



DANIEL JAKOBUS OTTO

Mr Daniel Otto

Director

Natural Sciences Department

Digby Wells Environmental

1 EDUCATION

- M.Sc (Geography & Environmental Management), University of Johannesburg (UJ), South Africa, 1997.
- B.Sc (Hons) (Geography/Botany), UJ, 1992: Environmental Management and Geomorphology;
- Water Management and GIS.
- B.Sc (Geography/Botany): UJ, South Africa, 1991.

2 TRAINING

- ISO14001 International Auditors course
- University of Pretoria Wetland Identification and Rehabilitation Course
- Carrying capacity and grass identification course
- GIS
- Management Skills
- Golder Global Leadership Development

3 EMPLOYMENT

- 2011 - Current Digby Wells & Associates Director: Natural Sciences Departments
 - Bio-geomorphologist: Wetland and Rehabilitation Scientist.
 - Environmental permitting processes, environmental and compliance audits, rehabilitation and specialist studies for mines.
 - Manage Biophysical (Fauna & Flora, Soils, Rehabilitation, Aquatics/Wetland and Rehabilitation Units), Surface Water, Groundwater and Air Quality Departments with the various Department and Unit Managers.

- 2005 – 2011 Golder Associates Africa (Pty) Ltd Associate
 - Manager: Florida Ecology Office - Bio-geomorphologist: Wetland and Rehabilitation Scientist.
 - Undertaking Environmental Assessments and compiling Environmental, Water & Waste Management Plans focussing on the mining industry.
 - Integrated Pollution Control development via phytoremediation and wetland assessments. Construction of wetlands for passive water treatment purposes. Underlying this is the goal and function of river and wetland rehabilitation with the emphasis on geomorphological aspects. Manager of Ecology Division and office of 20 staff.
- 2003 - 2005 GCS (Pty) Ltd Director
 - Managed personnel, budget and projects of the Environmental, Water Use and GIS Units undertaking environmental assessments, water licence applications etc
- 1998 - 2003 Digby Wells & Associates (Pty) Ltd Director
 - Managed projects, budgets and teams of various multidisciplinary projects. Work mostly mining related.
- 1995 - 1998 Pulles Howard & De Lange (PHD) Inc. Environmental Scientist
 - Managed projects, budgets and teams of various multidisciplinary environmental and water projects and assisted in research such as passive treatment wetland projects and A Manual on Mine Water Management and Treatment Practices in South Africa.
- 1994 Vista University Junior Lecturer
 - Lectured Geomorphology and Environmental Management and undertook research on desert vegetation cover.
- 1993 - 1994 CSIR Contract Researcher
 - Undertook research on A manual to Assess and Manage the Impact of Gold Mining Operations on the Surface Water Environment – on CSIR contract.
- 1991 - 1992 RAU (University of Johannesburg) Technical Assistant
 - General laboratory assistant and soil laboratory assistant for research on tailings sediment and dune sands.

4 EXPERIENCE

Countries worked in:

Botswana, South Africa, Lesotho, Zimbabwe, Mozambique, Mali, CAR, Sierra Leone.

5 PROJECT EXPERIENCE

5.1 ENVIRONMENTAL IMPACT ASSESSMENTS AND MANAGEMENT PLANS

- Rio Tinto – Mali Green gold mine, Kwekwe, Zimbabwe: EIA to World Bank Standards.
- Nevsun-Tabakoto gold mine, Mali: Ecological survey to IFC/World Bank standards.
- Impala Platinum: 16, 17 and 20 Shaft EMPRs.
- De Beers Finsch Diamond Mine: Fines Residue Deposit EMPR.
- Anglo Coal - Mafube Coal Mine: EMPR and project team member.
- Samancor: Eastern Chrome Mines: Project Manager - EMPRs, IWWMPs, Closure Plans.
- Highveld Steel and Vanadium: Transalloys Tiaco process EIA.
- Anglo Platinum Process Plant (ACP): Waterval Smelter EIA including river diversion.
- TEM: Proposed Wild Coast Heavy Minerals Mining – Environmental Scan of Ecological Aspects.
- South Eastern District Council Landfill, Gaborone, Botswana: Landfill and Hazardous Waste Site EMP.
- Eskom/Amplats, Polokwane: Powerline to platinum processing plant – Ecology.
- Strategic Fuel Fund-Tavistock: Wetland and pan assessments.
- Anglovaal-Dorstfontein Coal Plant: Vegetation, wetland and land assessment.
- Total Coal Holdings: Springbok siding scoping report specialist input.
- Kriel TLC: Kriel powerline and pipeline to Dorstfontein – EIA.
- Paulpietersburg siding: Scoping report specialist input (Paulpietersburg).
- Consolidated Modderfontein Mines Environmental: Johannesburg - South Africa Liability assessment review.
- Foskor phosphate mine: EMP for re-mining tailings and new tailings dam facility.
- Palabora Mining Company: Water Management Plan, IWULA, EIAs, Closure Plan.
- Xstrata – Spitzkop Mine and Plant: Coal mine EMP amendments.
- Xstrata Coal: Tselentis waste disposal facility EMP amendments.
- Xstrata Coal: Beesting mine vegetation and wetland survey.
- JCI Coal: Caroline opencast mine, plant and waste facilities.
- Pafuri Metals: Vegetation survey for Madimbu corridor.
- Bushveld Mines: Klipwal gold mine, plant and waste facilities.
- Crown Gold Recoveries:

- Meretsel Silts – Wetland alteration and rehabilitation EMP.
- Fleurhof Dam – Wetland alteration and rehabilitation for dredge mining EMP.
- Anker/Gholfview: Ermelo Coal Rail Siding EIA.
- Gibb Africa/Dept. of Transport: Mojadji development – road and quarries EMP.
- Etruscan Diamonds: Scoping vegetation survey for diamond mining.
- Dullstroom water purification plant: Ecological survey.
- Xstrata Coal –Tavistock: Water Management Plan specialist input.
- Kalgold (Harmony): Rock dump EMPR.
- Metorex - Bankfontein Colliery: EMPR Ecological Aspects.
- Metorex - Kleinfontein Colliery: EMPR Ecological Aspects.
- Kao Diamond Mine and Road, Lesotho: EMP & EMPR, Ecological Aspects.
- Samancor - Western Chrome: Mooinooi Operations – Project Manager & EMPR Ecological Aspects. Millsell Operations – Project manager & EMPR Ecological Aspects.
- Bakouma Uranium Mine, Central African Republic: Ecological aspects of EIA.
- Tanguma Environmental Baseline study, Sierra Leone: Project Manager.
- Benga EIA, Mozambique: Ecology and wetland aspects.
- Moatize Biomonitoring, Mozambique: Project Manager.
- Matla: River diversion EIA, WULA, Audits, long term monitoring, Wetland Management Plan. Project Manager.
- Thuni Dam, Selebi Pikwe, Botswana: EIA scoping report.
- Hazardous Waste Site, Lobatse area, Botswana: Environmental Audit and EIA input.
- Protea Hotels (African Pride): EIA for Jackalberry Camp to Lodge and Concession in the Kruger National Park. Jakkalsbessie/Tinga KNP Concession Area – EIA & EMP.
- Glenburn Lodge: Specialist ecology studies for EIA for expansion.
- Bronberg Nature Reserve: Scoping ecological report – property sub-division.
- Rand Uranium: EIA/EMP for Cooke Plant optimisation, tailings dam, pipelines and pit deposition (Project Sponsor).

5.2 ENVIRONMENTAL REHABILITATION

- **Pomfret Asbestos Mine:** Input into management plan and impact assessment from sources, pathways and rehabilitation point of view.
- **Iscor Steel Works (Vanderbijlpark):** Management plan for waste discard and slag pollution control measures, rehabilitation and vegetation programme.



- **Pering Lead Mine – BHP-Billiton:** Closure plan. Rehabilitation aspects.
- **ERPM Gold Mine:** Tailings facility rehabilitation management and vegetation survey (Germiston).
- **Foskor Phosphate Mine:** Rehabilitation consultation, EIA, EMP, Integrated Water Licence application.
- **Durnacol Coal Mine:** Durnacol rehabilitation and closure risk assessment plan inputs.
- **Northern Metropolitan Local Council Randburg:** Rehabilitation Plan input - Pipeline and watercourses for Cosmo City, co-manage implementation of EMP review and Audits.
- **Highveld Technopark Wetland:** Review wetland and waste facility rehabilitation and environmental management plans of Centurion Council.
- **Hartebeesfontein:** Tailings facility rehabilitation plan and on site implementation review.
- **CMR Golfcourse wetland:** Concept design team for wetland for seepage treatment (Maraisburg).
- **WAGM Arnot Colliery and VCC Colliery wetlands:** Input into concept design and construction consultation on pilot scale passive treatment wetland systems.
- **Pidwa Game Ranch:** Vegetation rehabilitation.
- **Kangala Cola Mine, Universal Coal:** Rehabilitation plan.

5.3 AUDITS, CLOSURES PLANING, LIABILITY ASSESSMENTS AND ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATIONS

- Various mining operations in South Africa.
- **Hewlett Packard – Techink:** Due diligence on digital ink manufacturing and milling facilities.
- **Target Gold Mine:** SHE Audit, sustainability reporting, Performance Assessment audit.
- **Assmang Chrome Smelter:** SHE Audit, sustainability reporting.
- **Assmang Manganese Smelter:** SHE Audit, sustainability reporting.
- **Black Rock Manganese Mines:** SHE Audit, sustainability reporting, Performance Assessment audit.
- **Beeshoek Iron Ore Mine:** SHE Audit, sustainability reporting, Performance Assessment audit.
- **Dwarsrivier Chrome Mine:** SHE Audit, sustainability reporting, Performance Assessment audit.
- **Nkomati Base Metals Mine:** SHE Audit, sustainability reporting, Performance Assessment audit.

- **Crown Mines:** Environmental audits for C-Dump, C-west, 3/L/13, Rosherville Dam, Valley Silts operations.
- **Bushveld Mines:** Klipwal gold mine, water management plan for plant and waste facilities inputs.
- **Xstrata Coal:** Spitzkop Mine and Plant specialist input.
- **Lepele Water:** Phalaborwa Pipeline construction EMP audit.
- **Rand Water:** Kroondal Pipeline construction EMP audit.
- **Total Coal Holdings:** Forzando field condition audit.
- **Crocodile River Platinum Mine:** State of Environment and investigation into potential effects on tree species.
- **Black Rock Manganese:** Detailed closure costing.
- **Chemwes Gold Mine:** Quarterly Environmental Audits 2000-2005.
- **Mamre Gold Mine:** Closure Cost and Liability Assessment.
- **Wonderstone:** Pyrophyllite mine, Environmental Audit.
- **Rustenburg Minerals Development:** Environmental Audit of Chrome Mine.
- **Simmer & Jack, DRD:** NW Operation (Buffelsfontein & Hartbeesfontein) liability assessment.
- **Simmer & Jack Management Committee, TGME:** Pilgrims Rest Mines, EMP audits (part of Management Committee).
- **Vanchem:** Water Use Licence Audit (Vanadium Plant and Tailings Facility).

5.4 ENVIRONMENTAL RISK ASSESSMENT AUDITS

- **Iscor Vanderbijlpark:** Flat Steel Plant, Environmental Risk Assessment and SHE audit. Galvanising, Hot Mills, Cold Mills, Continuous casting, Arc Furnaces, Blast furnaces.
- **Iscor Vereeniging:** Specialist Steel Plant, Environmental Risk Assessment and SHE audit.
- **Iscor Newcastle:** Profile Steel Plant, Environmental Risk Assessment and SHE audit.
- **National Metals:** Scrap Steel processing facilities, Environmental Risk Assessment and SHE audit.
- **Dunswart Direct Iron Ore Reduction:** Direct Iron Ore Kiln and Reduction Plant, Environmental Risk Assessment and SHE audit.
- **Vantin:** Flat Steel Processing and packaging Plant, Environmental Risk Assessment and SHE audit.
- **Suprachem:** Coking oven gas plant, BTEX Plant, Environmental Risk Assessment and SHE audit.

Professional affiliations

- **Kusile Power Station:** Environmental Monitoring Committee (Chairperson: 2011 - Current).
- **Fellow:** Water Institute of South Africa.
- **IAIAsa.**
- **Botanical Society of South Africa.**
- **Simmer & Jack Management Committee:** Environmental Management Committee member (2004).

6 PROFESSIONAL REGISTRATION

Registered Natural Scientist S.A (Reg. No. 400096/02)

7 PUBLICATIONS

- Howie, D.R. and Otto. D. (1996). The Impact of Gold Mining Activities on the Water Quality and Users in the Upper Klip River Catchment. WISA Conference Proceedings 1996.
- Pulles, W., Howie, D., Otto, D., and Easton, J. (1996) A Manual on Mine Water Management And Treatment Practices in South Africa. WRC Report TT 80/96.
- Contributing Author. A manual to Assess and Manage the Impact of Gold Mining Operations on the Surface Water Environment. WRC Report No. TT79/96.
- Matla's successful wetland undertaking, SA Mining, March 2009.
- Grundling, A.T; Price, J.S; Linstrom, A; Grundling, P; Van den Berg, H.M.; Riddel, E and Otto, D.J. (2010) The South African National Wetland Classification System: Relevance to the wetlands in the Kruger National Park. 8th Savanna Science Network Conference. Skukuza, South Africa.