

4.4 Sensitivity Map

Two sensitivity maps were produced depicting each route alternative and substation option with identified heritage resources (Plan 5 and Plan 6).

Heritage resources within and around the project area were identified from a review of the literature, databases, relevant previous impact assessments, and a screening site visit. A total of 37 heritage resources were identified. Each heritage resource was given a sensitivity grading based on the source of risk and potential impacts expected from the development of the Roodepoort Strengthening Project. Table 4-1 presents a summary of the heritage resources and the sensitivity allocated to each heritage resource. Based on the relative sensitivity of each heritage resource, each Option was given a sensitivity grading as well Table 4-2.

Heritage resources that occur along Option 1 include a house that is potentially older than 60 years and isolated disturbed Early Stone Age lithics. Along Option 2, the heritage resources found include three identified cemeteries and one Initiation School. Although potential impacts at these route options include both visual and physical impacts, Option 1 and Option 2 are of low sensitivity because they are directed along a national road namely the N14. Heritage resources are not expected to occur as a result of development activities along the area.

Option 3 is in close proximity to the COH WHS. This route option enters the COH WHS delimited area for 4.6 km and the end of the route is 15 km from the entrance to the Sterkfontein Caves. Identified sites include three identified cemeteries and two burial sites, two historical structures and one Iron Age within the study area. Additionally, there is one identified cemetery and five Iron Age sites within 2 km of the study area. As result of these findings, Option 3 was flagged as medium to high sensitivity. Potential impacts include visual and physical as well as physical intrusion into the World Heritage Site.

Option 4 is of low to medium sensitivity due to the presence of three identified cemeteries, two historical structures and isolated Early Stone Age lithics within the study area. Additionally, there is one LIA site and one cemetery within 1 km of the study area. Potential impacts include both visual and physical.

Option 5 is of medium sensitivity due to the presence of six identified cemeteries and two historical structures within the study area. Additionally, there is one LIA site and two cemeteries within 1 km of the study area. Potential impacts include both visual and physical.

Option 6 is in close proximity to the COH WHS. This route enters the COH WHS for approximately 40 m. Identified sites include three identified cemeteries, two burial sites and four identified historical structures within the study area. Additionally, there are six Iron Age sites, one cemetery and one historical structure identified within 3 km of the study area. Potential impacts include visual and physical as well as physical intrusion into the World Heritage Site. Similar to Option 3, Option 6 was flagged as medium to high sensitivity.

A summary of the sensitivity and findings are presented in Table 4-2 below.


Table 4-1: A summary of the sensitivity of each heritage resource identified within and around the project area

Site no.	Heritage Resource Present	Sensitivity	Route	Potential Impact & source of risk
001	Zandspruit – Cemetery	Low	Option 2	Visual impacts
C006	2 Graves	Low	Option 2	Visual Impacts
F004	Old Initiation School	Medium	Option 2	Potential impacts from development/construction
C007	11 Graves	Low	Option 2	Visual Impacts
H006	House	Medium	Option 2	Visual Impacts and potential from development/construction
H007	Historical House	Medium	Option 2	Visual Impacts and potential from development/construction
I009	Stone walling	High	Option 3	Visual Impacts and potential from development/construction in the COH WHS
I010	Stone walling	High	Option 3	Visual Impacts and potential from development/construction in the COH WHS
I011	Stone walling	High	Option 3	Visual Impacts and potential from development/construction in the COH WHS
I013	Stone walling	High	Option 3	Visual Impacts and potential from development/construction in the COH WHS



Site no.	Heritage Resource Present	Sensitivity	Route	Potential Impact & source of risk
I014	Stone walling	High	Option 3	Visual Impacts and potential from development/construction in the COH WHS
I015	Open air site	High	Option 3	No potential impacts because the site is located 6.5 km from the study area
I016	Open air site	High	Option 3	No potential impacts because the site is located 6.5 km from the study area
S001	Open air site	High	Option 3	No potential impacts because the site is located 8 km from the study area
002	Tweefontein 523 - Cemetery	High	Option 3	Visual Impacts and potential from development/construction in the COH WHS
008	Rietfontein 189/2 - Cemetery	Low	Option 3	Visual Impacts
H002	Historical structure older than 60 years	Low	Option 3	Visual Impacts
B001	Single grave with cement cross	Low	Option 3	No Impact
C008	Stone packed graves	Low	Option 4	No Impact
H005	Historic Farmhouse	Low	Option 4	Visual Impacts
C009	Cemetery	Medium	Option 4	Visual Impacts and potential from development/construction
009	Bultfontein 3 – Cemetery	Low	Option 4	Visual Impacts

Site no.	Heritage Resource Present	Sensitivity	Route	Potential Impact & source of risk
010	Nooitgedacht 534/3 Cemetery	Medium	Option 4	Visual Impacts and potential from development/construction
011	Nooitgedacht 534/2 – Cemetery	Low	Option 4	Visual Impacts
012	Nooitgedacht 534/1 - Cemetery	Low	Option 4	No impact
1012	Stone walling	Low	Option 5	No Impact
013	Lindley 3 – Cemetery	Low	Option 5	Visual Impacts
014	Lindley – 4 Cemetery	Low	Option 5	Visual Impacts
015	Lindley 2 – Cemetery	Low	Option 5	Visual Impacts
016	Bultfontein 1 – Cemetery	Medium	Option 5	Visual Impacts and potential from development/construction
017	Bultfontein 2 - Cemetery	Medium	Option 5	Visual Impacts and potential from development/construction
C003	17 Graves	Low	Options 3 & 6	Visual Impact
C004	28 Graves	Low	Options 3 & 6	Visual Impacts
C005	7 Graves	Low	Options 3 & 6	Visual Impact
B002	Single Grave	Low	Option 6	Visual Impact
H003	Historical structure made from bricks and sun-dried bricks and a stone packed kraal	Low	Option 6	Visual Impact
H004	Historical structure made from bricks and sun-dried bricks and a stone packed kraal	Low	Option 6	Visual Impact



Table 4-2: Summary of sensitivity and findings per route option

Option 1	Sensitivity	Option	Potential Impact or Source of Risk	Comments
Option 1	Low	Option 1	Visual impacts and possibly physical impacts	Preferred Option
Option 2	Low	Option 2	Visual and physical impact	Preferred Option
Option 3	Medium - High	Option 3	Physical intrusion into WHS Visual Impacts on WHS	This route should now be considered as an Option
Option 4	Low to Medium	Option 4	Visual and possible physical impacts	Recommended that an HIA be completed for this route
Option 5	Medium	Option 5	Visual and possible physical impacts	Recommended that an HIA be completed for this route



Option 1	Sensitivity	Option	Potential Impact or Source of Risk	Comments
Option 6	Medium - High	Option 6	Visual and possible physical impacts	This route should now be considered as an Option
Option A	Low - Medium	Option A	Visual and physical impact	Preferred Option
Option B	Low	Option B		Preferred Option
Option C	Low	Option C		Preferred Option
Option D	Low-Medium	Option D	Visual and possible physical impacts	Preferred Option

Rooedeport Strengthening Sensitive Corridors

Legend

- Substation Sites
- City
- Major Town
- Secondary Town
- Other Town
- Settlement
- Main Roads
- National Roads
- Rivers

Sensitive Corridors

- High
- Medium
- Low

Cradle of Humankind

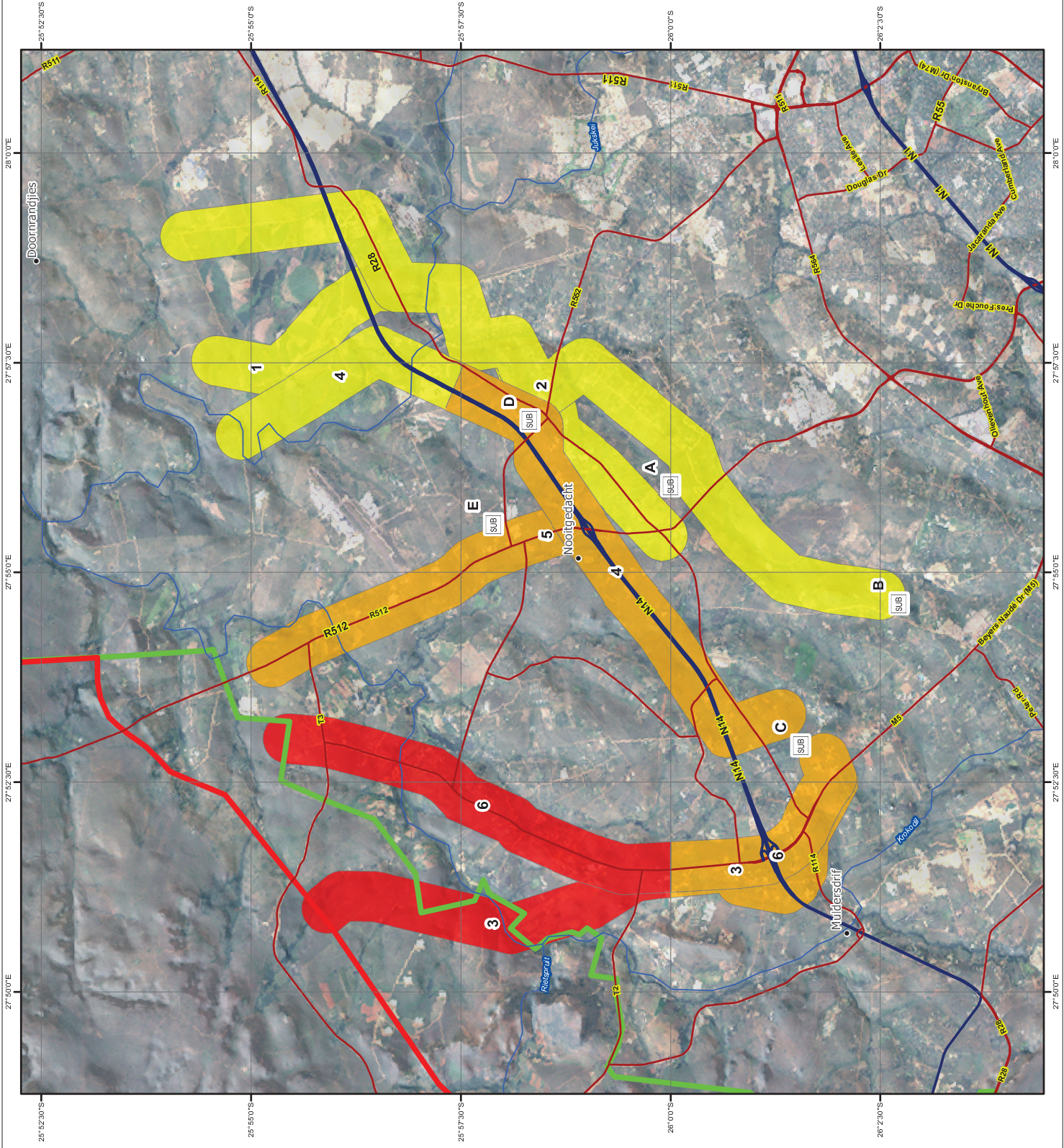
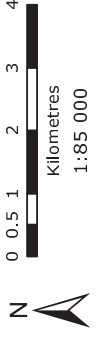
- CoH Site
- CoH Boundary / Buffer



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Projection: Transverse Mercator Ref #: amc:PBA1076-201208-055
Datum: Hartbeeshoek, 1994 Revision Number: 1
Central Meridian: 29°E Date: 10/08/2012



5 POTENTIAL IMPACTS AND SOURCES OF THREATS OR RISK

Based on the above results, a large number of heritage resources occur within and around the project area. These heritage resources include historic dwellings, cemeteries, Iron Age sites, Stone Age sites and sites or areas of heritage and cultural significance such as the COH WHS.

The COH WHS is a heritage site with the highest heritage significance in the project area. This world heritage site is rich and diverse in its heritage as it contains a range of sites from early hominid sites to LSA and Iron Age sites as well as other historical sites. The dolomite limestone is an important preserving tool in the COH WHS and many palaeontological and archaeological discoveries were made at dolomite outcrops. The COH WHS status means that not only is it important to our national heritage but it is also significant on an international scale. The COH WHS plays an important role in the tourism industry as it continuously draws in large numbers of international and local visitors. With this in mind, Option 3 and Option 6 are highly sensitive as they are either in close proximity to or within the COH WHS.

Iron Age heritage resources are prevalent within and around the project area with a high number of smelting sites located in the surrounding areas. Smelting metal is a physical process (tangible) as well as a cultural aspect (intangible). A proposal by archaeologists may declare metal working sites or smelting sites as Intangible Heritage according to UNESCO's criteria (David & Sterner, 1987; David, 2012). David and Sterner (1987) believe that on the smelting sites must be considered for World Heritage status. At the SAfA (Society of Africanist Archaeologists) Conference to be held in Toronto, Canada 21-23 June 2012, there will be a session where this topic will be discussed (Sub-Saharan Iron Smelting as Intangible Cultural Heritage, and the Question of Recognition of Past Cultural Achievements under the 2003 Convention).

The surrounding areas have a historical significance as a number of Anglo-Boer war sites and sites relating to Boer history, were identified in the literature as well as during the site survey. The COH WHS and the Magaliesberg region were central to Anglo-Boer relations in the late 1800s and early 1900s. Historical sites that represent Boer fatalities and casualties such as the Krugersdorp concentration camp may be seen as cultural intangible heritage sites. Also noteworthy are the historical buildings and schools (Volkekunde at the Réhobot-skool) found along the proposed routes. These structures may present an association to the history of the Boers within and around the project area.

Other heritage resources that add to the heritage landscape may include sites and places with various associations. Historical burial grounds are protected under Section 36 of the NHRA and such cemeteries are perceived as intangible memorials of the workers who lived, worked and died on the mines.

6 RECOMMENDATIONS AND CONCLUSION

6.1 Recommendations

Based on the sensitivity and findings per route option, the following recommendations are made in this Heritage Statement:

- Option 1 and its substation, Option D, are of low to medium heritage sensitivity due to the low amount of heritage. This option is the preferred transmission line.
- Option 2 is of low to medium heritage sensitivity due to the occurrence of three cemeteries and an initiation school. Substations Option A and Option B are of low

heritage sensitivity with visual impacts on the Zionist Church. This route option is the preferred transmission line.

- Option 3 is of high sensitivity due to the proximity of this route to the COH WHS. A significant amount of heritage was identified along the route, in the immediate vicinity and in the surrounding areas. With regards to its high heritage sensitivity, it is recommended that this route should not be considered as an option.
- Option 4 is of medium heritage sensitivity due to the occurrence of four cemeteries, historical structures, Iron Age sites, and Stone Age sites. The substation Option C is of low heritage sensitivity due to the occurrence of a cemetery. Impacts on the sites will include both visual and physical impacts and as a result, a Heritage Impact Assessment will have to be conducted along the route to identify all heritage resources along the route and to assess the impacts. Therefore, although this may be a possible option, it should be considered second to Option 1 and Option 2.
- Option 5 is of medium heritage sensitivity due to the occurrence of cemeteries, historical structures and an Iron Age site. Impacts on the sites will include both visual and physical impacts and as a result, a Heritage Impact Assessment will have to be conducted along the route to identify all heritage resources along the route and to assess the impacts. Therefore, although this may be a possible option, it should be considered second to Option 1 and Option 2.
- Option 6 is of high sensitivity due to proximity of this route to the COH WHS. A significant amount of heritage was identified along the route, in the immediate vicinity and in the surrounding areas. With regards to the high heritage sensitivity, it is recommended that this route should not be considered as an option,

6.2 Conclusion

Digby Wells was contracted by Fourth Element to conduct a Heritage Statement for the proposed alternative route options and sub-station sites for new transmission lines in the Roodepoort area of Gauteng. This Heritage Statement forms part of the Scoping Report.

The Heritage Statement consisted of a background literature review, archival and database survey, aerial imagery and cartographic survey, consultation of relevant previous impact assessments from the area, and a site visit.

During the background research for the Heritage Statement, 22 heritage resources were identified within the project area. During the site survey, eight heritage resources were identified within the project area. They consist of the following:

- Graveyards;
- Iron Age Stone walled sites;
- Stone Age sites; and
- Historical sites; and

Areas and sites of potential heritage value were identified during the site visit such as undisturbed fields, river banks, rocky outcrops and historical dwellings. A sensitivity map was produced depicting each route and substation option with identified heritage resources. Preliminary recommendations are stated to aid the planning process as well as recommendations for further studies and impact assessments. These include:

- Option 1 and Option 2 are of low to medium sensitivity are considered as the preferred routes;

-
- Option 4 and Option 5 are of medium heritage sensitivity and should only be considered as options after consideration of Option 1 and Option 2; and
 - Option 3 and Option 6 are of high sensitivity and should not be considered as options for the proposed power lines due to the close proximity to the COH WHS.
 - Substation options A – D are of low – to medium sensitivity with Option A, B, and D being the preferred options.

7 REFERENCES

7.1 Literature

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Hilton-Barber, B. & Berger, L. R. 2002. *Field Guide to the Cradle of Humankind - Sterkfontein, Swartkrans, Kromdraai & Environs World Heritage Site*. Struik Publishers: Cape Town.

Huffman, T. N. 2007. *Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa*. University of KwaZulu-Natal Press: Cape Town.

Mason, R. J. 1988. *Kruger Cave: Late Stone Age, Magaliesberg*. Occasional Paper No. 17. Archaeological Research Unit, University of the Witwatersrand: Johannesburg.

Mitchell, P. 2002. *The Archaeology of Southern Africa*. Cambridge University Press: Cambridge.

7.2 Reports

Coetzee, F. P. 2008. *Cultural Heritage Survey of the Proposed Residential Development of Phase 2 of Cosmo City, City of Johannesburg Metropolitan Municipality*.

Huffman, T. N. 2007. *Driefontein: Heritage Impact Assessment*. Archaeological Resources Management.

Van der Walt, J. 2006. *Proposed Wildlife Residential Estate on the Farm Doornrandje 386JR, Gauteng Province*. Doornrandje Heritage Assessment.

Van der Walt, J. 2008. *Archaeological Impact Assessment on Portion 315 and Remaining Extend Portion 29 of Farm Rietfontein 189IQ, Muldersdrift, Gauteng Province*. Report prepared for Eco Assessments Environmental Consultants.

7.3 Websites

David, N. 2012. *Nicholas David - Ethnoarchaeologist*. Date Accessed 8 August 2012. (<http://homepages.ucalgary.ca/~ndavid/Homepage>).

7.4 Databases

University of the Witwatersrand (WITS) Archaeological Site Database

National Archives of South Africa (NASA) Database

Genealogical Society of South Africa (GSSA) Database



Appendix A: CVs of Specialists



DIGBY WELLS
ENVIRONMENTAL

NATASHA HIGGITT

Ms Natasha Higgitt
Archaeology Intern
Social Sciences Department
Digby Wells Environmental

1 EDUCATION

- University of Pretoria
- BA Degree (2008)
- Archaeology Honours (2009)
- Title of Dissertation- Pass the Salt: An Archaeological analysis of lithics and ceramics from Salt Pan Ledge, Soutpansberg, for evidence of salt working and interaction.

2 EMPLOYMENT

July 2011 to Present: Archaeology Intern at Digby Wells Environmental
April 2011 to June 2011: Lab assistant at the Albany Museum Archaeology Department
April 2010 to March 2011: Intern at the Archaeology Department, Albany Museum under the Department of Sports, Recreation, Arts and Culture, Eastern Cape Government, South Africa (DSRAC)

3 PROJECT EXPERIENCE

- Rescue excavation at St Francis Bay (shell midden burial)
- Rescue excavation at Wolwefontein (skeleton in donga)
- Recorded two rock art sites at Blaauwbosch Private Game Reserve, Eastern Cape
- Attended a 2 week excavation/study tour in the Friuli Region in Italy, organised by the Società Friulana di Archeologia, sponsored by Ente Friuli nel Mondo, and excavated a 12th century medieval castle
- Attended a 2 week excavation in Limpopo, Waterpoort Archaeological Project organised by Xander Antonites (Yale PhD Candidate)
- UP Archaeology Fieldschool at Bivack, Limpopo (Survey and Excavation) (15 days)
- UP Archaeology Fieldtrip at De Witteberg, Mpumalanga (Rock Art recording) (1 day)
- UP Archaeology Fieldschool at Machete, Limpopo (Fieldschool administrator, Excavation and base station recording and mapping) (16 days)

Digby Wells & Associates (Pty) Ltd. Co. Reg. No. 1999/05985/07. Fern Isle, Section 10, 359 Pretoria Ave Randburg Private Bag X10046, Randburg, 2125, South Africa
Tel: +27 11 789 9495, Fax: +27 11 789 9498, info@digbywells.com, www.digbywells.com

Directors: AR Wilke, CD Wells, LF Koeslag, PD Tanner (British)*, AJ Reynolds (Chairman) (British)*, GE Trusler (C.E.O)
*Non-Executive



- UP Archaeology Fieldschool at Bivack, Limpopo and Ratho, Limpopo (Survey and excavation) (15 days)
- UP Geography Fieldschool at Injisuthi, Drakensberg (Weathering Analysis on Rock face with rock art) (2 days)
- UP Archaeology Fieldschool at Hillbrow, Gauteng (Phase 2 CRM Style Excavation) (7 days)
- UP Archaeology Fieldschool at Ratho, Limpopo (Excavation and Survey) (15 days)

CRM (Contract work)

- Notice of Intent to Develop and Cultural Resources Pre-Assessment for Orlight SA (PTY) Ltd Solar PV Project. 2012. (Digby Wells Environmental)
- Agricultural Survey for Platreef ESIA, Mokopane, Limpopo. 2011. (Digby Wells Environmental)
- Cultural Resources Pre-Assessment for the Proposed Sylvania Everest North Mining Development in Mpumalanga, near Lydenburg. 2011. (Digby Wells Environmental)
- Phase 2 Mitigation of Archaeological sites at Boikarabelo Coal Mine, Steenbokpan, Limpopo. 2011. (Digby Wells Environmental)
- Cultural Resources Pre-Assessment for Proposed Platinum Mine Prospecting in Mpumalanga, near Bethal for Anglo Platinum. 2011. (Digby Wells Environmental)
- Cultural Resources Pre-Assessment for proposed Platinum Mine at Mokopane, Limpopo for Ivanhoe Platinum. 2011. (Digby Wells Environmental)
- Phase 1 AIA Mixed-use housing Development, Kwanobuhle, Extension 11, Uitenhage, Eastern Cape. 2011.
- Phase 1 AIA Centane to Qholora and Kei River mouth road upgrade survey, Mnquma Municipality, Eastern Cape. 2011. (SRK Consulting)
- Phase 1 AIA Clidet Data Cable survey, Western Cape, Northern Cape, Free State and Eastern Cape. 2011. (SRK Consulting)
- Phase 1 AIA Karoo Renewable Energy Facility, Victoria West, Northern Cape. 2011. (Savannah Environmental)
- Phase 1 AIA Windfarm survey in Hamburg, Eastern Cape. 2010. (Savannah Environmental)
- Phase 1 AIA Windfarm survey in Molteno, Eastern Cape. 2010. (Savannah Environmental)
- Phase 1 AIA Housing Development at Motherwell, P.E. 2010. (SRK Consulting)
- Phase 1 AIA Sand quarry survey in Paterson, Eastern Cape. 2010. (SRK Consulting)
- Phase 1 AIA Quarry Survey at Victoria West. 2010. (Acer [Africa] Environmental Management Consultants)
- Phase 1 AIA Quarry Survey at Port Elizabeth. 2010. (E.P Brickfields)



4 PROFESSIONAL AFFILIATIONS

Association of Southern African Professional Archaeologists (ASAPA): Professional member

document1



DIGBY WELLS
ENVIRONMENTAL

JUSTIN DU PIESANIE

Mr Justin du Piesanie
Archaeology Consultant
Social Sciences Department
Digby Wells Environmental

1 EDUCATION

University of the Witwatersrand

- BA Degree (2004)
- BA Honours Degree (2005) - Archaeology
 - Title of Dissertation - Seal Skeletal Distribution of Herder and Forager Sites at Kasteelberg, Western Cape Province of South Africa.
- Master of Science (MSc) Degree (2008) – Archaeology
 - Title of Dissertation – Understanding the Socio-Political Complexity of Leokwe Society during the Middle Iron Age in the Shashe-Limpopo Basin through a Landscape Approach

2 COURSES

- Introduction into ArcGIS. GIMS Ltd, Midrand. Received Certificate (2006)
- French Institute of South Africa (IFAS) GIS Workshop, University of the Witwatersrand. Received Certificate (2010)

3 CONFERENCES

- ASAPA, University of Botswana, Gabarone, Botswana (2005).
- Mupungubwe Symposium, University of Pretoria, Pretoria, South Africa (2006) - Presented paper titled, “Social Complexity in the Shashe Limpopo Basin: The Case of K2 and Leokwe”
- ASAPA, University of Cape Town, Cape Town, South Africa (2008).
- SAfA, University of Frankfurt, Frankfurt, Germany (2008) - Presented paper titled, “Social Complexity in the Shashe Limpopo Basin: Conclusions”

4 PUBLICATIONS

- Huffman, T.N. & du Piesanie, J.J. 2011. Khami and the Venda in the Mapungubwe Landscape. *Journal of African Archaeology* 9(2): 189-206

5 EMPLOYMENT

Present:	Archaeology Consultant at Digby Wells Environmental
2009 to 2011:	Archaeology Collections Manager at the University of the Witwatersrand.
2009 to 2011:	Freelance Archaeologist for Archaeology Resource Management (ARM), Matakoma Heritage Consultants, Wits Heritage Contracts Unit & Umlando Heritage Consultants.
2006 to 2007:	Tour Guide at Sterkfontein Caves World Heritage Site.

6 PROJECT EXPERIENCE

- Wits Fieldschool - Excavation at Meyersdal, Klipriviersberg Johannesburg (Late Iron Age Settlement).
- Wits Fieldschool - Phase 1 Survey of Prentjiesberg in Ugie / Maclear area, Eastern Cape.
- Wits Fieldschool – Excavation at Kudu Kopje, Mapungubwe National Park Limpopo Province.
- Wits Fieldschool – Excavation of Weipe 508 (2229 AB 508) on farm Weipe, Limpopo Province.
- Survey at Meyerdal, Klipriviersberg Johannesburg.
- Mapping of Rock Art Engravings at Klipbak 1 & 2, Kalahari.
- Survey at Sonop Mines, Windsorton Northern Cape (Vaal Archaeological Research Unit).
- Excavation of Kudu Kopje, Mapungubwe National Park Limpopo Province.
- Excavation of KK (2229 AD 110), VK (2229 AD 109), VK2 (2229 AD 108) & Weipe 508 (2229 AB 508) (Origins of Mapungubwe Project)
- Phase 1 Survey of farms Venetia, Hamilton, Den Staat and Little Muck, Limpopo Province (Origins of Mapungubwe Project)
- Excavation of Canteen Kopje Stone Age site, Barkley West, Northern Cape
- Excavation of Khami Period site AB32 (2229 AB 32), Den Staat Farm, Limpopo Province

Cultural Resource Management (CRM) Work

- Phase 2 Mitigation at Meyersdal, Klipriviersberg Johannesburg (ARM)
- Phase 1 Mitigation – Mapping of Late Iron Age Site in Pilansberg, Sun City (ARM)
- Phase 1 Mitigation – Survey of Witbank dam development (ARM)
- Phase 1 Mitigation – Survey of Glen Austin AH, Johannesburg (Matakoma)

- Phase 1 Mitigation – Survey of Modderfontein AH Holding 34, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 38, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 44, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 46, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 47, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 48, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 49, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 50, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 61, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 62, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 71, Johannesburg (Matakoma).
- Phase 1 Mitigation – Survey of Modderfontein AH Holding 72, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Modderfontein 35IR Portion 40, Johannesburg (Matakoma)
- Phase 1 Mitigation – Survey of Rhino Mines, Thabazimbi Limpopo Province (ARM)
- Phase 1 Mitigation – Survey of Moddergat 389KQ, Schilpadnest 385KQ, Swartkop 369KQ, Cronimet Project, Thabazimbi Limpopo Province (Matakoma)
- Desktop Study – Desktop study for the Eskom Thohoyandou SEA Project, Limpopo Province (Matakoma)
- Phase 2 Mitigation – Excavation of Iron Age site on Wenzelrust, Shoshanguve Gauteng (Heritage Contracts Unit)
- Phase 1 Mitigation – Mapping of Late Stone Age shelter, Parys, Free State
- Phase 1 Mitigation – Survey of Vaalkrans Battlefield for the Transnet NMPP Line (Umlando)
- Phase 1 Mitigation – Survey of Portion 222 of Mindale Ext 7 Witpoortjie 254 IQ & Portion 14 of Nooitgedacht 534 IQ, Johannesburg (ARM)
- Phase 2 Mitigation – Excavation of Site 19 for the Anglo Platinum Mines Der Brochen & Booyensdal, Steelpoort, Mpumalanga (Heritage Contracts Unit)
- Phase 1 Mitigation – Mapping of sites 23, 26, 27, 28a & b for the Anglo Platinum Mines Der Brochen & Booyensdal, Steelpoort, Mpumalanga (Heritage Contracts Unit)
- Desktop Study - Desktop study for the inclusion into the Thohoyandou Electricity Master Network for Eskom, Limpopo Province (Strategic Environmental Focus)
- Phase 1 Mitigation – Mapping of historical sites as part of the mitigation for the expansion of the Bathlako Mine's impact area (Heritage Contracts Unit).
- Phase 2 Mitigation – Grave Relocation Project (GRP) for the Kibali Gold Project, Democratic Republic of Congo (Digby Wells)
- Phase 1 Mitigation – Survey for the proposed Kibali Hydro Power Stations, Democratic Republic of Congo (Digby Wells)

- Phase 1 Mitigation – Survey of the farm Vygenhoek for Sylvania Resources Everest North Mining Project, Steelpoort, Mpumalanga (Digby Wells)
- Phase 1 Mitigation – Burial Grounds and Graves Survey (BGGs) for Platreef Resources, Mokopane, Limpopo Province (Digby Wells)
- Phase 2 Mitigation – Archaeological Impact Assessment of sites for Resource Generation Boikarabelo Mine, Steenbokpan, Limpopo Province (Digby Wells)

7 PROFESSIONAL AFFILIATIONS

Association of Southern African Professional Archaeologists (ASAPA): Professional & CRM Member

Society for Africanist Archaeologists (SAfA) Member



DIGBY WELLS
ENVIRONMENTAL

SHAHZAADEE KARODIA

Ms Shahzaadee Karodia
Archaeology Consultant
Social Science Department
Digby Wells Environmental

1 EDUCATION

- 2006 BA Anthropology & Archaeology, University of the Witwatersrand
- 2007 BSc Honours. Palaeontology, University of the Witwatersrand
- 2012 MSc Archaeology, University of the Witwatersrand

2 LANGUAGE SKILLS

- English (read, write, speak)

3 EMPLOYMENT

2012:	Archaeology consultant, Digby Wells Environmental
April 2012 – June 2012:	Archaeology consultant, EcoAfrica
April 2011 – November 2011:	Archaeology intern, University of Pretoria
2009 – 2011:	English tutor, Kip McGrath
2009 – 2011:	Online English tutor, Education First
2008 – 2009	English teacher, Yong Ju Elementary School
2007 – 2008:	Palaeontology collections assistant, BPI University of the Witwatersrand
2006 – 2007:	Tour guide, Sterkfontein Caves

Digby Wells & Associates (Pty) Ltd. Co. Reg. No. 1999/05985/07. Fern Isle, Section 10, 359 Pretoria Ave Randburg Private Bag X10046, Randburg, 2125, South Africa
Tel: +27 11 789 9495, Fax: +27 11 789 9498, info@digbywells.com, www.digbywells.com

Directors: AR Wilke, LF Koeslag, PD Tanner (British)*, AJ Reynolds (Chairman) (British)*, J Leaver*, GE Trusler (C.E.O)
*Non-Executive



4 EXPERIENCE

- Archaeology Field School in Klipriviersberg with Dr Karim Sadr, University of the Witwatersrand
- Archaeology Field School in Swartkrans and Maropeng with Dr Kathy Kuman, University of the Witwatersrand
- Archaeology Field School in Ottosdaal with Dr Thembi Russell, University of the Witwatersrand
- Palaeontology Field School in the Karoo with Professor Bruce Rubidge, University of the Witwatersrand
- Palaeontology Field School in Gladysvale with Professor Lee Berger, University of the Witwatersrand
- Palaeontology Field School in Wonderkrater with Dr Lucinda Backwell, University of the Witwatersrand

5 PROFESSIONAL AFFILIATIONS

- The South African Archaeology Society (SAAS)
- The South African Society for Amateur Palaeontologists (SASAP)

Mr. Johan Nel

Archaeologist

Unit Manager: Cultural Resources Management

Social Sciences Department

Digby Wells Environmental

1 EDUCATION

- 2001 BA Anthropology & Archaeology, University of Pretoria
- 2002 BA Honours Archaeology, University of Pretoria (UP) (2002)
- Current MA Archaeology

2 EMPLOYMENT

- 2010 – present: Archaeologist and CRM specialist, Digby Wells Environmental
- 2005 – 2010: Co-owner and manager of Archaic Heritage Project Management, Cultural Heritage Resources Management consultancy company;
- 2004 – 2005: Resident, professional archaeologist, Rock Art Mapping Project based at Didima / Cathedral Peak, Ukhahlamba-Drakensberg World Heritage Site, Department of Geomatics, University of KwaZulu-Natal;
- 2003 – 2004: Freelance, professional archaeologist;
- 2002 – 2003: Special Assistant, Physical Anthropology Unit, Department of Anatomy, University of Pretoria;
- 2000 – 2002: Technical Assistant, Physical Anthropology Unit, Department of Anatomy, University of Pretoria;
- 1999 – 2000: Assistant in Mapungubwe Project, Department of Anthropology and Archaeology, University of Pretoria;
- 1998 - 1999: Volunteer at National Cultural History Museum, Pretoria, Writer for BAT ('By About Town) arts section in Perdeby, official University of Pretoria student newspaper.

3 EXPERIENCE

PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENTS:

- Above Ground Storage Tanks survey, SASOL Oil (Pty) Ltd, Free State Province, South Africa
- Access road establishment , AGES-SA, Tzaneen, South Africa
- Boikarabelo Railway Link, Resgen South Africa, Steenbokpan, South Africa
- Conversion of prospecting rights to mining rights, Georock Environmental, Musina, South Africa
- Galaxy Gold Agnes Mine, Barberton, South Africa
- HCI Khusela Palesa Extension, Bronkhorstspuit, South Africa
- Kennedy's Vale township establishment, AGES-SA, Steelpoort, South Africa
- Koidu Diamond Mine, Koidu Holdings, Koidu, Sierra Leone
- Lonmin Platinum Mine water pipeline survey, AGES-SA, Lebowakgomo, South Africa
- Mining right application, DERA Environmental, Hekpoort, South Africa
- Mogalakwena water pipeline survey, AGES-SA, Limpopo Province, South Africa
- Nzoro Hydropower Station, Environmental and Social Impact Assessment, DRC
- Randgold Kibali Gold Project, Environmental and Social Impact Assessment, Kibali, Democratic Republic of the Congo
- Randwater Vlakfontein-Mamelodi water pipeline survey, Archaeology Africa cc, Gauteng, South Africa
- Residential and commercial development, GO Enviroscience, Schoemanskloof, South Africa
- Temo Coal, Limpopo, South Africa
- Transnet Freight Line survey, Eastern Cape and Northern Cape, ERM, South Africa
- Van Reenen Eco-Agri Development Project, GO Enviroscience, South Africa
- Platreef Platinum Mine, Ivanhoe Nickel & Platinum, Mokopane, South Africa

MITIGATION PROJECTS:

- Mitigation of Iron Age archaeological sites: Kibali Gold Project, DRC
- Mitigation of Iron Age metalworking site: Koidu Diamond Mine, Sierra Leone
- Mitigation of Iron Age sites: Boikarabelo Coal Mine, South Africa
- Exploratory test excavations of alleged mass burial site: Rustenburg, Bigen Africa Consulting Engineers, South Africa
- Mitigation of Old Johannesburg Fort: Johannesburg Development Agency (JDA), South



Africa

- Site monitoring and watching brief: Department of Foreign Affairs Head Office, Imbumba-Aganang Design & Construction Joint Venture, South Africa

GRAVE RELOCATION

- Du Preezhoek-Gautrain Construction, Bombela JV, Pretoria, South Africa
- Elawini Lifestyle Estate social consultation, PGS (Pty) Ltd, Nelspruit, South Africa;
- Motaganeng social consultation, PGS (Pty) Ltd Burgersfort, South Africa
- Randgold Kibali Mine, Relocation Action Plan, Kibali, DRC
- Repatriation of Mapungubwe National Park and World Heritage Site, DEAT, South Africa
- Smoky Hills Platinum Mine social consultation, PGS (Pty) Ltd Maandagshoek South Africa
- Southstock Colliery, Doves Funerals, Witbank, South Africa
- Tygervallei. D Georgiades East Farm (Pty) Ltd, Pretoria, South Africa
- Willowbrook Ext. 22, Ruimsig Manor cc, Ruimsig, South Africa
- Zondagskraal social consultation, PGS (Pty) Ltd, Ogies, South Africa
- Zonkezizwe Gautrain, PGS, (Pty) Ltd, Midrand, South Africa

OTHER HERITAGE ASSESSMENTS AND REVIEWS:

- Heritage Scoping Report on historical landscape and buildings in Port Elizabeth: ERM South Africa
- Heritage Statement and Cultural Resources Pre-assessment scoping report on Platreef Platinum Mine, Mokopane: Platreef Ltd
- Heritage Statement and Scoping Report on five proposed Photo Voltaic Solar Power farms, Northern Cape and Western Cape: Orlight SA
- Land claim research Badenhorst family vs Makokwe family regarding Makokskraal, Van Staden, Vorster & Nysschen Attorneys, Ventersdorp South Africa
- Research report on Cultural Symbols, Ministry for Intelligence Services, Pretoria, South Africa
- Research report on the location of the remains of kings Mampuru I and Nyabela, National Department of Arts and Culture, Pretoria, South Africa
- Review of Archaeological Assessment: Resources Generation, Coal Mine Project in the Waterberg area, Limpopo Province
- Review of CRM study and compilation of Impact Assessment report, Zod Gold Mine, Armenia



ACADEMIC FIELDWORK

Five seasons hosted: survey, mapping and excavation historic / Late Farmer Community sites on farms Bivack 14 MR and Eerstekrans 16 MR for personal MA research, Department of Anthropology and Archaeology, UP.

Ten projects / seasons attended as Teaching Assistant / Member of Staff

Eight projects / field seasons attended on invitation as undergraduate and graduate student

4 PROFESSIONAL AFFILIATIONS

- Association of Southern African Professional Archaeologists (ASAPA): Professional Member
- ASAPA Cultural Resources Management (CRM) section: Accredited member
- International Association of Impact Assessors (South Africa)
- Society for Africanist Archaeologists (SAFA)

5 PUBLICATIONS

Nel, J & Tiley, S. 2004. The Archaeology of Mapungubwe: a World Heritage Site in the Central Limpopo Valley, Republic of South Africa. Archaeology World Report, (1) United Kingdom p.14-22.

Nel, J. 2001. 2001. Cycles of Initiation in Traditional South African Cultures. South African Encyclopaedia (MWEB).

Nel, J. 2001. Social Consultation: Networking Human Remains and a Social Consultation Case Study. Research poster presentations at the Bi-annual Conference (SA3) Association of Southern African Professional Archaeologists: National Museum, Cape Town.

Nel, J. 2002. Collections policy for the WG de Haas Anatomy museum and associated Collections. Unpublished. Department of Anatomy, School of Medicine: University of Pretoria.

Nel, J. 2004. Research and design of exhibition for Eloff Belting and Equipment CC for the Institute of Quarrying 35th Conference and Exhibition on 24 – 27 March 2004.

Nel, J. 2004. Ritual and Symbolism in Archaeology, Does it exist? Research paper presented at the Bi-annual Conference (SA3) Association of Southern African Professional Archaeologists: Kimberley

Nel, J. 2007. The Railway Code: Gautrain, NZASM and Heritage. Public lecture for the South African Archaeological Society, Transvaal Branch: Roedean School, Parktown.

Nel, J. 2009. Un-archaeologically speaking: the use, abuse and misuse of archaeology in popular culture. The Digging Stick. April 2009. 26(1): 11-13: Johannesburg: The South African Archaeological Society.

Nel, J. 2011. 'Gods, Graves and Scholars' returning Mapungubwe human remains to their resting place.' In: Mapungubwe Remembered. University of Pretoria commemorative publication: Johannesburg: Chris van Rensburg Publishers.



DIGBY WELLS
ENVIRONMENTAL



JAN PEROLD

Dr Jan Perold
Social Researcher
Department Manager: Social Sciences
Digby Wells Environmental

1 EDUCATION

Date: from - to (month/year)	Degree(s) or Diploma(s) obtained	Institution
2005	PhD (Research Psychology)	University of Pretoria, South Africa
2003	Master's Certificate in Social Impact Assessment, <i>Cum Laude</i>	Rand Afrikaans University, South Africa
2000	MA (Research Psychology) <i>Cum Laude</i>	University of Pretoria, South Africa
1996	Diploma in Tertiary Education <i>Cum Laude</i>	University of Pretoria, South Africa
1995	BSc (Honours)(Psychology)	University of South Africa (UNISA)
1989	BSc (Honours)(Physics)	University of Pretoria, South Africa
1988	BSc. <i>Cum Laude</i> , Subjects: Mathematics, Applied Mathematics, Physics	University of Pretoria, South Africa
1981 - 1985	Matric with distinction	Silverton High School



2 EMPLOYMENT

Period	Company	Title/position (highest held)
01/2009 – present	Aurecon	Social Scientist
07/2006 – 12/2008	Golder Associates Africa	Social Scientist
01/2002 – 12/2005	Afrosearch	Social impact assessment specialist
01/2002 – 12/2005	Institute for Christian Psychology	Contracted lecturer: BA (Psychology)
04/2001 - 05/2002	Bond University	Contracted lecturer: BA (Psychology)
01/1999 – present	Department of Psychology, University of Pretoria	Part-time lecturer; guest-lecturer
03/1995 – 08/1997	Top Teach Tertiary Educational Institution	HOD: Programme Development
01/1992 – 02/1995	Mikomtek, CSIR	Scientist

3 EXPERIENCE

Dr Jan Perold has 13 years' experience ranging over several aspects of social research, including social impact assessment, resettlement planning, social and labour plans, social surveys and statistics, tertiary education and science communication. He has been involved in a variety of projects in the following countries: South Africa, Namibia, Botswana, Zambia, Lesotho, Swaziland, Mozambique, Malawi, Angola, Ghana, Tanzania, Rwanda, Burundi, Southern Sudan and the Central African Republic. He has also been involved in projects aimed at strengthening the capacity of the water services and water resources management sectors in South Africa and in the SADC region as a whole.

Dr Perold is registered at the Health Professions Council of South Africa as a research psychologist, and has recently completed his PhD degree in Research Psychology at the University of Pretoria. His doctoral thesis focused on the application of systems theory to analyse the psychosocial dynamics of public participation. He also has a strong natural science background, having attained an Honours Degree in Physics.

Dr Perold was a contributor to the book *New Directions in Social Impact Assessment: Conceptual and Methodological Advances* (Ed. Frank Vanclay and Ana Maria Esteves, Edward Elgar: 2011, in press), co-author of the *Public Participation Guidelines for the 2005 EIA Guidelines* published in terms of the National Environmental Management Act (107 of 1998), and has written or co-authored various published research articles on topics such as "An eco-systemic approach to the implementation of social programs in the community", "Evaluation of HIV/AIDS Prevention in South



African Schools” and “The psychosocial dynamics of public participation: A systemic analysis”. He also currently acts as guest lecturer and research co-supervisor for the MA (Research Psychology) course at the University of Pretoria, South Africa. In addition, he was previously involved in lecturing on statistics and research methodology at various universities in South Africa.

4 PROFESSIONAL REGISTRATION

Position	Professional Body	Registration Number
Member	Health Professions Council of South Africa	PS 0069558

5 PUBLICATIONS

Authors and Year	Title	Published in
Perold J, Visser M, Moleko A, Bron A, Combrinck J, Henning S, Pelsers S, Wessels S (1998)	Exploring the culture of teaching and learning: A cybernetic model	Proceedings of the 1998 SAALED Conference
Perold J (1999)	Interpersonal processes in a Web-based Psychology course	The Researcher, 2, 5-8
Visser M, Perold J & Schoeman J (2000)	An eco-systemic approach to the implementation of social programs in the community	Poster presentation at the 13th Annual Convention of the American Psychological Society, 14-17 June 2000 in Toronto, Canada
Perold, J (2000)	Paradox and Pedagogy: The double bind hypothesis and the culture of teaching and learning in South African schools	Unpublished MA dissertation, Department of Psychology, University of Pretoria
Perold J (2001)	Paradox and Pedagogy: Double Binds and the Culture of Learning in South African Schools	Culture and Psychology, 7(4), 411-432
Perold J & Maree DJF (2003)	Description of novelty, novelty of description: A dialectic analysis of a Web-based course	Computers & Education, 41(3), 225-248
Visser MJ, Schoeman JB &	Evaluation of HIV/AIDS Prevention in South African	Journal of Health Psychology, 9(2),



Authors and Year	Title	Published in
Perold JJ (2004)	Schools	263-280
Perold J (2005)	The psychosocial dynamics of public participation: A systemic analysis	Unpublished Ph.D. dissertation, Department of Psychology, University of Pretoria
Aucamp, I, Woodborne, S, Perold, J, Bron, A, Aucamp, S-M (2011)	Looking beyond impact assessment to social sustainability	New Directions in Social Impact Assessment: Conceptual and Methodological Advances. Ed. Frank Vanclay & Ana Maria Esteves. Cheltenham, UK: Edward Elgar (in press)
Perold J (2011)	On Little Foot and Great Expectations: Using Logframe Methodology to integrate data from diverse sources in assessing the impact of the Cradle of Humankind Project	Proceedings of the Annual Conference of the International Association for Impact Assessment (South Africa), August 2011



6 PROJECT EXPERIENCE

Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
Provision of Independent Traffic and Technical Advisory Services for the Lagos-Ibadan Toll Road Project	Lagos State, Nigeria	08/2011	Upgrading of the 100-km road between Lagos and Ibadan; construction of rest areas and truck stops; and establishment of a tolling system	Provision of independent traffic and technical advisory services for the design, construction, operation and maintenance of the Lagos-Ibadan Toll Road Project	Review of socio-economic components of previous studies undertaken, comparison against international best-practice standards (Equator Principles), and identification of additional work required.	3	Bi-Courtney Highway Services Ltd	Report outlining additional work to be undertaken to meeting Equator Principles	R5.2 million	James Scheepers, Technical Director: Traffic Engineering and Transportation Planning, Aurecon. Tel: +27 12 427 2566 Cell: +27 82 600 2891 Email: James.Scheepers@aurecongroup.com
		Ongoing								
Bankable feasibility study for the Zuma Energy Coal-fired Power Station	Kogi State, Nigeria	10/2010	Construction and operation of a coal-fired power station along the Niger River in Nigeria; environmental and other relevant regulatory authorisations for the project.	Preparation of a bankable feasibility study, including a review of studies already undertaken, identification of gaps, and establishing what additional work is required to complete the study.	Review of socio-economic components of previous studies undertaken, comparison against international best-practice standards (IFC Performance Standards), identification of additional work required, and preliminary costing of social mitigation and management measures.	2	Zuma Energy	Report outlining additional work to be undertaken to complete bankable feasibility study; preliminary costing of social & environmental mitigation and management measures	R4 million	Felix A. Fawole Head, Health, Safety & Environment Dept., Zuma Energy. Email: hhse@wggroup.org Cell: +234 81 664 76053



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
Data compilation and pilot application of the Nile Basin Decision Support System	Burundi, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania, and Uganda	07/2011 04/2012	The Nile Basin Decision Support System (NB-DSS) is a water balance and allocation model, linked to a set of core models relevant to the priority areas of concern in the Nile Basin, integrated with an information system and decision support tools for multi-criteria decision analysis.	Producing quality assured data sets that are relevant for NB-DSS applications, applying the NB-DSS for pilot project cases that are relevant for trans-boundary water resources management, and training stakeholders from riparian countries in the application of the NB-DSS.	Identification of social indicators for inclusion in the NB-DSS, Definition of linkages between social, economic, environmental and hydrological indicators/ variables, identification of data sources for quantification of social indicators, and definition of data quality requirements and relevant metadata.	3	Nile Basin Initiative: Water Resource Planning and Management Project	Data quality control and quality assurance guidelines, populating the NB-DSS Information Management System, identification of pilot application cases and scenarios, and use of NB-DSS to evaluate scenarios.	R6.9 million	Verno Jonker, Technical Director, Aurecon, Tel: +27 21 481 2473 Cell: +27 82 573 9168 Email: Verno.Jonker@aurecongroup.com
Construction of a coal-fired power station in the Erongo Region of Namibia	Namibia	08/2011 ongoing	Environmental and Social Impact Assessment (ESIA) for the proposed coal-fired power station	Undertaking site selection, ESIA, public participation process and developing Environmental and Social Management Plans	Conducting Social Impact Assessment	4	NamPower	Social Impact Assessment (SIA) specialist report	R3.8 million	Margaret van der Merwe, Project Manager, NamPower, +264 61 2052338, Margaret.Van.Der.Merwe@nampower.com.na



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
Design and Engineering Services for the MeerKAT Radio Telescope Project	Northern Cape Province, South Africa	04/2011	Construction of the MeerKAT (Karoo Array Telescope) as part of the bid for the larger Square Kilometre Array (SKA) Radio Telescope Project	Provision of design & engineering services for various work packages, incl. Roads, Construction Camps, Water Treatment Plant, Landing Strip, Electrical Reiteration, Processor Building, Dish Assembly Shed Extension & Pedestal Integration Building	Development of Social and Labour Roadmap for the components of the project contracted to Aurecon	2	SKA South Africa	Development of Social and Labour Roadmap report, input into contract specifications re local employment & skills development	R6.6 million	Tracy Cheetham, Project Manager, SKA South Africa, +27 11 442 2434. tcheetham@ska.ac.za
Khanyisa Power Station Project	Mpumalanga Province, South Africa	08/2011	Environmental and Social Impact Assessment and Resettlement Action Plan for the Khanyisa Power Station Project and associated infrastructure	Undertaking Environmental and Social Impact Assessment, and compilation and implementation of Resettlement Action Plan	Compilation and implementation of Resettlement Action Plan (RAP)	3	Anglo American	RAP and implementation of the Plan	R500 000 for completion and implementation of RAP	Julian Eslait, Project Manager, Anglo American, jeslait@angloamerican.co.za +27 11 638 5135



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
External review of the Environmental Impact Assessment for the proposed Nuclear-1 Power Station	Western and Eastern Cape Provinces, South Africa	06/2011	Review of the Revised Draft Environmental Impact Report (EIR) by an external Panel of Experts	Membership of the review panel to review social components of the EIR	Review of Social, Traffic, Tourism, Agriculture, Economic, Emergency Response, Site Control & Access, Visual, Transport & Health specialist studies, and public participation report	1	Department of Environmental Affairs	Review report	R80 000 for review of social component of EIR	Millicent Solomons, Deputy Director: Environmental Impact Evaluation: Parastatals, Department of Environmental Affairs, + 27 12 395 1852, Msolomons@environment.gov.za
		08/2011								
Environmental Management Plan for the Metolong Dam Water Supply Programme	Lesotho	07/2010	The Metolong Dam Water Supply Programme involves the construction of the Metolong Dam, a raw water treatment facility, as well as a network of feeder pipelines and reservoirs	Preparation of Environmental and Social Management Guideline (ESMG), Strategic Environmental and Social Management Plan (ESMP) & component-specific ESMPs for the Programme	Preparation of social components of ESGM, Strategic ESMP and component-specific ESMPs	3	Metolong Authority	Completion of ESGM and ESMP reports	R700 000	Ntaolong Mochaba, Metolong Authority, ntaolong.mochaba@metolong.org.ls
Environmental Impact Assessment for the Mbewu - Isundu Power Line	KwaZulu-Natal, South Africa	03/2011	Environmental Impact Assessment and Environmental Management Plan for the Mbewu - Isundu 2x400kv Power Line Project	Undertaking the Environmental Impact Assessment and developing the Environmental Management Plan	Supervision of Social Impact Assessment	1	ESKOM Holdings	EIA Report and EMP	R160 000 for social impact assessments	Pieter Botha (Dr) (project leader, Aurecon) Tel: +27 12 427 2529 Mobile: +27 83 321 1634 Email: Pieter.Botha@aurecongroup.com



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
Pre-feasibility study for the Great Lakes Railway	Burundi, Rwanda, DR Congo, Uganda, Tanzania, Zambia, Southern Sudan.	05/2011	Development of a rail-lake transport system linking countries in the Great Lakes region of East Africa	Pre-feasibility study for the Great Lakes rail-lake transport system	Social screening as part of Feasibility Study Report	2	Common Market for Eastern and Southern Africa (COMESA)	Feasibility Study Report	R200 000 for environmental and social component	Mr TS Hardwick (project leader). Tel: +27 12 427 2729 Fax: +27 12 427 2850 Email: trevor.hardwick@arecongroup.com
Construction of five state veterinary offices	Namibia	11/2010	Design and construction of five veterinary state offices in various locations in Namibia	Design, environmental authorisation and construction supervision	Social impact assessment and development of Public Health and Public Safety Awareness Plan	3	Millennium Challenge Account Namibia	Socio-economic impact assessment report, public health and safety awareness plan	R 300 000	Timo Mufeti, Director: Environmental & Social Assessments. Millennium Challenge Account Namibia Tel: +264 61 410 400 Fax: +264 88 616 502 Mobile: +264 81 1244417
Working for Wetlands Project	Various locations, South Africa	06/2010	Rehabilitation of various wetlands across South Africa as part of the Expanded Public Works Programme	Planning of rehabilitation interventions for the Working Wetlands Programme 2011-2014	Development of monitoring and evaluation framework for the social beneficiation component of the project	3	South African National Biodiversity Institute	Monitoring and evaluation framework based on Lograme Methodology, adopted for implementation	R10 500 000	Umesh R. Bahadur Manager: Planning, Monitoring & Evaluation Working for Wetlands South African National Biodiversity Institute +27 12 843 5200 +27 79 497 3229 u.bahadur@sanbi.org.za



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
Road alternatives study for export of coal from Moatize Mine to Beira	Mozambique	06/2010	Feasibility assessment of the export of coal by road from Moatize Mine to Beira Port	Transport logistics assessment and environmental and social assessment	Social assessment	1	Vale Mozambique	Fatal flaw identification and assessment of social impacts	R100 000 for social component	Camilla Lott, Value Environmental, +258 82 301 9586 Camilla.lott@vale.co.mz
		08/2010								
Moatize Mine Expansion and Nacala Corridor & Port Project	Mozambique and Malawi	03/2010	Expansion of Moatize Mine, development of rail corridor to Nacala Port for export of coal	Environmental and social impact assessment	Socio-economic baseline and impact assessment	2	Vale Mozambique	Socio-economic baseline report, socio-economic impact assessment report	R680 000	Camilla Lott, Value Environmental, +258 82 301 9586 Camilla.lott@vale.co.mz
Upgrading of Staff Villages in Etosha National Park	Namibia	05/2010	Upgrading and establishment of new staff villages in Etosha National Park	Environmental and Social Impact Assessment for upgrading of staff villages in Etosha National Park	Socio-economic Impact Assessment, Census and socio-economic survey of all staff villages in the Park, development of Public Health and Safety Awareness Plan	3	Millennium Challenge Account Namibia	Census and socio-economic survey report, socio-economic impact assessment report, public health and safety awareness plan	R 650 000	Timo Mufeti, Director: Environmental & Social Assessments, Millennium Challenge Account Namibia Tel: +264 61 410 400 Fax: +264 88 616 502 Mobile: +264 81 1244417
Zanzibar Urban Services Project	Stonetown, Zanzibar, Tanzania	02/2010	Environmental and social impact assessment for the proposed Mizingani Seafont Development in Stonetown, Zanzibar	Undertaking environmental and social impact assessment	Supervision of social impact assessment	2	Aga Khan Trust for Culture	In progress	R 2 400 000	Karen Shippey, Aurecon Environmental Services, +27 21 481 2400, karen.shippey@af.aurecongroup.com



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
Project Performance Evaluation for two Transport and one Power Project	Zambia, Botswana and Lesotho	02/2010	Evaluation of three infrastructure projects funded by the African Development Bank to determine their relevance, effectiveness and environmental and socio-economic impact	Data collection and analysis, and production of project performance evaluation reports	Undertaking socio-economic component of the evaluations	4	African Development Bank	In progress	R 400 000 for socio-economic component	Mohamed Hedi MANAI Division Manager Project & Program Evaluation Division Operations Evaluation Department African Development Bank BP 323 Tunis – Tunisia Tel. + 216 7110 2416 Cel. + 216 98 702 976
		03/2011								
Olifants River Water Resources Development Project Phase 2	Limpopo and Mpumalanga Provinces, South Africa	12/2009	Design and construction of two bulk water transfer pipelines to augment water supply to communities and industries in Limpopo and Mpumalanga Provinces	Engineering design, construction monitoring, environmental and social supervision and support to land acquisition	Management of landowner consultation, generation of socio-economic baseline profile, input into pipeline route refinement, support to land acquisition process, resettlement planning	12	Trans-Caledon Tunnel Authority (TCTA)	In progress	R 900 000 for social/ land acquisition component	Liza van der Merwe, Land Acquisition Manager, TCTA, +27 12 683 1200, lvdmerwe@tcta.co.za



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
Socio-economic impact assessment survey for the Cradle of Humankind and Dinokeng Projects	Gauteng Province, South Africa	09/2009	Socio-economic impact assessment survey for the Cradle of Humankind World Heritage Site and Dinokeng Blue IQ Projects	Undertaking socio-economic impact assessment	Project manager, socio-economic specialist	4	Gauteng Provincial Government	In progress	R 2 000 000	Shadreck Matanhire, Deputy Director – Fundraising, Cradle of Humankind World Heritage Site & Dinokeng Blue IQ Projects, +27 11 355 1814, SHADRECK.MATANHIRE@gauteng.gov.za
		12/2010								
Environmental and Social Impact Assessment for five quarries	Angola	08/2009	Establishment of quarries to be used in road construction at the following sites in Angola: Quicabo, Ucuva, Barro do Dande, Uche Pequeno and Porto Amboim	Undertaking environmental and social impact assessment	Design and implementation of social impact assessment	2	Conduril	In progress	R 1 200 000	Arthur Soares, Aurecon Angola, +258 21 49 3632, arthur_soares@af.aurecon group.com
Construction of Siphofaneni Bridge and upgrading of Siphofaneni-St. Phillips Road in Siphofaneni Region, Swaziland	Swaziland	08/2009	Construction of Siphofaneni Bridge and upgrading of Siphofaneni-St. Phillips Road in Siphofaneni Region, Swaziland	Detailed design, supervision of construction, environmental and social impact assessment, assistance with tendering evaluation for works	Design and implementation of socio-economic impact assessment	4	Delegation of the European Commission in Swaziland	Environmental and Social Impact Assessment Report submitted to Swaziland environmental authority	R900 000 for environmental and social impact assessment	Christof Batzlen, Team Leader, RDMU, +268 404 45 60, christof.batzlen@rdmu.org



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
Environmental and Social Impact Assessment for upgrading of 'Muela' Hydropower Station	Lesotho	06/2009	Undertaking environmental and social impact assessment for proposed upgrading of hydropower station through installation of additional turbine	Undertaking environmental and social impact assessment and development of environmental and social mitigation/management plan	Undertaking social impact assessment and development of social mitigation/management plan	2	Lesotho Highlands Water Commission	Environmental and Social Impact Assessment Report submitted to Lesotho National Environmental Secretariat	R950 000 (R300 000 for social component only)	Charles Mwakalumbwa, LHWC, sec@lhwc.org.ls
		09/2009								
Social and environmental screening of Moatize Phase 2 rail corridor alternatives through Malawi	Malawi	07/2009	FEL 2 study of alternative routes between Moatize and Nkaya Junction for export of coal from Moatize mine to the Port of Nacala	Environmental and social study; geotechnical and route alignment study	Undertaking social and resettlement component of the Environmental and Social Study	4	Vale Mozambique	Comparative assessment of alternatives submitted to client	US\$ 190 000 for environmental and social study	Camilla Lott, Value Environmental, +258 82 301 9586 Camilla.lott@vale.co.mz
		12/2009								
Brits Ferrochrome Smelter Environmental Impact Assessment	North West Province, South Africa	05/2009	Environmental and social impact assessment for proposed ferrochrome smelter near Brits	Undertaking socio-economic impact assessment and development of social and labour plan	Design and implementation of socio-economic impact assessment, development of social and labour plan	2	Benfico SA	Social specialist study delivered to client	R180 000	Lulu Labuschagne, Quanto Environmental Solutions, +27 72 124 5980, llabuschagne@qesolution.co.za
		09/2009								
Cronimet Environmental Impact Assessment	Limpopo Province, South Africa	02/2009	Environmental and social impact assessment for proposed chrome mine near Thabazimbi	Undertaking socio-economic impact assessment	Design and implementation of socio-economic impact assessment	4	Cronimet Mining South Africa	Socio-economic impact assessment specialist report	R200 000	Tracey Gardiner, TWP Environmental Services, +27 11 798 4810, TGardiner@twp.co.za



Project Title	Project Location	Date:	Description of the Project	Role of Firm in the Project	Own Role in the Project	Time involved (man months)	Name of Client	Contract Outcomes	Contract Value	Reference
Fish Impact Study for Drakensberg Pumped Storage Scheme	Kwa-Zulu Natal, South Africa	01/2009	Study of impacts of proposed changes in scheme operating regime on fish biodiversity	Managing the project and synthesising results of specialist studies	Managing the project, report writing, client liaison	3	Eskom	Completed impact assessment report	R900 000	Tobile Bokwe, +27 11 800 2303, Tobile.Bokwe@eskom.co.za
		08/2009								
Moatize Feasibility Study	Mozambique	01/2009	Update and Development of Studies to Evaluate the Transport of Coal from Moatize Coal Mine to Nacala and its Shipment	Cost estimate for environmental and social mitigation and resettlement, and identification and cost estimate of additional studies required	Cost estimate for social mitigation and resettlement, and identification and cost estimate of additional studies required to develop full social impact assessment, social mitigation and resettlement plans	4	Vale Mozambique	Socio-economic and resettlement chapters in Environmental component of Feasibility Study Report	R9 million; R900 000 for social/ enviro. component only	Camilla Lott, Value Environmental, +258 82 301 9586 Camilla.lott@vale.co.mz
Sudan Rural Roads Rehabilitation Project	Southern Sudan	06/2008	Upgrading of 7000 km of rural roads in Southern Sudan	Identification, prioritisation and detailed design of roads to be upgraded	Social assessment for roads to be upgraded	5	Government of Southern Sudan	Development Plan, Environmental and Social Assessment, Detailed design of roads included in Year One of upgrading programme	R370 000 for environmental and social component	Patricia Wachata, Roads Dept., Ministry of Transport and Roads, Southern Sudan. patriciagibril@gmail.com



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Kabanga Nickel Project	Tanzania	08/2007	Environmental and social impact assessment for a proposed nickel mine in western Tanzania.	Development of Resettlement Action Plan for relocation of 234 households from project site and compensation for loss of assets by a further 100 households	Coordinated a census and socio-economic survey, statistical analysis and GIS mapping of results, assisted in compilation of a resettlement action plan.	3	Kabanga Nickel Company	Completed Resettlement Action Plan	± R 2 million	David Brown, Golder Associates, +1 (905) 567 4444, DBrown@golder.com
		11/2008								
Bakouma environmental and social impact assessment	Central African Republic	06/2007	Environmental and social impact assessment for a proposed uranium mine.	Undertaking specialist studies, public consultation and environmental authorisation process	Conducted surveys and data analysis, participated in the compilation of a resettlement action plan and social impact assessment for the proposed Bakouma Mine Project in the Central African Republic.	4	Areva-UralMin	Completed socio-economic and resettlement baseline reports	R 6 million for social, resettlement & envir. studies	Serge Ngandu, Areva, +27 11 783 5056, serge.ngandu@areva.com
		12/2008								
Resettlement Action plan for Kriel Colliery	Mpumalanga Province, South Africa	05/2007	Resettlement of mining-affected non-landowning households		Completion of a resettlement action plan for the relocation of twenty homesteads in the vicinity of operations of Kriel Colliery.	2	Kriel Colliery, Anglo Coal	Completed resettlement action plan & negotiation for resettlement site	R400 000	Claire Logan-Delagey, Anglo Coal, +27 17 617 1115, CLogan-Delagey@anglocoal.co.za



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Lower Usuthu Irrigation Project	Swaziland	12/2004 06/2008	Resettlement planning and implementation for 127 households displaced by the reservoir and other bulk infrastructure and a further 200 by the irrigation development.	Facilitation of stakeholder consultation in resettlement planning process; development of Resettlement Action Plan; implementation of resettlement; development of environmental Comprehensive Mitigation Plan; compilation of Completion Report	Development of Completion Report evaluating resettlement & compensation outcomes by comparing project objectives, budget and planned activities to actual implementation, and the evaluation of monitoring activities that had been undertaken to date.	1	Swaziland Water and Development Enterprise	Resettlement Completion Report submitted	±R 2 million	Sam Sitholess, SWADE, sitholess@swade.co.sz
Development of supporting documentation for authorisation - land access and control programme for Ahafo Gold Mining Project Stage 2	Brong-Ahafo Region, Ghana	03/2007 04/2007	Resettlement planning process as part of the environmental and social impact assessment for the proposed Ahafo Gold Mining Project Stage 2	Development of budget and framework for land access and control programme (including resettlement action plan) to support the submission of an authorisation for expenditure to Newmont Head Office.	Development of budget, development of logframe for land access and control programme, report writing	2	Newmont Ghana Gold Limited (NGGL) – subsidiary of the Newmont Mining Company	Completed budget and programme framework submitted	R250 000	Brian Anderson, NGGL Owner's Representative, +233 21 701 1852, Brian.anderson@newmont.com



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Social baseline for the proposed Rusumo Falls hydroelectric power plant	Rwanda, Tanzania and Burundi	05/2007	Feasibility studies for a proposed hydroelectric power plant at the border between Tanzania, Rwanda and Burundi.	Conducted a rapid baseline social analysis for the proposed project	Conducted a rapid baseline social analysis fieldwork, analysis and report writing.	1	World Bank	Submitted Inception Report, Draft Report & Final Report	R650 000	Jakob Granit / Mary Bitekerezo, World Bank, Kampala, Uganda, +256 41 236825, jgranit@worldbank.org / mbitekerezo@worldbank.org
		06/2007								
Socio-economic impact assessment for the proposed Rustenburg Deeps Project	North-West Province, South Africa	02/2007	Environmental Impact Assessment for a proposed platinum mining project	Socio-economic impact assessment	Conducted a socio-economic impact assessment, including fieldwork, data analysis and report writing.	2	Anglo Platinum	Submitted scoping report and impact assessment reports	R100 000	Nadia Mol, SRK Consulting (EIA lead agent), +27 11 441 6168, +27 82 321 3914, nmo@srk.co.za
Land use assessment for the proposed Holcim - South Africa Alternative Fuel Resources project	North-West Province, South Africa	03/2007	Environmental Impact Assessment for the proposed expansion of the Holcim cement plant	Land use baseline study and impact assessment	Management of the land use assessment study, data collection, data analysis, GIS work, production of maps, report writing.	1	Mark Wood Consultants	Delivery of land use assessment specialist report	R70 000	Mark Wood, +27 11 327 1567, markwood@global.co.za
		05/2007								
Scientific writing for the University of Pretoria	Pretoria, South Africa	10/2006	Production of the Annual Research Report of the University of Pretoria	Writing of articles on research accomplishments of University staff members	Freelance science writing for the Annual Research Reports of 2004, 2005, 2006 and 2007. Included interviews with various researchers, the compilation of six full-length articles and several shorter research highlights.	3	University of Pretoria	Submission of articles to editorial board	R200 000	René Bosman, +27 82 454 6363, renewwrite@gmail.com



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Support to social services for Ahafo Gold Mining Project Stage 2	Brong-Ahafo Region, Ghana	08/2006	Stakeholder consultation as part of the Environmental and Social Impact Assessment for the proposed Ahafo Gold Mining Project Stage 2	Stakeholder consultation programme and social responsibility programme for the proposed project	Compilation of public consultation and disclosure plan, design of public disclosure materials, compilation of information resource toolkit for public consultation staff.	3	Newmont Mining Company	Development of public awareness materials and submission of public consultation and disclosure plan	R 2 million	Brian Anderson, NGGL Owner's Representative, +233 21 701 1852, Brian.anderson@newmont.com
		04/2007								
Human movement patterns at Waterval Smelter	North-West Province, South Africa	11/2006	Assessment of health risks associated with emissions from the Waterval Smelter	Development of a mathematical model describing human movement and exposure incidence in the vicinity of the Waterval Smelter.	Fieldwork, data analysis, development of human movement aspects of the model, report writing.	2	Anglo Technical	Submission of model and supporting reports to the client	R 50 000 for development of human movement model	Frank Schwegler, Anglo Operations Limited – Anglo Technical Division, +27 11 638 2125 F.Schwegler@anglotechnical.co.za
		11/2007								
Social Impact Assessment of Closure of Beeshoek Mine and Development of New Mine near Kathu	Northern Cape Province, South Africa	06/2004	Environmental and social impact assessment and public participation process for closure of Beeshoek Mine and development of new mine	Social impact assessment	Coordination and implementation of Social Impact Assessment	3	Assmang Iron Ore (subsidiary of African Rainbow Minerals)	Submission of social impact assessment report	R300 000	David de Waal, Mawatsan, +27 83 227 8681, davidde@bks.co.za
		03/2005								



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Social Impact Assessment for proposed OCGT power station near Atlantis	Western Cape, South Africa	01/2005 09/2005	Environmental and social impact assessment and public participation process for proposed power station	Social impact assessment	Coordination and implementation of Social Impact Assessment	3	Bohliweki Environmental	Submission of social impact assessment report	R200 000	David de Waal, Mawatsan, +27 83 227 8681, davidde@bks.co.za
Social Impact Assessment for proposed "Matimba B" coal-fired power station near Lephalale	Limpopo Province, South Africa	01/2005 09/2005	Environmental and social impact assessment and public participation process for proposed power station	Social impact assessment	Coordination and implementation of Social Impact Assessment	3	Bohliweki Environmental	Submission of social impact assessment report	R200 000	Malcolm Roods, malcolmr@ssi.co.za
Drafting of public participation guidelines	Gauteng, South Africa	03/2005 07/2005	Drafting of public participation guidelines for the new EIA Guidelines published in terms of the National Environmental Management Act	Drafting guidelines	Supporting author and researcher	2	Department of Environmental Affairs and Tourism, South Africa	Publication of guidelines	R300 000	David de Waal (lead author), 083 227 8681
Socio-Economic Impact Assessment for proposed landfill in the Northern Areas of Johannesburg	Gauteng Province, South Africa	10/2004 08/2005	Environmental and social impact assessment and public participation process for proposed landfill	Social impact assessment	Coordination and implementation of Social Impact Assessment	4	Jones & Wagner Engineering	Submission of social impact assessment report	R60 000	Tolmay Hopkins, +27 82 808 2693, tolmay@jaws.co.za



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Survey of Water Awareness, Conservation and Demand Management	Botswana	07/2003	Assessment of the impact of a national water conservation awareness campaign	National survey to assess awareness of campaign and changes in knowledge, attitudes and behaviour	Statistical data analysis, interpretation of survey results	3	Department of Water Affairs, Botswana	Submission of survey report	R300 000	David de Waal, Mawatsan, +27 83 227 8681, davidde@bks.co.za
		01/2004								
Strategic Options to Address Constraints and Challenges to Skills Development in the Water Services Sector	South Africa	02/2004	Development of a strategy to address capacity constraints in the water services sector in South Africa	Assessment of capacity constraints in water services sector (including water services authorities nationwide), development of strategic options to address identified constraints	Analysis of statistical data on municipal performance, interviews with stakeholders, institutional analysis, data synthesis by means of Logical Framework Approach	4	Water Services Sector Leadership Group: Skills Development Sector Committee	Suite of 9 reports submitted to the client	R400 000	David de Waal, Mawatsan, +27 83 227 8681, davidde@bks.co.za
		11/2004								