniques for Effective Public Participation) (IAP2) 2007
Certification course Communications for Effective Public Participation) (IAP2) 2007
Certification course (Planning for Effective Public Participation) (IAP2) 2007
Certification course (Meaningful Community Engagement) (CSMI) 2007
Certification course (Management Programme in Environment and Sustainability Mining) (Meeti/Wits University), 2006
Certification course (Conflict Management in Public Involvement within Environmental Impact Assessments (Potchefstroom University) 1999
Short courses and Certificates (various throughout career) (Different organisations) 1974 – 2006)

EMPLOYMENT

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|-----------------------|---|
| May 2006 – present. | Digby Wells and Associates. Public Participation Manager |
| May 2001 – 2006 | Network Rail, Accident Investigation. Accident Investigator |
| September 1996 – 2001 | SRK Consulting, Environment Department. Public Participation Technical Assistant; previously Department Administrator |
| January 1974 - 1996 | Banking Industry, Various departments, last position Credit Manager |

ASSOCIATIONS

IAP2: Member of the International Association for Public Participation

EXPERIENCE

I have experience in the field of public participation and conflict management, public participation processes, social scans, scoping, environmental impact assessment phases through to authorisation regarding stakeholder engagement. I have been the public involvement co-ordinator/ manager on several large projects which included the design, planning and co-ordination of open-day workshops, public meetings etc.

Since joining Digby Wells I have written a number of reports and have been responsible for the formulation of public participation processes, implementation of public participation processes, facilitation of meetings and other aspects in relation to this sector. I initiated and am responsible for the management of the Lotus data capture management system established as part of the public participation component and grievance procedures.

Project Experience:

- Public Participation Manager for the PCDP Etoile Copper Mine project, Lubumbashi, Democratic Republic of the Congo.
- Public Participation Manager for the PCDP Mmamabula Energy Project, Central District, Botswana.
- Public Participation Manager for the PCDP Bonwapitse Wellfield Project, Central District, Botswana.
- Public Participation Manager for the PPP Tselentis Greenfields Project, Ermelo, Mpumalanga.
- Public Participation Manager for the PPP Eastplats Crocodile River Mine Smelter Project, Brits, North West Province, and many more projects.

Gregory Ovens

Gregory Ovens
Environmental Consultant (GIS)
Digby Wells & Associates

EDUCATION

2006 - 2007: B.Sc (Hons) Geography and Environmental Management: Major subjects: Research Methodology; Strategic Environmental Planning; Energy Technology; Geographic Information Systems (GIS); Remote Sensing (University of Johannesburg).

2005: GIMS "ESRI": Advanced GIS training

2003 – 2005: B.Sc Geography: Major subjects: Environmental Management, Geography, Project Management, Geology, Environmental Chemistry.

Ancillary subjects: Analytical Techniques (statistics), Computer Literacy, Business Management (Rand Afrikaans University).

EMPLOYMENT

January 2008 – Digby Wells & Associates

January 2003 – December 2007: Wendy Ovens & Associates

January 2002 – December 2002: Denny Mushrooms

EXPERIENCE

I gained experience using Geographic Information Systems (GIS) as a spatial analytical tool in assisting Local Governments on a range of issues. My application of GIS covers Town and Regional Planning, Spatial Development Frameworks (SDF), Land Use Management Schemes (LUMS), Environmental Impact Assessments (EIA), Strategic Environmental Assessments (SEA) as well as Urban and Population analysis.

My responsibilities at Digby Wells & Associates currently include but are not limited to:

- Generation of maps for Company projects;
- Assisting with the maintenance of the GIS databases by storing all electronic files in a well organised structure;
- Expanding and improving the GIS database by identifying gaps and sources of additional mapping data;
- The production of spatial information in map format;
- Application of GPS technology, aerial photo and satellite images, when required;
- Assessing digital database to ensure a high level of accuracy of data available at all times;
- Assist with the compilation of EIA's, EMP's and WULA's.

Bradly Thornton

Bradly Thornton

Unit Manager: Geographic Information Systems

Digby Wells & Associates

EDUCATION

2000 – 2002: BSc Natural Sciences: Majored in Geology, Geography & Environmental Management. Ancillary courses: Analytical Techniques (statistics), Economics, Computer Literacy and relevant Chemistry courses (Rand Afrikaans University).

2003: B.Sc (Hons) Geography and Environmental Management: Strong focus on Geographic Information Systems (GIS), Environmental Management and Physical Geography (Rand Afrikaans University).

AFFILIATIONS

Geographic Information Society of South Africa (GISSA)

EMPLOYMENT

May 2003 – April 2006 Fernridge Consulting

April 2006 – February 2007: OPSI Systems

March 2007: Digby Wells and Associates

EXPERIENCE

During my studies and career I have gained extensive experience in using geographic information systems as a digital cartographic tool as well as a spatial analytical tool. The application of my knowledge has been used for a wide range of studies including feasibility studies; urban and population analyses; environmental studies and interpretation of aerial imagery.

My responsibilities at Digby Wells & Associates currently include but are not limited to:

- Generation of maps for Company projects;
- Assisting with the maintenance of the GIS databases by storing all electronic files in a well organized structure;
- Expanding and improving the GIS database by identifying gaps and sources of additional mapping data;
- The production of spatial information in map format;
- Application of GPS technology, aerial photo and satellite images, when required;
- Assessing digital database to ensure a high level of accuracy of data available at all times;
- Assist with the compilation of EIA's EMP's and WULA's.

Jennifer Balatedi Molwantwa

Dr Jennifer B. Molwantwa (PhD, Pr. Sci. Nat.)

Unit Manager: Hydrology, Digby Wells and Associates

EDUCATION Rhodes University (1994 to 2008)

1998 BSc (Microbiology / Chemistry)
1999 Postgraduate Diploma in Enterprise Management
2000 BSc Hons. (Biotechnology)
2003 MSc (Biotechnology)
2008 PhD Science (Biotechnology)

PROFESSIONAL AFFILIATIONS

South African Council for Natural Scientific Professions (SACNASP)
Water Institute of Southern Africa (WISA)

EMPLOYMENT

2002 – 2004 Pulles Howard and de Lange (PHD) Research Assistant
2006 – 2006 Golder Associates Africa (GAA) Water Scientist
2007 – 2008 Zitholele Consulting (ZC) Water Scientist
2008 – 2008 Digby Wells & Associates (DWA) Water Scientist
2009 - Date Digby Wells & Associates (DWA) Unit Manager: Hydrology

EXPERIENCE

Extensive research and development experienced gained at Rhodes University's Environmental Biotechnology Research Unit (EBRU) in the biological treatment of mine water using both passive and active treatment systems.

I have used molecular typing was used to understand the different bacterial species present in a biological mine water treatment system and used the information about their function to derive a descriptive model of how the biological system functions. The development of a unit process from laboratory/bench-top scale through to pilot and even demonstration scale was achieved in my PhD study where at pilot scale percentage

In the research and other projects undertaken I have gained experience water quality analysis (wet chemistry), Reserve determination (water quality), specialists surface water and hydrological inputs into EIA/EMPR, state of environment reporting (North West Province) At DWA I am currently involved in specialist inputs into EIA (hydrology), Storm Water Management Plans (SWMP) Integrated Waste and Water Management Plans (IWWMP) and Integrated Water Use License Applications (IWULA). Currently I am undertaking a water management compliance audit.

Responsibilities as Unit Manager: Hydrology include managing 2 staff members and seeing to unit operation.

Dominique (Niqui) Viljoen

Ms. Niqui Viljoen

Social Consultant

Digby Wells & Associates

EDUCATION

2001 – Present: BA Environmental Management (UNISA)

EMPLOYMENT HISTORY

May 2008 – present: Social Consultant - Digby Wells and Associates (DWA).

February 2007 – May 2008: Environmental Manager – Eco Assessments Ecological and Environmental Consultants

March 2005 – February 2007 – Environmental Manager – Enpact Environmental Consultants

June 2003 – March 2005 – Project Manager – EcoLink Community Development and Environmental Education Centre

November 2002 – June 2003 – Assistant to Environmental Assessment Practitioner – EcoTechnik Environmental and Wetland Consultants

HONORARY AND ELECTED POSITIONS

Secretary: Wildlife and Environment Society of South Africa (WESSA) – Lowveld Region (2003-2007)

WESSA is a leading NGO in South Africa involved with environmental “watchdog” work, conservation and environmental education.

Secretary: Mbombela Waste Management Co-Operation Initiative (MWMCI) (2006 – 2007). The MWMCI is a forum that was established to discuss and deal with different waste management issues in the Mbombela Municipal Area in Mpumalanga

Secretary: Environmental Monitoring Committee – Pappas Quarry Hazardous Landfill Site (2005 – 2007). The Committee was responsible for the monitoring of environmental and social issues related to the dumping of hazardous waste material from the Manganese Metal Company in Nelspruit. This included: surface and groundwater monitoring, air quality monitoring, dealing with complaints from community members and the closure and rehabilitation of the site.

Secretary: Environmental Monitoring Committee – Kingston Vale Hazardous Landfill Site (2005 – 2007). The Committee was established to deal with environmental and social issues related to the construction of a hazardous landfill site for the Manganese Metal Company in Nelspruit. This included: the permitting of the new site, baseline study reporting and dealing with complaints from community members.

EXPERIENCE

I started working in the field of Environmental Management in 2002 and experienced gained thus far includes: Environmental Evaluation and Impact Analysis, Field Surveys, Public Participation, Environmental Education, Fundraising, Community Research, Development and Upliftment, Environmental Auditing and Monitoring and Wetland Rehabilitation. I have been involved with the undertaking and management of various Environmental Impact Assessment (EIA) and Basic Assessment Applications, EIA and EMP document compilation, community development and research projects and proposals and general project management including residential, commercial and industrial developments. During my years of employment I attended an introductory course in wetland delineation, a briefing on the Mpumalanga Biodiversity Conservation Plan and several other workshops and meetings related to environmental and conservation issues.

MARIKE FOURIE

MARIKE FOURIE

Environmental Consultant
Digby Wells and Associates

EDUCATION

- University of Pretoria (UP) 2000 – 2002: BhcS. Degree *Cum Laude*;
- University of Pretoria (UP) 2003 – BhcS. (Hon) Degree *Cum Laude* Specializing in Cultural and Heritage Tourism Management;
- University of Johannesburg (R.A.U) 2005 – 2006: (M.A.) Degree, specializing in Sustainable Development;
- Wildlife Campus (Ecolife) 2007, Certificate in Wildlife Management;
- University of Johannesburg 2008 – present, Doctoral Degree in Environmental Management

Lifetime Membership: Goldenkey International Honorary Society: Membership attained through academic achievement (Honorary Colours) in the BhcS. Degree.

EMPLOYMENT

- 2006 – Environmental consultant, Digby Wells & Associates.
- 2005 – Lecturer in Sustainable Tourism Development at the University of Johannesburg (previously known as R.A.U)
- 2005 – Lecturer in Geography at Abbott's College, Northcliff
- 2004 – Researcher for South African Veterinary Association (SAVA): Development of Veterinary Museum at Onderstepoort, Pretoria
- 2004 – Administrative Assistant at Financial Services Compensation Scheme (FHCS), London, U.K
- 2002 – 2003 : Research Assistant at University of Pretoria (UP), Archive Assistant & Part-time Travel Writer for Campus Newspaper

EXPERIENCE

Whilst completing a BhcS. (Hon) and Masters Degree, she has done intensive research, fieldwork and impact assessments in the Blouberg area (Limpopo Province). The Hananwa community formed an integral part of the Masters Degree in Sustainable Development as well as an Ethno-botanical assessment of the region (Bhcs). As a lecturer in Sustainable Tourism Development and Geography at the University of Johannesburg (UJ), she was responsible for the preparation of formal lectures, presentations, practical guidance, excursions and student evaluation. Other work experiences such as Research assistant for South African Veterinary Association (SAVA) and University of Pretoria (UP) were primarily focussed on resource analysis, literature reviews, compilation of development proposals, data input and constructive recommendations.

Current area of expertise at DWA lies in the formulation and implementation of sustainable development initiatives, archaeological impacts assessments and assisting with Environmental Scoping reports, Environmental Impact Assessments (EIA) and Environmental Management Plans (EMP).

Projects recently involved in include:

- Sadiola Deep Sulphides Project (EIA/EMP, Project Manager), AngloGold Ashanti (AGA), Mali, West Africa;
- Valencia Uranium (EIA/EMP, Assistant Project Manager), Forsys Metals, Namibia, Southern Africa;
- Mmamabula Energy Project (MEP), Botswana, Archaeological Management:
 - Mine & Power station EIA/EMPR
 - Transmission Lines EIA/EMPR,,
 - Railway Link and Service Corridor,
 - Kudumatse Groundwater exploration boreholes,
 - Serorome Mine and Road Upgrades, and
 - Calcrete Mine.
- BHP Billiton (Coal South Africa)/ BECSA, Mpumalanga Province:
 - Khutala Optimisation Project EIA/EMP,
 - Khutala Southern Access Grave Removal, and
 - Naudesbank/Vaalbank EIA/EMP
- Tselentis and Spitzkop Mining developments (EIAs/EMPs, Archaeological Management), Xstrata, Mpumalanga, South Africa;
- Crown Ergo Mining Operation and related reclamation activities (EIAs/EMPS, Air Quality and Archaeological Management), Gauteng;
- Northern Coal, Weltevreden (EIA/EMP, Archaeological Management), Mpumalanga;
- Etoile (BFS, Preliminary Archaeological Investigations), IMC, Democratic Republic of Congo (DRC);
- Khutala Mineral Optimisation Project, EIA/EMPR, Ingwe Colliery, Mpumalanga, South Africa ;
- Klippoortjie 5 Seam EMPR Addendum, Xstrata Coal, Mpumalanga
- Cleaner Production (CP) Campaign, Water Research Commission (WRC);
- Op Goeden Hoop Mining Right Application, NuCoal, Mpumalanga
- ATC Mini Opencast Pits EMPR Addendums, Xstrata Coal, Mpumalanga.
- Mareesburg Platinum Joint Venture, Eastern Platinum, Mpumalanga.
- Bankfontein EIA/EMPR, Vaalsands (Pty) Ltd, Free State
- 3L2 Dump EIA/EMPR, Crown Gold Recoveries, Gauteng
- Lime-Chem EIA/EMPR, Lime-Chem (Pty) Ltd, Limpopo Province

Courses and seminars recently attended include:

- Health and Safety Course (January 2007; Edwilo Risk Consultants);
- Corporate Social Investment (March 2007 at Randfontein Estate);
- Wildlife Management Course, Wildlife Campus (August 2007, Ecolife);
- Emergency First Aid Course (August 2008, IEFA)

Lukas Sadler

Lukas Sadler
Environmental Consultant
Digby Wells and Associates

EDUCATION

2002 – 2004: BCom Environmental Management (North West University)

PROFESSIONAL AFFILIATIONS

None

EMPLOYMENT

May 2006 – July 2007: West View Rail (pty) Ltd (London)
November 2007: Digby Wells and Associates

EXPERIENCE

During my two year stay in London from September 2005 – September 2007, I worked for West View Rail (pty) Ltd on the London Underground.

My duties as a Platelayer was reconstructing old track infrastructure and to re-rail where we had to replace old tracks. During my time with West View Rail (pty) Ltd I went on varies courses namely the 'Track Accustomed' course, which allowed me to work near live rails where the power was still running through the train tracks and trains would still be operational. I also went on a 'Passport to Safety' course, which is a health and safety course relating to construction sites, especially the track environment.

I am currently working at Digby Wells and Associates in the Biophysical Department, where I am responsible for the Air Quality and Noise Impact Assessments relating to EIA/EMP's, as well as assisting with the compilation of reports such as environmental impact assessments.

RUDI GREFFRATH

Rudolph Greffrath
Environmental Scientist
Digby Wells and Associates

EDUCATION

- 2001-2004 Diploma in Nature Conservation, UPE Saasveld Campus
- 2005 B-tech Degree in Nature Conservation, UPE Saasveld Campus
- Currently awaiting approval for M-tech research application.

PROFESSIONAL AFFILIATIONS

None

EMPLOYMENT

- 1999-2001 I was employed by a geotechnical instrumentation company called Kop-Kop, during which time I worked on the Lesotho highlands water project specifically the Mohale dam. I was charged with installing and maintaining the Mohale instruments, as well as taking daily readings, and training personnel before hand over to local authorities. I also worked on the Maguga Dam in Swaziland, where my duties were essentially the same.
- 2003: As part of my course I had to complete a 1 year practical in field training with a Game reserve of my choice. Shamwari private game reserve is where I got placement. Here I was involved with daily non-routine work typical at any reserve.

EXPERIENCE

While working at Shamwari we did Game capture of anything from Kudu to Elephant, Animal Husbandry specifically with Leopard, Nyala and Steenbuck.

Worked at the Born Free Cat sanctuary located on Shamwari, Anti-poaching patrols, fencing patrols, Feeding and Recording Wild dog re-introduction program. Vegetation survey's for management plan's annual updating. Rehabilitation of old farm lands that were newly acquired. Alien vegetation control, mechanical chemical and biological. Worked with African Conservation Experience, a company launched by Shamwari owner Mr Adrian Gardner. This company organises 2 weeks -3 month working holidays for overseas vet students, and one destination they could visit was Shamwari.

Phillip Lourens

Phillip Lourens
Hydrologist
Digby Wells & Associates

EDUCATION

BSc. Meteorology, UP, 2003
BSc. (Hons) GIS, UP, 2009 (on-going)

EMPLOYMENT

| | | |
|-----------|-----------------------------|-----------------------|
| Current | Digby Wells & Associates | Hydrologist |
| 2008 | WRP Engineering Consultants | Hydrologist |
| 2007 | DWAF – Flood Management | Assistant Hydrologist |
| 2005-2006 | Gough Island (DEAT, S.A.) | Observer/Technician |

EXPERIENCE

Experience in human relations and management of the general working environment was gained during 13 months spent on Gough Island. Many aspects of teamwork as well as individual augmentation were extensively cultured.

Extensive practical and theoretical experience was gained during employment at DWAF. Basic as well as advanced hydraulic and hydrological aspects were explored. Monitoring of real time flow data over the whole of S.A. was included in daily responsibilities. Dam balances of all major dams including the Vaal and Gariep were conducted on a daily basis. Flow gauging structures were evaluated and calibrated in order to obtain optimal quality flow records. Issues which were also sheltered include daily routing of the entire Vaal – Orange catchment area, flood routing of this system during high rainfall events and daily as well as seasonal weather forecasting on a regional and national scale.

Experience in short and long term stochastic hydrological modelling was gained during the period of employment at WRP Engineers. The complete task of rainfall patching of a primary catchment area was successfully conducted during this period. Large project that were undertaken include The Vaal Comparative Study, The Upper and Middle Olifants Water Availability Study and the Mhlatuze Water Availability Assessment Study.

The current employment at Digby Wells & Associates has led to the integration of these hydrological skills to complement multi-disciplinary teams involved in the compilation of documents (EMPR, EIA) and inputs into storm water management plan. The opportunity to work on this level has lead to the focussing on smaller more site specific catchment areas as apposed to larger primary catchment areas. Experience in flood lines and flood volumes for specific return periods have also been gained during employment at DWA. The development of impact assessment, specific mitigation proposal and monitoring plans for surface water resources are undertaken on mining related EIA/EMP studies and these contribute to responsibilities within the company structure.

Louise Nicolai

Ms Louise Nicolai
Environmental Consultant
Digby Wells & Associates

EDUCATION

2007 – Present: MSc Environmental Management - Imperial College University of London

2002 – 2003: BA Hons. Geography and Environmental Management – University of the Witwatersrand (WITS)

1999 – 2002: BA Geography & Environmental Management (RAU)

RELEVANT EMPLOYMENT

February 2006 – present: Digby Wells and Associates (DWA).

EXPERIENCE

My current position as an Environmental Consultant requires me to compile various environmental reports in accordance to various regulations. Experience gained at DWA includes the undertaking of various Environmental Impact Assessment (EIA) and Basic Assessment applications, EIA and EMP document compilation, Mining Rights and conversions, due diligence investigations, prospecting applications, project management and environmental auditing.