

## DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

### PROJECT TITLE

Namakwa Sands East OFS Residue Management Project DMRE REF: (WC) 30/5/1/2/2/113 & 114 MR

Specialist:	Aquatic ecologist (river and wetland specialist)		
Contact person:	Liz Day		
Postal address:	6 Flamingo Crescent, Zeekoevlei		
Postal code:	7941	Cell:	0834542309
Telephone:	0834542309	Fax:	
E-mail:	lizday@mweb.co.za		
Professional affiliation(s) (if any)	Pr Nat Sci; Member WISA;		

Project Consultant:	SRK Consulting		
Contact person:	Matthew Law		
Postal address:	Postnet Suite # 206, Private Bag X18, Rondebosch		
Postal code:	7701	Cell:	082 471 7544
Telephone:	021 659 3060	Fax:	086 530 7003
E-mail:	mlaw@srk.co.za		

4.2 The specialist appointed in terms of the Regulations\_

I, Elizabeth (Liz) Day , declare that -- General declaration:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct;  
and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



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Signature of the specialist:

Liz Day Consulting (Pty) Ltd

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Name of company (if applicable):

10 February 2021

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Date:

# LIZ DAY'S CURRICULUM VITAE

## SUMMARY DOCUMENT (2021)

Name	Dr Elizabeth (Liz) Day (née Reynolds)
Address	6 Flamingo Crescent, Zeekoevlei, 7941, Cape Town, South Africa
Cell number	083 454 2309
Email	<a href="mailto:liz@lizdayconsulting.co.za">liz@lizdayconsulting.co.za</a>
Date of birth	3 May 1968
Place of birth	Zimbabwe
Nationality	South African
Current Position	Director: Liz Day Consulting (Pty) Ltd

Liz provides specialist input into river and wetland ecosystems management and rehabilitation, water quality, baseline assessments, impact assessments, strategic planning and review and other aspects of aquatic ecosystem consulting. She has particular experience in working in urban areas, across a wide range of socio economic conditions, and believes in pragmatic integration of natural systems, ecological infrastructure and engineering planning and design.

### KEY WORK EXPERIENCE

- 2019 - Specialist consultant on freshwater ecosystems (rivers and wetlands) – Liz Day Consulting (Pty) Ltd
- 1999- 2019 Specialist consultant on freshwater ecosystems; co-founder of Freshwater Consulting (FCG)
- 1997 - 1999 Senior Consultant for Southern Waters Ecological Research and Consulting cc
- 1994 - 1996 Scientific Officer on Water Research Commission Project, Freshwater Research Unit, UCT.

### SUMMARY OF RELEVANT EXPERIENCE

> 24 years' experience in aspects of aquatic ecology, specialising in:

- Water quality wetland, river, wetland and vlei water quality monitoring, data analysis and interpretation as well as urban stormwater quality assessments
- Urban river and wetland management and rehabilitation
- Urban stormwater design with respect to freshwater ecosystems and water quality amelioration
- Specialist input into environmental impact assessments; baseline and situation assessments
- DWS Risk Assessments and Wetland Offset plans
- Catchment and River Management Plans
- River corridor plans
- Inputs into Ecological Reserve Determinations
- River and wetland Maintenance and Management Plans
- River and wetland mapping and biodiversity planning
- Wetland delineation
- SASS5 bioassessments.

Liz has compiled over 900 specialist riverine ecology technical reports, 12 scientific papers (6 in international literature); 20 popular biological articles published in local environmental magazines, scripts for several environmental documentaries; *ad hoc* lecturer in freshwater ecology at UCT; co-author on 4 Water Research Commission reports; lead author on chapter in UNESCO Sustainable Management of Urban Aquatic Ecosystems handbook; lead author on chapter in Fynbos Ecosystem Management book; project leader and author of WRC Technical Manual for River Rehabilitation in South Africa (2016). She has also sat on the Reference Groups / Steering Committees of numerous Water Research projects, including those relating to wetland ecological infrastructure, wetland rehabilitation monitoring protocols, Sustainable Urban Drainage Systems (SUDS) and Water Sensitive Urban Design (WSUD) in the City of Cape Town and eThekweni Municipalities.

### KEY QUALIFICATIONS

- Bachelor of Arts (English), University of Cape Town, 1989
- Bachelor of Science (Zoology and Environmental and Geographical Science); University of Cape Town; 1992
- Bachelor of Science (honours- Zoology, first class); University of Cape Town, 1993
- PhD (Zoology / Marine Biology); University of Cape Town, 1998

### PROFESSIONAL AFFILIATIONS

- Associate – Freshwater Research Centre
- Member of WISA, IAIA and SAIEES
- Registered Professional Natural Scientist by SACNASP (Reg No 400270/08)
- Member of Western Cape Wetlands Forum and Wetland Society of South Africa
- Accredited SASS5 bioassessment practitioner
- Specialist on Tygerberg Reserve PAAC.

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- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

### PROJECT TITLE

Namakwa Sands East OFS Residue Management Project DMRE REF: (WC) 30/5/1/2/2/113 & 114 MR

Specialist:	Timothy James Graham Hart		
Contact person:	As above		
Postal address:	ACO Associates CC, * Jacobs Ladder, St James, 7945		
Postal code:	7945	Cell:	0731418618
Telephone:	021 7884764	Fax:	
E-mail:	Tim.Hart@ACO-		
Professional affiliation(s) (if any)	ASAPA, APHP		
Project Consultant:	SRK Consulting		
Contact person:	Matthew Law		
Postal address:	Postnet Suite # 206, Private Bag X18, Rondebosch		
Postal code:	7701	Cell:	082 471 7544
Telephone:	021 659 3060	Fax:	086 530 7003
E-mail:	mlaw@srk.co.za		

4.2 The specialist appointed in terms of the Regulations\_

I, Timothy J. G. Hart, declare that --

General declaration:

I act as the independent specialist in this application;

I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;

I declare that there are no circumstances that may compromise my objectivity in performing such work;

I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;

I will comply with the Act, Regulations and all other applicable legislation;

I have no, and will not engage in, conflicting interests in the undertaking of the activity;

I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;

Information provided is true and correct; and

Failure to comply with these provisions is punishable in terms of regulation 48 and is punishable in terms of

*TJG Hart*

Signature of the specialist:

ACO-Associates CC

Name of company (if applicable):

10/2/2001

Date

:

## CURRICULUM VITAE

**Name:** Timothy James Graham Hart

**Profession:** Archaeologist

**Date of Birth:** 29/07/60

**Parent Firm:** ACO Associates cc

**Position in Firm:** Director/Partner

**Years with Firm:** 12

**Years experience:** +34 years (22 at UCT)

**Nationality:** South African

**HDI Status:** Disabled.

**Education:** Matriculated Rondebosch Boys High, awarded degrees BA (UCT) BA Hons (UCT) MA (UCT).

**Professional Qualifications:** Principal Investigator ASAPA, member of Association of Heritage Professionals (APHP)

**Languages:** Fully literate in English, good writing skills. Conversation in Afrikaans, mediocre writing skills, good reading skills.

### KEY QUALIFICATIONS

- Bachelor of Arts in Archaeology and Psychology
- BA Honours in Archaeology
- MA in Archaeology
- Recipient of Frank Schweitzer Memorial Prize (UCT) for student excellence
- Professional member (no 50) Association of Southern African Professional Archaeologists (ASAPA)
- Principal Investigator, cultural resources management section (ASAPA)
- Professional member in specialist and generalist categories Association of Heritage Professionals (APHP)
- Committee Member Heritage Western Cape, Committee Member SAHRA
- Awarded Department of Arts and Culture and Sport award (joint recipient) for **best heritage study in 2014**.

### ACO SIGNATURE PROJECTS

1981-1984. Restoration work and archaeological research Castle of the Cape of Good Hope.

1994- 2000 Excavation and research, Duinefontein. contracted by RG Klein, Stanford Campus of UCLA.

2007-2008 Discovery and Excavation of Pebco Three activists murdered by Vlakplaas SB as well as other victims in RSA. National Prosecuting Authority

2000 -2010. Research excavations at Yzerfontein. Contracted by RG Klein, Stanford Campus of UCLA.

1999-2003 Excavation, and conservation of Battery Chavonnes. V&AW.

2003-2006 Excavation of human remains, Prestwich Place. Styleprops Pty Ltd.

2016-2018 Excavation and conservation, Amsterdam Battery at Battery Park, V&AW

## SELECTED PROJECTS

- Identification and exhumation of a VOC burial ground in Simonstown, in collaboration with the government department Onroerend Erfgoed of The Netherlands and Leiden University.
- Excavation, conservation and museum creation: Battery Chavonnes, V&A Waterfront, Cape Town
- Excavation and conservation – Amsterdam Battery, V&A Waterfront, Cape Town
- Excavation and conservation – Sea Point Battery, Sea Point, Cape Town
- Excavation and grave location, museum creation – Prestwich Place, Cape Town
- Location and recovery of PEPCO 3 remains, Post Chalmers, Eastern Cape
- Expertise for Salem land claim, Eastern Cape
- Conservation plan for East Fort, Table Mountain National Park, Hout Bay, Cape Town, SANParks
- Archaeological survey of Bordjiesrif and Buffels Bay, Table Mountain National Park, Cape Town, SANParks
- Assessment and conservation plan – Ratel Rivier, Agulhas National Park, SANParks
- Specialist consultant – Eskom's Nuclear 1 programme, Eastern, Western and Northern Cape
- Specialist consultant – Eskom's PBMR programme
- Specialist consultant – Department of Water Affairs, raising of Clanwilliam Dam project, Western Cape
- Specialist consultant to De Beers Namaqualand Mines (multiple projects since 1995)
- Specialist consultant – Saldanha Ore Handling Facility phase 2 upgrade
- Three years of involvement in Late Stone Age projects in the Central Great Karoo
- Wind Energy systems: Koekenaap, Hopefield, Darling, Vredendal, Bedford, Sutherland, Caledon (some 75) completed to date.
- Karoo uranium prospecting, various sites
- HIA Houses of Parliament, Cape Town
- Proposed Sunbird Ibhubesi gas project, West Coast of South Africa.
- 1991 – 1997 Annual surveys and mitigation work, De Beers Namakwaland Mines Division.

## EXPERIENCE

After graduating from UCT with my honours degree I joined the Southern Methodist University (SMU Dallas Texas) team undertaking Stone Age research in the Great Karoo. After working in the field for a year I registered for a Masters degree in pre-colonial archaeology with support from SMU. On completion of this degree in 1987 I commenced working for the ACO when it was based at UCT. This was the first unit of its kind in RSA.

In 1991 I took over management of the unit with David Halkett. We nursed the office through new legislation and were involved in setting up the professional association and assisting SAHRA with compiling regulations. The office developed a reputation for excellence in field skills with the result that ACO was contracted to provide field services for several research organizations, both local and international. Since 1987 in professional practice, I have has been involved in a wide range of heritage related projects ranging from excavation of fossil and Stone Age sites to the conservation of historic buildings, places and industrial structures. To date the ACO Associates CC (of which I am codirector) has completed more than 3000 projects throughout the country ranging from minor assessments to participating as a specialist in a number of substantial EIA's as well as international research projects. Some of these projects are of more than 4 years duration.

Together with my colleague Dave Halkett I have been involved in heritage policy development, development of the CRM profession, the establishment of 2 professional bodies and development of professional practice standards. Notable projects I have been involved with are the development of a heritage management plan and ongoing annual mitigation for the De Beers Namaqualand Mines Division, heritage management for Namakwa Sands and other west coast and Northern Cape mining firms. Locally, I was responsible for the discovery of the "Battery Chavonnes" at the V&A Waterfront (now a conserved as a museum and exhibition centre), the discovery of a massive pauper's burial ground in Green Point (now with museum and memorial), the fossil deposit which is now the subject of

a public display at the West Coast Fossil Park National Heritage Site as well as participating in the development of the Robben Island Museum World Heritage Site. ACO also recently did the archaeology informing the Battery Part project at the V&A and exposed the rare disappearing gun in Sea Point (<http://www.bbc.com/travel/gallery/20190423-the-mystery-of-cape-towns-disappearinggun?ocid=ww.social.link.twitter>).

ACO has worked with the Missing Persons task Team, successfully locating the remains of the PEPCO3 and other Apartheid victims. We have provided expert evidence and a report for the resolution of the Salem, EC land claim in 2013.

I have teaching experience within a university setting and have given many public lectures on archaeology and general heritage related matters. I ran a NLF funded project (R1.2m) to research the historic burial grounds of Green Point which culminated in the publication of a publicly well-received and award-winning book.

### **ACADEMIC PUBLICATIONS**

Cruz-Uribe, K., Klein, R.G., Avery, G., Avery, D.M., Halkett, D., Hart, T., Milo, R.G., Sampson, C.G. & Volman, T.P. 2003. Excavation of buried late Acheulean (mid-quaternary) land surfaces at Duinefontein 2, Western Cape Province, South Africa. *Journal of Archaeological Science* 30.

Dewar, G., Halkett, D., Hart, T., Orton, J. & Sealy, J. 2006. Implications of a mass kill site of springbok (*Antidorcas marsupialis*) in South Africa: hunting practices, gender relations, and sharing in the Later Stone Age. *Journal of Archaeological Science* 33 (9), 1266-127.

Finnegan, E., Hart, T. & Halkett, D. 2011. The informal burial ground at Prestwich Street, Cape Town: Cultural and chronological indicators for the informal Cape underclass. *The South African Archaeological Bulletin* Vol. 66 No. 194 (December 2011), 136-148.

Halkett, D., Hart, T., Yates, R., Volman, T.P., Parkington, J.E., Orton, J., Klein, R.G., Cruz-Uribe, K. & Avery, G. 2003. First excavation of intact Middle Stone Age layers at Ysterfontein, Western Cape Province, South Africa: implications for Middle Stone Age ecology. *Journal of Archaeological Science* 30 (2003) 955–971.

Hart, T. 1987. Porterville survey. In Parkington, J. & Hall, M.J. eds. *Papers in the Prehistory of the Western Cape, South Africa*. Oxford: BAR International Series 332.

Hart, T. & Halkett, D. 1994. Reports compiled by the Archaeology Contracts Office, University of Cape Town. Crossmend, HARG. University of Cape Town.

Hart, T. & Halkett, D. 1994. *The end of a legend?* Crossmend, HARG. University of Cape Town.

Hart, T. 2000. The Chavonnes Battery. *Aquapolis. Quarterly of the International Center for Cities on Water*. 3-4 2000.

Hart, T. 2017. The archaeology of the infirm, Robben Island. University of Leuven. International conference on sense of place, November 2017.

Hine, P., Sealy, J., Halkett, D. & Hart, T. 2010. Antiquity of stone walled fish traps on the Cape Coast of South Africa. *The South African Archaeological Bulletin*. Vol. 65, No. 191 (June 2010), pp. 3544.

Klein, R.G., Avery, G., Cruz-Uribe, K., Halkett, D., Hart, T., Milo, R.G. & Volman, T.P. 1999. Duinefontein 2: An Acheulean Site in the Western Cape Province of South Africa. *Journal of Human Evolution* 37, 153-190.

Klein, R.G., Cruz-Uribe, K., Halkett, D., Hart, T. & Parkington, J.E. 1999. Paleoenvironmental and human behavioral implications of the Boegoeberg 1 late Pleistocene hyena den, Northern Cape Province, South Africa. *Quaternary Research* 52, 393-403.

- Malan, A., Halkett, D., Hart, T. & Schietecatte, L. 2017. *Grave Encounters*. Archaeology of the burial grounds, Green Point, South Africa. With preface by Professor Carmel Schrire. ISBN: 978-0-62071752-6.
- Orton, J., Halkett, D., Hart, T., Patrick, M. & Pfeiffer, S. 2015. An unusual pre-colonial burial from Bloubergstrand, South Africa. *South African Archaeological Bulletin* 70 (201): 106–112.
- Orton, J., Hart, T. & Halkett, D. 2005. Shell middens in Namaqualand: two later Stone Age sites at Rooiwalbaai, Northern Cape Province, South Africa. *South African Archaeological Bulletin*. Volume 60 No 181.
- Parkington, J.E., Poggenpoel, C., Halkett, D. & Hart, T. 2004 Initial observations from the Middle Stone Age coastal settlement in the Western Cape In Conard, N. Eds. *Settlement dynamics of the Middle Paleolithic and Middle Stone Age*. Tubingen: Kerns Verlag.
- Plug, I., Bollong, C.A., Hart, T. & Sampson, C.G. 1994. Context and direct dating of pre-European livestock in the Upper Seacow River Valley. *Annals of the South African Museum, Cape Town*.
- Sampson, C.G., Hart, T., Wallsmith, D.L. & Blagg, J.D. 1988. The Ceramic sequence in the upper Sea Cow Valley: Problems and implications. *South African Archaeological Bulletin* 149: 3-16.
- Smith, A., Halkett, D., Hart, T. & Mütti, B. 2001. Spatial patterning, cultural identity and site integrity on open sites: evidence from Bloeddrift 23, a pre-colonial herder camp in the Richtersveld, Northern Cape Province, South Africa. *South African Archaeological Bulletin* 56 (173&174): 23-33.
- Smith, A., Halkett, D., Hart, T. & Mütti, B. 2001. Spatial patterning, cultural identity and site integrity on open sites: evidence from Bloeddrift 23, a pre-colonial herder camp in the Richtersveld, Northern Cape Province, South Africa. *South African Archaeological Bulletin* 56 (173&174): 23-33.

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- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

### PROJECT TITLE

Namakwa Sands East OFS Residue Management Project DMRE REF: (WC) 30/5/1/2/2/113 & 114 MR

Specialist:	Barry Clark		
Contact person:	Barry Clark		
Postal address:	8 Steeneberg House, Silverwood Close, Tokai		
Postal code:	7945	Cell:	0823730521
Telephone:	0217013420	Fax:	
E-mail:	Barry@anchorenvironmental.co.za		
Professional affiliation(s) (if any)	PrSciNat 40021/O5		

Project Consultant:	SRK Consulting		
Contact person:	Matthew Law		
Postal address:	Postnet Suite # 206, Private Bag X18, Rondebosch		
Postal code:	7701	Cell:	082 471 7544
Telephone:	021 659 3060	Fax:	086 530 7003
E-mail:	mlaw@srk.co.za		

4.2 The specialist appointed in terms of the Regulations\_

I, Barry Clark, declare that -- General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



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Signature of the specialist:

Anchor Environmental Consultants (Pty) Ltd

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Name of company (if applicable):

12 February 2021

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Date:

# CURRICULUM VITA: BARRY CLARK

**Date of Birth:** 25 August 1968    **Nationality:** South African

## **Education:**

University of Cape Town: B.Sc. (Hons.) Marine Biology, 1991

University of Cape Town: Ph.D. Marine Biology, 1997

## **Membership of Professional Associations:**

Professional Natural Scientist, registered with the South African Council for Natural Scientific Professions (2004-)

Professional member of the South African Institute of Ecologists and Environmental Scientists (2000-)

South African representative to the SURVAS Network (Synthesis and Upscaling of Sea-level Rise Vulnerability Assessment Studies) (2000-)

Member of the International Association of Impact Assessors (IAIA) (2000-)

Member of the Subsistence Fisheries Task Group (1999-2000)

Member of the Subsistence Fisheries Advisory Group (2000-2002)

Member of the South African Network for Coastal and Oceanic Research (SANCOR) Economics Task Team

## **Other Training:**

Research Dive Unit: Skipper certificate (<25t), 1990

Research Dive Unit: Commercial (Scientific) diver, Class III, 1990

Research Dive Unit: Commercial (Scientific) Dive Supervisor, Class III, 1992

## **Countries of Work Experience:**

South Africa, Namibia, Mozambique, Tanzania, Kenya, Mauritius, Seychelles, Angola, Ghana, Cote d'Ivoire, Nigeria, Egypt, United Arab Emirates, Azerbaijan

**Languages** [For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing]:

	Speaking	Reading	Writing
English	Good	Good	Good
Afrikaans	Good	Good	Fair

## **Employment Record:**

**From:** 1991                      **To:** 1996

**Employer:** University of Cape Town

**Positions held:** Scientific Officer, Senior Scientific Officer

**From:** 2000                      **To:** 2002

**Employer:** South African National Parks

**Positions held:** Marine Coordinator

**From:** 1996                      **To:** Present

**Employer:** Anchor Environmental Consultants

**Positions held:** Director

**From:** 2002                      **To:** Present

**Employer:** University of Cape Town

**Positions held:** Research Associate

## Detailed Tasks Assigned

- Coastal and marine ecosystem services

## Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned

<p><b>Name of assignment or project:</b></p> <p><b>Year:</b></p> <p><b>Location:</b></p> <p><b>Client:</b></p> <p><b>Main project features:</b></p> <p><b>Positions held:</b></p> <p><b>Activities performed:</b></p>	<p><b>Classification of and determine the Resource Quality Objectives for significant water resources within (1) the Berg Water Management Area and (2) the Breede Gouritz Water Management Area (2 separate appointments)</b></p> <p>2016-2018 (ongoing)</p> <p>South Africa</p> <p>Department of Water &amp; Sanitation</p> <p>Project entailed co-ordinating the implementation of estuaries component of the Water Resource Classification System for the Berg Catchment area (seven estuaries) which included identification of the desired characteristics all water resources in the study area), the quantity and quality of water required to achieve different ecological states, and determination of resource quality objectives for each water resource (requirements for water quantity, quality, habitat &amp; biotic integrity to be maintained in aquatic ecosystems)</p> <p>Estuary team leader</p> <p>Management of team of specialists (hydrologists, geomorphologists, hydrodynamic modellers, water quality experts, ecologists), literature review, production of project reports, analysis of data from hydrological and hydrodynamic models, assessment of estuary health based on available data, determination of recommended ecological categories, formulation of recommendations on the ecological flows requirements, and determination of resource quality objectives and monitoring requirements for individual estuaries</p>
<p><b>Name of assignment or project:</b></p> <p><b>Year:</b></p> <p><b>Location:</b></p> <p><b>Client:</b></p> <p><b>Main project features:</b></p> <p><b>Positions held:</b></p> <p><b>Activities performed:</b></p>	<p><b>Ecoclassification and Environmental Water Requirements Assessment for the Lake St Lucia Estuary System</b></p> <p>2015-2016</p> <p>South Africa</p> <p>Department of Water &amp; Sanitation</p> <p>Environmental flow assessment for the Lake St Lucia estuary system including a description and assessment of the health of the system, determination of the recommended ecological category, assessment of the health of the system under the operational flows scenarios, and recommendations on the ecological flows requirements for the estuary, resource quality objectives and monitoring requirements.</p> <p>Team leader</p> <p>Management of team of specialists (hydrologists, geomorphologists, hydrodynamic modelling specialists, sediment transport experts, ecologists), production of project reports, analysis of data from hydrological and hydrodynamic models, assessment of estuary health based on available data, determination of recommended ecological category, formulation of recommendations on the ecological flows requirements for the estuary, resource quality objectives and monitoring requirements</p>
<p><b>Name of assignment or project:</b></p> <p><b>Year:</b></p> <p><b>Location:</b></p>	<p><b>Improving Sustainability of Mangrove Forests and Coastal Mangrove Areas in Liberia through Protection, Planning and Livelihood Creation</b></p> <p>2015</p> <p>Liberia</p>

<b>Client:</b>	Conservation International, GEF
<b>Main project features:</b>	The primary aims of this project were to identify and profile priority mangrove sites in Liberia and establish the necessary conditions for the identification and delineation of two coastal and marine protected areas
<b>Positions held:</b>	Mangrove expert
<b>Activities performed:</b>	Identification and profiling of priority mangrove sites in Liberia, assessment of the social and biological value of the priority mangrove sites including their use by communities, rate of loss, ecosystem services provided, and threats to these ecosystems, provision of recommendations on which mangrove sites should be selected as future project sites based on their use by communities and existing threats stakeholder engagement process in Liberia, development and finalisation of GEF Project document and budget
<b>Name of assignment or project:</b>	<b>Rehabilitation of the Lake St Lucia Estuarine System</b>
<b>Year:</b>	2012-2014
<b>Location:</b>	South Africa
<b>Client:</b>	iSimangaliso Wetland Park Authority
<b>Main project features:</b>	Assessment of the hydrological, hydrodynamic and ecological functioning of the Lake St Lucia Estuarine System and formulation of recommendations for rehabilitation and improved management of the system
<b>Positions held:</b>	Project leader, estuarine specialist
<b>Activities performed:</b>	Management of team of specialists (surveyors, hydrologists, hydrodynamic and sediment modellers, ecologists, socioeconomic specialists), preparation of ecological baseline and response reports, preparation of synthesis report, formulation of management recommendations
<b>Name of assignment or project:</b>	<b>Integrated State of Environment Report (ISoER) for Namibia's Protected Area Network (PAN), and Coastal and Marine Ecosystems</b>
<b>Year:</b>	2013-2014
<b>Location:</b>	Namibia
<b>Client:</b>	Ministry of Environment
<b>Main project features:</b>	Project leader on a study to identify a set of Core National Environmental Indicators Network (NCEIS), Integrated State of Environment Report (ISoER) for Namibia's Protected Area Network (PAN), and Coastal and Marine Ecosystems.
<b>Positions held:</b>	Project leader
<b>Activities performed:</b>	Management of team of specialists (ecologists, resource economists), preparation of Identification Core National Environmental Indicators, preparation of State of Environment Report (ISoER) for Namibia's Protected Area Network (PAN), and Coastal and Marine Ecosystems
<b>Name of assignment or project:</b>	<b>Development of a Water Quality Index and reporting system for the City of Cape Town</b>
<b>Year:</b>	2011
<b>Location:</b>	<b>South Africa</b>
<b>Client:</b>	City of Cape Town
<b>Main project features:</b>	Develop water quality indices and related reporting tools for Inland and coastal waters of the City of Cape Town

<b>Positions held:</b>	Project leader
<b>Activities performed:</b>	Analysis and review of historic water quality data, preparation of baseline water quality report, development of water quality indices for inland and coastal waters of the City of Cape Town
<b>Name of assignment or project:</b>	<b>Situation assessment of the Ruvuma River Basin</b>
<b>Year:</b>	2010-2011
<b>Location:</b>	<b>Tanzania, Mozambique</b>
<b>Client:</b>	BRL/SWECO/SADC
<b>Main project features:</b>	Preparation of the Monograph and Integrated Water Resource Management Strategy for the Ruvuma River.
<b>Positions held:</b>	<b>Aquatic ecologist</b>
<b>Activities performed:</b>	Baseline description of aquatic biodiversity and ecosystem health, based on review + field data collection.
<b>Name of assignment or project:</b>	<b>Evaluation of Pangani Basin flow scenarios under climate change</b>
<b>Year:</b>	2010-2011
<b>Location:</b>	<b>Tanzania</b>
<b>Client:</b>	IUCN/PBWO
<b>Main project features:</b>	Modification of flow scenarios using predicted rainfall under climate change, analysis of ecological, social and economic implications, and presentation to Pangani Basin Water Office
<b>Positions held:</b>	<b>Estuary specialist</b>
<b>Activities performed:</b>	Part of a multidisciplinary team using own flow assessment models to describe outcomes of potential future development scenarios under climate change, including changes in ecosystem characteristics, livelihoods and economic outputs.
<b>Name of assignment or project:</b>	Berg River Baseline Monitoring Programme
<b>Year:</b>	2002-2007
<b>Location:</b>	Western Cape, South Africa
<b>Client:</b>	Department of Water Affairs
<b>Main project features:</b>	The objective of the study was to describe the natural and present state, including the natural variability, of the chemical, physical and biological characteristics of the river and its hydraulically linked systems (i.e. estuary, floodplains and groundwater) most likely to be affected by changes imposed after the construction of the Skuifraam Dam. The study spanned a period of three years and required a multidisciplinary approach involving specialists from a wide range of disciplines including hydrology, hydraulics, fluvial geomorphology, sediment transport, geohydrology, water quality, sociology, macroinvertebrates, fish, avifauna, vegetation and algae.
<b>Positions held:</b>	Team leader, Estuary technical coordinator, Fish specialist
<b>Activities performed:</b>	Overall management of the study, financial control and management, technical coordination and integration of specialist studies, specialist ecological studies on fish, compilation of conceptual model describing ecological functioning of the estuary, field surveys for water quality, invertebrates, fish and birds.

<b>Name of assignment or project:</b> <b>Year:</b> <b>Location:</b> <b>Client:</b> <b>Main project features:</b> <b>Positions held:</b> <b>Activities performed:</b>	<p>Comprehensive Reserve Determination (Flow Assessment) Study on the Berg Estuary</p> <p>2008-2009</p> <p>Western Cape, South Africa</p> <p>Department of Water Affairs</p> <p>The primary objective of the project was to assess the present ecological status of the Berg estuary, and the potential impacts of various alternative flow scenarios on the ecological health and functioning of the system. The project entailed the preparation of a high resolution Digital Elevation Model of the estuary and associated floodplain areas, the setting up of a detailed hydrological and hydrodynamic models for the system, the simulation of present day, naturalised, and a range of operation flow scenarios, and estimating the responses in abiotic (water quality and sediment), biotic (microalgae, macroalgae, vegetation, invertebrates, fish and birds), and socio-economic (subsistence, property, tourism, nursery, and existence value) response variables</p> <p>Team leader, Fish specialist</p> <p>Overall management of the study, financial control and management, technical coordination and integration of specialist studies, specialist ecological studies on fish.</p>
<b>Name of assignment or project:</b> <b>Year:</b> <b>Location:</b> <b>Client:</b> <b>Main project features:</b> <b>Positions held:</b> <b>Activities performed:</b>	<p>Integrated Ecological Economic Model of the East Kleinemonde estuary</p> <p>2008-2009</p> <p>Eastern Cape, South Africa</p> <p>Department of Water Affairs</p> <p>The aim of the project was to develop an integrated ecological-economic model to be used to assess freshwater flow requirements for the East-Kleinemonde estuary, a temporally open-closed estuary on the East coast of South Africa. The model was used to assess impacts of changing freshwater flows on the delivery of goods and services from the estuary.</p> <p>Coordinator for physical dynamics, water quality, microalgae, invertebrate and fish modules of the model</p> <p>The incumbent was responsible for working with and coordinating input from a range of estuary specialists in developing, integrating and calibrating inputs from the various specialists engaged for the development of the model</p>
<b>Name of assignment or project:</b> <b>Year:</b> <b>Location:</b> <b>Client:</b> <b>Main project features:</b> <b>Positions held:</b> <b>Activities performed:</b>	<p>Development and implementation of estuary management plans for the Olifants, Verlorenvlei, Berg, Onrus, Uilkraals, Hartenbos, and Great Brak estuaries (7 individual appointments)</p> <p>2007-2012</p> <p>Western Cape, South Africa</p> <p>Cape Estuaries Management Programme</p> <p>Projects entailed preparing situation assessment reports (description of the present state and importance, management issues and challenges) and strategic management plans for each of the four estuaries, including recommendations for minimum flow requirements, mouth management protocols, zonation plans, visitor management plans, and recommendations for institutional development.</p> <p>Team leader</p> <p>Coordination of field surveys, stakeholder engagement, public meetings, preparation of situation assessment reports, development of a vision and management objectives, and management action plans.</p>

<p><b>Name of assignment or project:</b></p> <p><b>Year:</b></p> <p><b>Location:</b></p> <p><b>Client:</b></p> <p><b>Main project features:</b></p> <p><b>Positions held:</b></p> <p><b>Activities performed:</b></p>	<p>Development of an integrated conservation plan for CAPE estuaries</p> <p>2005-2007</p> <p>Northern, Western and Eastern Cape, South Africa</p> <p>Cape Estuaries Management Programme</p> <p>The project comprised five components including filling estuary biodiversity data gaps (collection and collation of new botanical, fish and bird data for temperate South African estuaries), updating estuary biodiversity importance scores using these new data, developing of a reliable rapid method for preliminary assessment of estuary health, assessment of economic value of estuaries (development and piloting of a rapid method for estimating subsistence, recreational/tourism, nursery and existence value of all estuaries in the study area), and conducting a conservation planning exercise to identify a minimum set of estuary to be included in a national estuary protected area network.</p> <p>Co-leader</p> <p>Literature review and collation of available data, surveys of invertebrates and fish in selected estuaries, updating estuary biodiversity importance scores using new data, conservation planning</p>
<p><b>Name of assignment or project:</b></p> <p><b>Year:</b></p> <p><b>Location:</b></p> <p><b>Client:</b></p> <p><b>Main project features:</b></p> <p><b>Positions held:</b></p> <p><b>Activities performed:</b></p>	<p>GEF MSP Sub-Saharan Africa Project (GF/6010-0016): Development and Protection of the Coastal and Marine Environment in Sub-Saharan Africa.</p> <p>2000-2002</p> <p>Sub-Saharan Africa</p> <p>Advisory Council on the Protection of the Seas (ACOPS)</p> <p>The objectives of the project were (1) to carry out the identification, characterisation and selection priority sources and causes of environmental degradation of marine and coastal areas in South Africa, to assess environmental and socio-economic impacts, and to identify the most appropriate areas and levels for intervention, and (2) development of a series of project proposals forming the basis of a Programme of Interventions to address problems of regional priority in sub-Saharan Africa.</p> <p>National coordinator for South Africa, Regional Technical Coordinator for the Working Group on Sustainable Use of Living Resources</p> <p>Project management, financial control and management, technical coordination, integration of specialist studies, development of technical proposals</p>

## DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

## PROJECT TITLE

Namakwa Sands East OFS Residue Management Project DMRE REF: (WC) 30/5/1/2/2/113 & 114 MR

Specialist:	Hydrogeology		
Contact person:	Sheila Imrie		
Postal address:	SRK, Postnet Suite #206, Private Bag X18, Rondebosch		
Postal code:	7701	Cell:	+27-(0)72-369-7776
Telephone:	+27-(0)21-659-3067	Fax:	+27-(0)21-685-7105
E-mail:	<a href="mailto:simrie@srk.co.za">simrie@srk.co.za</a>		
Professional affiliation(s) (if any)	<i>Pr.Sci.Nat</i>		

Project Consultant:	SRK Consulting		
Contact person:	Matthew Law		
Postal address:	Postnet Suite # 206, Private Bag X18, Rondebosch		
Postal code:	7701	Cell:	082 471 7544
Telephone:	021 659 3060	Fax:	086 530 7003
E-mail:	<a href="mailto:mlaw@srk.co.za">mlaw@srk.co.za</a>		

4.2 The specialist appointed in terms of the Regulations\_

I, Sheila Imrie \_\_\_\_\_, declare that --

General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

SRK Consulting - Certified Electronic Signature

 *S. Imrie*  
548215/44235/Other  
5907-9944-6637-IMRS-10/02/2021  
This signature has been printed digitally. The Author has given permission for its use for this document. The details are stored in the SRK Signature Database

Signature of the specialist:

SRK Consulting

Name of company (if applicable):

10/02/2021

Date:

# Sheila Imrie

## Principal Hydrogeologist / Groundwater Modeller



<b>Profession</b>	Hydrogeologist / Groundwater Modeller
<b>Education</b>	MSc, Hydrogeology (distinction), University of Birmingham, UK, 2006 BSc (Hons) (cum laude), University of Kwa-Zulu Natal, Computer Science, 1997 BSc (summa cum laude), University of Kwa-Zulu Natal, Applied Maths and Computer Science, 1996
<b>Registrations/ Affiliations</b>	Pr Sci Nat (South Africa), 400263/09 (Water Resources and Mathematical Science) Member, GSSA (Groundwater Division) Prince 2 (Project Management) Practitioner
<b>Awards</b>	SRK Chairman's Award 2019 ESI Top MSc Project Award NERC (Natural Environment Research Council) Scholarship Award

### Specialisation

Groundwater numerical flow and transport modelling, groundwater resource evaluation, pumping test analysis, groundwater monitoring, wellfield development and management, project management, disaster risk reduction, software and database development

### Expertise

Sheila has 21 years of experience, with 8 years in IT software development, mathematics and project management, followed by 13 years specialising in water related projects and groundwater numerical modelling. Her expertise includes:

- tailings seepage modeling;
- numerical flow and transport modeling;
- regional groundwater resource assessment;
- applied mathematics and statistics;
- pumping test analysis;
- municipal groundwater supply, groundwater resource evaluation and wellfield development, groundwater management;
- waste disposal site investigations;
- groundwater monitoring;
- database development;
- process development and implementation; and
- project management.

### Employment

<b>2012 – present</b>	SRK Consulting (Pty) Ltd, Principal Hydrogeologist, Cape Town
<b>2009 – 2012</b>	Umvoto Africa, Senior Hydrogeologist, Cape Town
<b>2006 – 2009</b>	Entec UK, Hydrogeologist, Shrewsbury (UK)
<b>1998 – 2005</b>	Unilever, IT Software Developer and Project Manager, Durban (SA) and St David's Park (UK)

### Publications

Publications on groundwater, tailings facilities and disaster risk reduction

### Languages

English – read, write, speak  
Afrikaans – read, write (fair)



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


### DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEAT/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 718, 2009

### PROJECT TITLE

Surface Water Impact Assessment and Stormwater Management Plan for Tronox Namakwa Sands East OFS Project

Specialist:	SRK Consulting		
Contact person:	Xanthe Margaret Adams		
Postal address:	Albion Spring, 183 Main Road, Rondebosch		
Postal code:	7700	Cell:	083 282 7974
Telephone:	021 659 3060	Fax:	
E-mail:	xadams@srk.co.za		
Professional affiliation(s) (if any)	ECSA		

Project Consultant:			
Contact person:			
Postal address:			
Postal code:		Cell:	
Telephone:		Fax:	
E-mail:			

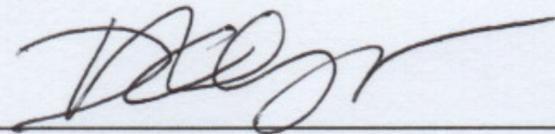
XMA

4.2 The specialist appointed in terms of the Regulations\_

I, Xanthe Margaret Adams, declare that --

General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.



Signature of the specialist:

SRK Consulting

Name of company (if applicable):

24/09/2020

Date:

XMA

## Xanthe Adams (Nee Mayer)

### Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead



<b>Profession</b>	Principal Environmental Engineer
<b>Education</b>	MSc, Environmental Engineering, Colorado School of Mines, USA, 2011 BSc (Hons), Environmental Engineering, University of Western Australia, Australia, 2002
<b>Registrations/ Affiliations</b>	Professional Engineer (Civil), ECSA (South Africa), 20150490

#### Specialisation

Water with a particular focus on Remediation, Mine Closure, Water Treatment, Stormwater and Flood Studies.  
Internal Innovation - Technical Lead

#### Expertise

Xanthe Adams (previously Mayer) has been involved in environmental engineering for the past 17 years. Her expertise includes:

- remediation and water treatment: MSc in water treatment, water treatment plant construction and design oversight, conceptual design of treatment plants, design of remediation measures groundwater,
- mine closure: civil engineering design for mine closure, contract management, construction monitoring;
- floods, stormwater, hydrology: stormwater design and management, surface water hydrology, floodplain modelling with GIS and HEC-RAS, mine water balances, mine water management, water quality assessments;
- Innovation: Technical lead for SRK innovation programme;
- land fill closure: civil engineering design for land fill closure;
- software: Excel-VBA application development, ArcGIS for developers, optimization coding, numerical solver development, experience with C++;
- other: project management, training, EIA studies, ecological indicator assessments and data management;
- hydrogeology and field skills: hydraulic testing using IPI SWPS wireline packer system, deep well piezometer installations (down to 200m), vibrating wire piezometer installations, hydrogeological assessments;
- GIS: geographical analysis, HEC-geoRAS;
- Innovation Technical Lead and support.

#### Employment

<b>2016 – present</b>	SRK Consulting (Pty) Ltd, Senior Environmental Engineer, Cape Town
<b>2012 – 2015</b>	SRK Consulting (Pty) Ltd, Senior Environmental Engineer, Johannesburg
<b>2009 – 2011</b>	Colorado School of Mines, Master's Program, Env. Sci. & Eng (Water Treatment)
<b>2005 – 2009</b>	SRK Consulting (Pty) Ltd, Environmental Engineer South Africa & Denver (1 year)

#### Publications

*Stream salinity status and trends in south-west Western Australia*, Department of Environment, Report No. SLUI 38, (2005)  
*Coalbed methane produced water screening tool for treatment technology and beneficial use*, Journal of unconventional oil and gas resources 5 (2014) 22-34.

#### Languages

English – read, write, speak (Excellent)  
Afrikaans – read, write, speak (Basic)

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# **Xanthe Adams (Nee Mayer)**

## **Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead**

### **Publications**

1. Mayer, XM, Ruprecht, JK & Bari, MA (2005), *Stream salinity status and trends in south-west Western Australia*, Department of Environment, Report No. SLUI 38
2. Plume, M., Debroux, J., Taffler, D., Graydon, J., Mayer, X., Dahm, K., Hancock, N., Guerra, K., Xu, P., Drewes, J. and Cath, T., (2014), *Coalbed methane produced water screening tool for treatment technology and beneficial use*, Journal of unconventional oil and gas resources 5, 22-34.

### **Conference proceedings**

1. Adams, XM, Mayne, R. & Engelsman, B. (2018), *Mine waste remediation as a stepping stone for new contractors in emerging economies*, Tailings and Mine Waste Conference, Keystone Colorado, October 2018

## Xanthe Adams (Nee Mayer)

### Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead

#### Key Experience: Closure (& Combined Studies)

Location: Mpumalanga, South Africa  
 Project duration & year: Ongoing, 2020 - present  
 Client: ARM  
 Name of Project: Closure design and planning - **surface water management** – options analysis  
 Project Description: Options analysis to meet quality and quantity criteria at closure. Analysis included analysis of **water treatment** options for pit lake water and water exiting tailings dam. Treatments options included technologies such as reverse osmosis, co-precipitation of sulfate and metal, engineered wetlands and non-commercialised processes. Non-treatment options included accelerated pit flooding, controlled releases, interception trenches and stormwater diversions.  
 Job Title and Duties: Project Manager and Technical Lead  
 Value of Project: Confidential

Location: Angola  
 Project duration & year: 3 Months  
 Client: Angola Environmental Services (AES)  
 Name of Project: Closure plan for the Soyo Landfill  
 Project Description: Design and closure planning for a landfill site receiving waste from the oil industry. The report was requested for compliance with government requirements.  
 Job Title and Duties: Oversight of design engineer  
 Value of Project: R250 000

Location: Angola  
 Project duration & year: 3 Months  
 Client: Angola Environmental Services (AES)  
 Name of Project: Closure plan for the Cacuaco Landfill  
 Project Description: Design and closure planning for a landfill site receiving waste from the oil industry. The report was requested for compliance with government requirements.  
 Job Title and Duties: Design engineer (**stormwater**) and report writing  
 Value of Project: R250 000

Location: Johannesburg, South Africa  
 Project duration & year: 3 Months  
 Client: Enviroserv  
 Name of Project: Holfontein Closure design  
 Project Description: Closure design for a hazardous waste facility including a cost estimate for the design.  
 Job Title and Duties: Design engineer for **stormwater** and report writing  
 Value of Project: R250 000

Location: Burgersfort Area, Limpopo Province, South Africa  
 Project duration & year: 1 years, 2016 to present (ongoing)  
 Client: MINTEK  
 Name of Project: Design and **procurement documentation** for closure of a derelict asbestos Mine  
 Project Description: The project involved the conceptualisation and design of closure measures for a derelict asbestos mines with a construction value of over R80 Million. Work also involved the compilation of tender documents including design drawings and engineering specifications as well as contract administration during construction. Remediation measures included stabilisation of dumps, cover of

## Xanthe Adams (Nee Mayer)

### Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead

Job Title and Duties:	dumps, closure of adits and shafts and erosion control via channels and gabion walls. Design engineer. Specific duties included writing specifications, overseeing integration of specifications and client
Value of Project:	Confidential
Location:	Burgersfort Area, Limpopo Province, South Africa
Project duration & year:	3 years, 2016 to 2019
Client:	MINTEK
Name of Project:	Design, procurement documentation and <b>construction monitoring</b> for closure of a derelict asbestos Mine
Project Description:	The project involved the conceptualisation and design of closure measures for a derelict asbestos mines with a construction value of over R80 Million. Work also involved the compilation of tender documents including design drawings and engineering specifications as well as contract administration during construction. Remediation measures included stabilisation of dumps, cover of dumps, closure of adits and shafts and erosion control via channels and gabion walls.
Job Title and Duties:	Design engineer. Specific duties included writing specifications, overseeing integration of specifications and client
Value of Project	Confidential
Location:	Kuruman area, Northern Cape, South Africa
Project duration & year:	6 months, 2015 to 2017
Client:	MINTEK
Name of Project:	Bosrand Derelict Asbestos Mine - Conceptual Design and <b>Tender Documentation</b> Compilation
Project Description:	The project involved conceptual design for a large derelict asbestos mine in the Northern Cape of South Africa. The final construction cost is expected to be above R50 million. Work also involved the compilation of tender documents including design drawings and engineering specifications. Remediation measures included stabilisation of dumps, cover of dumps, closure of shafts and drainage line remediation and stabilisation to limit erosion.
Job Title and Duties:	Design engineer and logistical coordinator. Specific duties included analysis, conceptual design, development of technical specifications, management of compilation of procurement documents, management of sub-specialists (e.g. vegetation specialist) and client liason.
Value of Project:	Confidential
Location:	Mafeke, Limpopo Province, South Africa
Project duration & year:	2 years, 2014 to 2016
Client:	MINTEK
Name of Project:	Design, <b>construction monitoring and contract administration</b> for Gamadiba derelict asbestos Mine
Project Description:	The project involved the conceptualisation, design and construction monitoring of closure measures for derelict asbestos mines with a construction value of over R7 Million. Work also involved the compilation of tender documents including design drawings and engineering specifications as well as contract administration during construction. Remediation measures included stabilisation of dumps, cover of dumps, closure of adits and shafts and erosion control via channels and gabion walls.
Job Title and Duties:	Project Manager, Design engineer and Engineer's Representative as per GCC contract. Specific duties included analysis and modelling, conceptual and detailed design, management of compilation of procurement documents and bills of quantities, contract administration, construction monitoring, client and contractor liaison
Value of Project:	Confidential

## **Xanthe Adams (Nee Mayer)**

### **Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead**

Location:	Several locations in the Limpopo province and the Northern Cape of South Africa
Project duration & year:	3 year, 2013 to present (ongoing)
Client:	MINTEK
Name of Project:	Assistance and review of various components of design, <b>construction monitoring and contract administration</b> for various asbestos mines
Project Description:	The projects involved the conceptualisation, design, construction monitoring and contract administration for closure measures for derelict asbestos mines. Work also involved the compilation of tender documents including design drawings and engineering specifications as well as contract administration during construction. Remediation measures included stabilisation of dumps, cover of dumps, closure of adits and shafts and erosion control..
Job Title and Duties:	Involved in project conceptualisation conceptual design, periodic assistance to Engineer's Representative during construction monitoring, completion inspections, review of closure concepts and review of contract administration documents (under the GCC contract)
Value of Project:	Confidential
Location:	Mafeke, Limpopo Province, South Africa
Project duration & year:	6 months, 2013
Client:	MINTEK
Name of Project:	Concept design for rehabilitation of the Cork derelict asbestos mine
Project Description:	The project involved the development of a closure concept for a derelict asbestos mine in a steep, remote region of the Limpopo province.
Job Title and Duties:	Project Manager and design engineer
Value of Project:	Confidential

## **Xanthe Adams (Nee Mayer)**

### **Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead**

<b>Key Experience:</b>	<b>Stormwater and flood studies</b>
Location:	Zimbabwe
Project duration & year:	3 – 6 Months, 2020
Client:	SMC
Name of Project:	SMC Tailings Design - Stormwater Designs
Project Description:	Floodlines and design of a stormwater diversion channel
Job Title and Duties:	Hydrologist and Engineer
Value of Project:	R 100 000 - R 250 000
Location:	Limpopo, South Africa
Project duration & year:	3 - 6 Months, 2019
Client:	Anglo American Platinum
Name of Project:	Blinkwater wetland PFS-B Design
Project Description:	Engineering design in order to protect a wetland next to a proposed tailings dam at the mine. Designs centred around stormwater control and diversion of clean water to the wetland to ensure wetland vegetation received adequate flows without erosion being caused.
Job Title and Duties:	Project manager, Hydraulic Engineer
Value of Project:	R 250 000 - R 500 000
Location:	Western Cape, South Africa
Project duration & year:	0 - 3 Months 2019
Client:	Abland Pty Ltd
Name of Project:	Vergenoegd P468 Flood Study
Project Description:	Floodline study to delineate pre and post development floodline and estimate required flood protection berm heights. Study included a Hec-HMS hydrological study.
Job Title and Duties:	Engineer, Project Manager
Value of Project:	R 100 000 - R 250 000
Location:	Northern Cape, South Africa
Project duration & year:	0 - 3 months, 2019
Client:	Gransolar (Pty) Ltd
Name of Project:	Greefspan Solar Water Source Plan and SWMP
Project Description:	Water source plan as well as a stormwater management plan for construction and operation at a solar power facility
Job Title and Duties:	Project manager, report writing
Value of Project:	R 50 000 - R 100 000
Location:	Stellenbosch, Western Cape, South Africa
Project duration & year:	1 year, 2018
Client:	Livia Winery
Name of Project:	Floodline and flood mitigation plan for development
Project Description:	The project involved modelling current flood conditions, developing a flood mitigation plan with the architect, modelling the flood mitigation measures, providing a flood management plan and meeting with the City of Cape Town.
Job Title and Duties:	Modelling, engineering, reporting
Value of Project:	In Range R100 000 – R250 000
Location:	Noordhoek, Western Cape, South Africa
Project duration & year:	2 months
Client:	EOH
Name of Project:	Noordhoek flood study
Project Description:	Floodline modelling
Job Title and Duties:	Modelling
Value of Project:	< R 50 000

## **Xanthe Adams (Nee Mayer)**

### **Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead**

Location:	Western Cape
Project duration & year:	3 months, 2017
Client:	Go-Projects
Name of Project:	Floodline study for Firgrove Property
Project Description:	Several floodline delineations for a commercial property
Job Title and Duties:	Project management and technical oversight
Value of Project:	About R40 000
Location:	Western Cape
Project duration & year:	9 months, 2017
Client:	DEADP (Provincial Government)
Name of Project:	State of the Environment Report – Inland Water
Project Description:	Analysis and compilation of the state of the Inland Water Section of the State of the Environment report for the Western Cape.
Job Title and Duties:	Project management and technical oversight
Value of Project:	Confidential
Location:	Malawi
Project duration & year:	3 months, 2016
Client:	Confidential
Name of Project:	M1 EISA
Project Description:	EISA for M1 road in Malawi in line with World Bank/IFC requirements
Job Title and Duties:	Manager of impact assessment for integrated water aspects
Value of Project:	About R200,000
Location:	Lumbumbashi, Democratic Republic of the Congo
Project duration & year:	6 months, September 2013 – Present (Ongoing)
Client:	Trafigura
Name of Project:	Project management of hydrology, stormwater design and construction
Project Description:	Stormwater design for a railway siding in line with Regulation 704. Design included drains, sumps, silt traps, oil and grease traps and a dirty water retention dam.
Job Title and Duties:	Manager of water engineering for the project.
Value of Project:	About R500,000
Location:	Gauteng, South Africa
Project duration & year:	6 years, 2012 - 2019
Client:	AECI Modderfontein
Name of Project:	AECI Modderfontein Water Balances
Project Description:	The project involved the compilation of a water balance annually since 2012 for water use license compliance. A further operational water balance was also developed with the aim of identifying the major sources of salt load within the industrial complex which included the development of specialised software.
Job Title and Duties:	Project manager, water balance developer.
Value of Project:	< R250 000 /year
Location:	Kathu, South Africa
Project duration & year:	1 months, 2016
Client:	Eskom
Name of Project:	WULA Application Kathu
Project Description:	Compilation of a WULA application for power lines near Kathu in the Northern Cape. The powerlines crossed a drainage line at one point.
Job Title and Duties:	Floodline delineation
Value of Project:	R25 000
Location:	Gauteng, South Africa
Project duration & year:	2 months, 2012

## **Xanthe Adams (Nee Mayer)**

### **Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead**

Client: AECI Modderfontein  
 Name of Project: AECI Stormwater management master plan  
 Project Description: The project involved the development of a stormwater master plan in line with DWA best practice guidelines in order to fulfil water use license obligations.  
 Job Title and Duties: Engineer conducting data collection, analysis, stormwater master designs and report compilation  
 Value of Project: R200,000

Location: Vaal Catchment, South Africa  
 Project duration & year: 9 months, 2007  
 Client: Department of Water Affairs  
 Name of Project: Regional water reuse strategy for the Vaal Catchment  
 Project Description: Identification and investigation of large-scale water reuse projects in the Vaal River Basin, South Africa. This large project involved collecting data from mines and industries around the Vaal Basin, conducting interviews at mines, negotiating with government and industry on various water reuse options, collation of a report recommending promising options and a presentation to government recommending options to be pursued. The study was part of a larger Vaal River Basin strategy study.  
 Job Title and Duties: Engineer, data collection and analysis, identification of water reuse option, liaising between DWA and industries/mines and report compilation  
 Value of Project: Unknown

Location: South Africa  
 Project duration & year: 2006 - 2016  
 Client: Various  
 Name of Project: Floodlines, Stormwater management plans, stormwater design and attenuation plans, specialist hydrological studies.  
 Project Description: Stormwater management plans for WUL's and EIAs. Floodlines for housing estates and to support EIAs. Specialist hydrological studies for EIAs. Designs included attenuation facilities, diversion canals and dams. Analysis included flow and storage analysis, deterministic modelling, hydrograph analysis and quantitative comparison of options.  
 Job Title and Duties: Engineer, hydrological analysis, design, management  
 Value of Project: About R20,000 – R200,000

## Xanthe Adams (Nee Mayer)

### Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead

#### **Key Experience: Remediation and water treatment**

**Location:** KwaZulu-Natal  
**Project duration & year:** 2015 - 2020  
**Client:** AECI  
**Name of Project:** Options analysis, conceptual design, technical specifications and bill of quantities for an ex-situ treatment of contaminated water  
**Project Description:** The project identified, compared and costed different options for the treatment of hydrocarbon contaminated water via an ex-situ treatment plant. Preliminary design calculations were also included for major cost drivers. Later phases included specifications and procurement documentation  
**Job Title and Duties:** Engineering design, costing and options analyses  
**Value of Project:** > R 1 000 000 (Not including construction value)

**Location:** Western Cape, South Africa  
**Project duration & year:** 6 Months, 2018 - 2019  
**Client:** CSIR  
**Name of Project:** CSIR Off-grid Water Supply  
**Project Description:** Design of a water supply and treatment system for two CSIR facilities using borehole water and water demand management. Project began with an options analysis and borehole feasibility. Treatment was then designed and procurement documents compiled.  
**Job Title and Duties:** Project manager, water treatment  
**Value of Project:** R 100 000 - R 250 000

**Location:** Gauteng, South Africa  
**Project duration & year:** 2 months, 2016  
**Client:** ABB South Africa  
**Name of Project:** High level options analysis of water treatment options for contamination  
**Project Description:** High level options analysis for treatment of water from contaminated groundwater which the municipal authorities refused to accept even after treatment. Options considered included treatment options such as anoxic limestone drains, synergistic options such as use of an impacted wetland already being used for treatment and non-technical options such as land-ownership options. Permitting advise was also included.  
**Job Title and Duties:** Project manager  
**Value of Project:** R50,000

**Location:** Cape Town  
**Project duration & year:** 2016, 2 months  
**Client:** Confidential  
**Name of Project:** Confidential  
**Project Description:** Design and installation of replacement boreholes  
**Job Title and Duties:** Engineering design and drawings  
**Value of Project:** Confidential

**Location:** Gauteng, South Africa  
**Project duration & year:** 1 year, 2013  
**Client:** ABB South Africa  
**Name of Project:** Sump water treatment design and construction  
**Project Description:** The project dealt with poor quality water collecting in sumps on an industrial property. The project included technical assistance with contract negotiations, development of an RFQ for design and construction of a water treatment plant and is currently moving into the tender adjudication phase.  
**Job Title and Duties:** Project management, project conceptualisation, RFQ compilation.  
**Value of Project:** R900,000

## Xanthe Adams (Nee Mayer)

### Engineer (Closure, Treatment, Floods)/ Innovation Technical Lead

Location: USA  
 Project duration & year: 1.5 years, 2009 – 2010  
 Client: RPSEA  
 Name of Project: Water treatment selection tool and produced water tool development  
 Project Description: Design of a Visual Basic-Excel Application to select and optimize water treatment trains based on input water quality and desired final use. The module is named the *Treatment Selection Tool (TSM)* and is part of a larger integrated program the *Produced Water Tool (PWT)*. The code involved complex permutation and optimization procedures. The module has undergone beta-testing and was to be made publically via a free internet download.  
 Job Title and Duties: Problem formulation, solution and programming, software integration.  
 Value of Project: >R500,000

#### **Key Experience: Integrated software development**

Location: Limpopo, South Africa  
 Project duration & year: 2016 – 2017  
 Client: Modikwa Platinum Mine  
 Name of Project: Environmental Tracking System Software  
 Project Description: Development of an VBA-Excel  
 Job Title and Duties: Software development  
 Value of Project: Confidential

Location: Johannesburg, South Africa  
 Project duration & year: 2016 – Present  
 Client: Acacia  
 Name of Project: Stormwater Management Plan Templates for Tenants  
 Project Description: Configuration of an online template using SRK software to allow Tenants to automatically generate stormwater water management plans. The project included training of the tenants.  
 Job Title and Duties: Software specification, management, training.  
 Value of Project: R40 000

## DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

- (1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and
- (2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

### PROJECT TITLE

Namakwa Sands East OFS Residue Management Project DMRE REF: (WC) 30/5/1/2/2/113 & 114 MR

Specialist:	SRK Consulting		
Contact person:	Sue Reuther		
Postal address:	Postnet Suite # 206, Private Bag X18, Rondebosch		
Postal code:	7701	Cell:	084 424 5197
Telephone:	021 659 3060	Fax:	086 530 7003
E-mail:	sreuther@srk.co.za		
Professional affiliation(s) (if any)	CEAPSA, IAIAAsa		

Project Consultant:	SRK Consulting		
Contact person:	Matthew Law		
Postal address:	Postnet Suite # 206, Private Bag X18, Rondebosch		
Postal code:	7701	Cell:	082 471 7544
Telephone:	021 659 3060	Fax:	086 530 7003
E-mail:	mlaw@srk.co.za		

4.2 The specialist appointed in terms of the Regulations\_

I, Sue Reuther \_\_\_\_\_, declare that --

General declaration:

I act as the independent specialist in this application;  
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;  
I declare that there are no circumstances that may compromise my objectivity in performing such work;  
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;  
I will comply with the Act, Regulations and all other applicable legislation;  
I have no, and will not engage in, conflicting interests in the undertaking of the activity;  
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;  
all the particulars furnished by me in this form are true and correct; and  
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

SRK Consulting - Certified Electronic Signature  
  
548215/44242/Document  
3785-7987-5919-REBT-17/02/2021  
This signature has been printed digitally. The Author has given permission for its use for this document. The details are stored in the SRK Signature Database

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Signature of the specialist:

SRK Consulting (South Africa) (Pty) Ltd

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Name of company (if applicable):

17 February 2021

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Date:

# Sue Reuther

## Principal Consultant and Partner



<b>Profession</b>	Environmental Consultant
<b>Education</b>	MPhil (Environmental Management), University of Cape Town, 2004 BSc (Hons), (Economics), University College London, 2001
<b>Registrations/ Affiliations</b>	Registered Environmental Assessment Practitioner (EAP): Number 2020/425 Member, IAIAAsa
<b>Awards</b>	None

**Specialisation** Environmental impact assessment, economic and resource economic impact assessment, environmental control officer, state of the environment reporting (including environmental management frameworks), visual impact assessment.

**Expertise** Sue Reuther has been involved in environmental assessment sector in Africa, Latin America, Asia and the Middle East for the past 18 years. Her core expertise includes:

- Environmental impact assessment and management projects, including IFC / PS compliant processes, strategic assessments and spatial planning for projects in the mining, infrastructure, oil and gas and coastal and marine sectors in South Africa, Africa and South America;
- Environmental and Social Due Diligence (ESDD) reviews against Good International Industry Practice (GIIP) in Africa and the Middle East;
- Economic and socio-economic specialist studies for projects in the infrastructure, mining and energy sectors in Africa, South America and Asia; and
- Visual impact assessments for mining projects and energy infrastructure.

She has 2 years of previous experience in strategy and financial research and assessment (London).

**Employment**

<b>2005 - present</b>	SRK Consulting (Pty) Ltd, Associate Partner and Principal Environmental Consultant
<b>2003 - 2004</b>	University of Cape Town (UCT), MPhil Environmental Management
<b>2001 - 2002</b>	JPMorgan Chase, Equity Research Analyst, London
<b>2000 (Jul - Oct)</b>	Chase Manhattan Bank, Financial Institutions Analyst, London
<b>1998 - 2001</b>	University College London (UCL), BSc (Honours) Economics, London

**Publications** A number of publications, in *Development Southern Africa* and for JPMorgan.  
I have been interviewed and quoted in numerous environmental and sustainability articles published in the press and sector specific journals.  
I hold guest lectures to UCT 4<sup>th</sup> year / post-graduate students on EIA/EMF since 2014.

**Languages**

- English – read, write, speak (Excellent)
- German– read, write, speak (Excellent)
- French – read, write, speak (Good)
- Spanish – read, write, speak (Good)
- Portuguese – read (Good)
- Dutch – read, speak (Good)
- Afrikaans – read, understand (Good)

## Sue Reuther

### Principal Consultant and Partner

#### **Key Experience: Economic, social and visual impact assessments**

Location: Confidential  
 Project duration & year: November 2020 – January 2021  
 Client: Vale  
 Name of Project: Development of closure strategy for Confidential Mine  
 Project Description: Development of socio-economic closure strategy for Confidential Mine  
 Job Title and Duties: Economic specialist  
 Value of Project: Confidential

Location: Iraq  
 Project duration & year: September 2020 - ongoing  
 Client: RSK  
 Name of Project: Basra Master Plan  
 Project Description: Drafting of town master plans for sections of Basra, Zubair and Nashwa  
 Job Title and Duties: Modelling of economic and population dynamics to inform master plans  
 Value of Project: USD15,000

Location: Western Cape, South Africa  
 Project duration & year: October 2020 – ongoing  
 Client: CSIR  
 Name of Project: Kwagga WEF SIAs  
 Project Description: Social impact assessment for three Kwagga Wind Energy Facilities near Beaufort West  
 Job Title and Duties: Social specialist  
 Value of Project: R100,000

Location: Western Cape, South Africa  
 Project duration & year: September 2020 – ongoing  
 Client: Department of Environmental Affairs and Development Planning (DEA&DP)  
 Name of Project: Papekuils Wetland Valuation  
 Project Description: Ecosystem Services Assessment and Valuation of Papekuils Wetland, including hydrological and wetland ecology studies  
 Job Title and Duties: Economic Modeller and Project Manager  
 Value of Project: R500,000

Location: Western Cape, South Africa  
 Project duration & year: March 2020 – ongoing  
 Client: Eskom  
 Name of Project: Visual Screening and Baseline of Sterrekus - Kappa Transmission Line Corridors  
 Project Description: Visual screening and compilation of baseline to inform the selection of the preferred Eskom Kappa – Sterrekus transmission line corridor  
 Job Title and Duties: Visual specialist  
 Value of Project: R90,000

Location: Western Cape, South Africa  
 Project duration & year: March 2020 – ongoing  
 Client: Eskom  
 Name of Project: Social Screening and Baseline of Kappa Transmission Line Corridor  
 Project Description: Socio-economic screening and baseline to inform the selection of the preferred Eskom Kappa – Sterrekus transmission line corridor  
 Job Title and Duties: Social specialist  
 Value of Project: R120,000

## Sue Reuther

### Principal Consultant and Partner

#### **Key Experience: Economic, social and visual impact assessments**

Location: Western Cape, South Africa  
 Project duration & year: June 2020 – ongoing  
 Client: Aecom  
 Name of Project: Social Impact Assessment of Kayamandi Bulk Water Pipeline  
 Project Description: SIA for a bulk water pipeline through an informal settlement, Stellenbosch Municipality  
 Job Title and Duties: Social specialist  
 Value of Project: R80,000

Location: Mpumalanga, South Africa  
 Project duration & year: June 2020 – ongoing  
 Client: Anglo American Coal South Africa  
 Name of Project: Visual Impact Assessment of SACE Lifex Project  
 Project Description: VIA for proposed SACE Lifex Project at the Khwezela Colliery Operations, South Africa  
 Job Title and Duties: Visual specialist  
 Value of Project: R105,000

Location: West Coast, South Africa  
 Project duration & year: April 2020 – ongoing  
 Client: Tronox Mineral Sands  
 Name of Project: Visual Impact Assessment of Tronox East OFS RSF and STF  
 Project Description: VIA for proposed In-Pit Residue Storage Facility (RSF) and Sand Tailings Facility (STF) for the Namakwa Sands East Mine Orange Feldspathic Sands (East OFS) Project  
 Job Title and Duties: Visual specialist  
 Value of Project: R95,000

Location: West Coast, South Africa  
 Project duration & year: November 2019 – February 2020  
 Client: Tronox Mineral Sands  
 Name of Project: Visual Screening of Tronox East OFS RSF and STF  
 Project Description: Visual Screening for site selection process for the Sand Tailings Facility (STF) and the preferred In-Pit Residue Storage Facility (RSF) for the Namakwa Sands East Mine Orange Feldspathic Sands (East OFS) Project  
 Job Title and Duties: Visual specialist  
 Value of Project: R35,000

Location: Kyrgyzstan  
 Project duration & year: 2019  
 Client: SRK NA, on behalf of Centerra Gold  
 Name of Project: Kumtor Gold Mine Conceptual Closure Plan Update  
 Project Description: Input into and review of economic impact assessment  
 Job Title and Duties: Economic Specialist  
 Value of Project: \$23 000

Location: South Africa  
 Project duration & year: 2019  
 Client: KSEMS, on behalf of SANRAL  
 Name of Project: Upgrade of National Road 3 Section 3 Pietermaritzburg  
 Project Description: Social Impact Assessment  
 Job Title and Duties: Social Specialist

## Sue Reuther

### Principal Consultant and Partner

**Key Experience: Economic, social and visual impact assessments**

Value of Project: R86 000

Location: Ethiopia  
 Project duration & year: 2018 – suspended in Dec 2019  
 Client: Allied Gold Corp  
 Name of Project: Dish Mountain Gold Project ESIA  
 Project Description: Economic specialist study for the Dish Mountain Gold Project  
 Job Title and Duties: Economic Specialist  
 Value of Project: \$11 000

Location: Sierra Leone  
 Project duration & year: 2018  
 Client: Sierra Rutile Limited  
 Name of Project: SRL Area 1 ESHIA  
 Project Description: Economic input into the Environmental, Social and Health Impact Assessment of the SRL Area 1 Mine  
 Job Title and Duties: Economic specialist  
 Value of Project: R35 000

Location: Cape Town, South Africa  
 Project duration & year: March 2017 – September 2017  
 Client: Serina Kaolin  
 Name of Project: Chapman’s Peak Estate  
 Project Description: Update of socio-economic impact assessment for proposed Chapman’s Peak Estate  
 Job Title and Duties: Socio-economic specialist  
 Value of Project: R45 000

Location: Uganda and Tanzania  
 Project duration & year: February 2016 – December 2017  
 Client: RSK  
 Name of Project: EACOP pipeline  
 Project Description: Economic specialist component of three socio-economic impact assessments for the East African Crude Oil Pipeline (EACOP)  
 Job Title and Duties: Economic specialist  
 Value of Project: \$40 000

Location: South Africa  
 Project duration & year: 2016 – 2017  
 Client: Eskom  
 Name of Project: Eskom Generation Fleet Renewal Project  
 Project Description: Economic input into socio-economic study for Eskom Generation Fleet Renewal Project  
 Job Title and Duties: Economic specialist  
 Value of Project: R25 000

Location: Doringbaai, South Africa  
 Project duration & year: February 2016 – June 2016  
 Client: Tronox Mineral Sands  
 Name of Project: Doringbaai Abalone Farm  
 Project Description: Socio-economic impact assessment for the Doringbaai Abalone Farm  
 Job Title and Duties: Socio-economic specialist  
 Value of Project: R85 000

## Sue Reuther

### Principal Consultant and Partner

#### **Key Experience: Economic, social and visual impact assessments**

Location: Hermanus, South Africa  
 Project duration & year: January 2016 – December 2016  
 Client: Western Cape Department of Transport and Public Works  
 Name of Project: Hermanus CBD Bypass  
 Project Description: Socio-economic impact assessment for the Hermanus CBD Bypass Project  
 Job Title and Duties: Socio-economic specialist  
 Value of Project: R85 000

Location: Cape Town, South Africa  
 Project duration & year: January 2016 – December 2017  
 Client: River Club  
 Name of Project: River Club Redevelopment  
 Project Description: Socio-economic impact assessment for the redevelopment of the River Club, Cape Town  
 Job Title and Duties: Socio-economic specialist  
 Value of Project: R77 000

Location: Bas Congo Province, Democratic Republic of Congo  
 Project duration & year: October 2013 – 2014  
 Client: PPC Cement  
 Name of Project: PPC Barnet Songololo Cement Project ESIA / ESMP update  
 Project Description: Update of the ESIA and ESMP for the PPC Barnet Songololo cement plant and quarry in Bas Congo Province to ensure compliance of the documents with IFC standards and other lender requirements  
 Job Title and Duties: Economic specialist – Update of baseline and impact assessment sections relating to economic and ecosystem services impacts  
 Value of Project: R80 000

Location: Bas Congo Province, Democratic Republic of Congo  
 Project duration & year: May 2013 – June 2013  
 Client: Nyumba Ya Akiba Sprl  
 Name of Project: Nyumba Ya Akiba ESIA / EMP update  
 Project Description: Update of the ESIA and EMP for the Nyumba Ya Akiba cement plant in Bas Congo Province to ensure compliance of the documents with IFC standards and other lender requirements  
 Job Title and Duties: Economic specialist – Update of baseline and impact assessment sections relating to economic and ecosystem services impacts  
 Value of Project: R94 000

Location: Limpopo, South Africa  
 Project duration & year: March 2013 – April 2013  
 Client: Sasol  
 Name of Project: Limpopo West coal mine EIA  
 Project Description: Socio-economic specialist study for proposed mine development  
 Job Title and Duties: Economic Specialist  
 Value of Project: R90 000

Location: Cape Town  
 Project duration & year: March 2013 – October 2014  
 Client: Airports Company South Africa (ACSA)  
 Name of Project: ACSA Runway Realignment  
 Project Description: Socio-economic baseline study and Spatial Analysis study for proposed runway realignment at Cape Town International Airport

## Sue Reuther

### Principal Consultant and Partner

#### **Key Experience: Economic, social and visual impact assessments**

Job Title and Duties: Socio-economic Specialist  
 Value of Project: R140 000

Location: Democratic Republic of Congo  
 Project duration & year: August 2012 – December 2012  
 Client: FCX / PDG  
 Name of Project: Kisanfu EIA  
 Project Description: Socio-economic specialist study for proposed copper mine  
 Job Title and Duties: Economic Specialist  
 Value of Project: R50 000

Location: Victoria West, Northern Cape, South Africa  
 Project duration & year: March 2012  
 Client: AF-ROM Energy  
 Name of Project: Brakpoort Solar Farm  
 Project Description: Socio-economic specialist study for proposed 75 MW solar farm  
 Job Title and Duties: Specialist  
 Value of Project: R50 000

Location: Craddock, Eastern Cape, South Africa  
 Project duration & year: March 2012  
 Client: AF-ROM Energy  
 Name of Project: Dobbin Solar Farm  
 Project Description: Socio-economic specialist study for proposed 75 MW solar farm  
 Job Title and Duties: Specialist  
 Value of Project: R50 000

Location: Suriname  
 Project duration & year: January 2012 – July 2012  
 Client: Staatsolie Maatschappij Suriname  
 Name of Project: Staatsolie Refinery Expansion Project Community Relations Plan (CRP)  
 Project Description: CRP for communities potentially affected by the refinery expansion  
 Job Title and Duties: Project Consultant  
 Value of Project: US\$20 000

Location: Mozambique  
 Project duration & year: May 2011 – February 2012  
 Client: Vale  
 Name of Project: Evate Phosphate Mine VIA  
 Project Description: Visual Impact Assessment of proposed phosphate mine in Monapo district  
 Job Title and Duties: Project Manager and Specialist  
 Value of Project: \$15 000

Location: Senegal  
 Project duration & year: September 2010  
 Client: SRK Canada  
 Name of Project: Sabodala Gold Mine VIA  
 Project Description: Visual Impact Assessment of proposed new gold mine  
 Job Title and Duties: Project Reviewer  
 Value of Project: \$70 000

Location: Pakistan  
 Project duration & year: March 2010

## Sue Reuther

### Principal Consultant and Partner

#### **Key Experience: Economic, social and visual impact assessments**

Client:	SRK Cardiff
Name of Project:	Reko Diq Gold and Copper Mine EIA
Project Description:	Input into review of Economic Impact Assessment
Job Title and Duties:	Project Adviser
Value of Project:	R50 000
Location:	Paarl, Western Cape
Project duration & year:	September 2009 – February 2010
Client:	Courtrai Developments
Name of Project:	Montana EIA – Social Impact Assessment
Project Description:	Social Impact Assessment of proposed new retirement village and resettlement
Job Title and Duties:	Project Manager and Specialist
Value of Project:	R 40 500
Location:	Mossel Bay Municipality, Western Cape
Project duration & year:	May 2009 – July 2011
Client:	Eden District Municipality
Name of Project:	Eden Regional Landfill – Visual Impact Assessment
Project Description:	Visual Impact Assessment of proposed new regional landfill
Job Title and Duties:	Project Manager and Specialist
Value of Project:	R 80 000
Location:	Wanica Province, Suriname, South America
Project duration & year:	Apr 2009 – Sep 2009
Client:	Staatsolie
Name of Project:	Staatsolie Refinery Expansion – Social Impact Assessment
Project Description:	Social Impact Assessment of proposed oil refinery expansion
Job Title and Duties:	Project Manager and Specialist
Value of Project:	US\$ 10 000
Location:	Suriname, South America
Project duration & year:	August 2008 – October 2008
Client:	BHP Billiton / SRK Consulting
Name of Project:	Corantijn River Dredging ESIA – Economic and Resource Economic Specialist Study
Project Description:	Economic Impact Assessment of proposed dredging operations
Job Title and Duties:	Project Manager and Specialist
Value of Project:	US\$ 10 000
Location:	Cape Town, Western Cape
Project duration & year:	September 2006 – January 2007
Client:	Transnet / SRK Consulting
Name of Project:	Berth Deepening EIA – Visual Impact Assessment
Project Description:	Visual Impact Assessment of dredging operations and new cranes
Job Title and Duties:	Project Manager and Specialist
Value of Project:	R 30 500
Location:	Suriname, South America
Project duration & year:	May 2006 – June 2007
Client:	BHP Billiton / SRK Consulting
Name of Project:	Bakhuis Transport ESIA – Economic and Resource Economic Specialist Study

## **Sue Reuther**

### **Principal Consultant and Partner**

#### **Key Experience: Economic, social and visual impact assessments**

Project Description: Economic Impact Assessment of proposed bauxite transport activities  
Job Title and Duties: Project Manager and Specialist  
Value of Project: US\$ 20 000

Location: Bakhuis, Apoera district, Suriname, South America  
Project duration & year: September 2005 – June 2007  
Client: BHP Billiton / SRK Consulting  
Name of Project: Bakhuis Mining ESIA – Economic and Resource Economic Specialist Study  
Project Description: Economic Impact Assessment of proposed bauxite mining activities at Bakhuis  
Job Title and Duties: Project Manager and Specialist  
Value of Project: US\$ 27 000