

CURRICULUM VITAE

Company	ARCUS GIBB
Name	Neal Gordon CARTER
Nationality	South African
Date of birth	30.07.1942
Profession	Environmental Scientist
Position	Environmental Advisor
Specialisation	Environmental studies, impact assessments, management plans, public participation programmes, waste management studies, site permitting and design
Start date with ARCUS GIBB	1971 – Permanent full-time staff member

Key experience

Neal Carter is an environmental scientist with 36 years of experience.

His key experience includes:

- **Environmental impact assessments, environmental management plans and public participation programmes** for linear and site specific developments in sensitive areas
 - **Resettlement action plans** for the resettlement of project affected people
 - **Environmental and land use planning** studies for a variety of developments, including townships, holiday resorts, river basins and nature reserves
 - **Phase 1 environmental audits** for factories, offices and chemical facilities
 - **Waste management, disposal site investigations, transfer stations, permitting and design** for hazardous and non-hazardous waste disposal sites
 - **Geotechnical investigations** for foundations and construction materials for buildings, bridges, roads and large dams
 - **Soils and geological mapping** of river basins, townships and roads
 - **Project management and co-ordination** of various projects in terms of World Bank requirements
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Qualifications

Bachelor of Science : University of Natal, 1962
Bachelor of Science (Honours) : University of Natal, 1963
Master of Science (Geology) : University of Natal, 1964
Certified Environmental Assessment Practitioner (South Africa) : No 0021/03
Professional Member of the South African Council for Natural Scientists, 1984
PriSciNat No : 190/84
Member of the South African Institute of Ecologists and Environmental Scientists
Member of the International Association for Impact Assessment South Africa
Member of the Institute of Waste Management
Member of the South African Institute of Engineering and Environmental Geologists

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Career summary

- 2005 to date **ARCUS GIBB** – Environmental Advisor
Environmental advisor responsible for development of environmental division, project reviewing and staff mentoring
- 2000 to 2005 **ARCUS GIBB** – Technical Director
Environmental Services Director responsible for management of environmental division, environmental impact assessments, environmental management plans and systems, environmental audits, waste management systems, engineering geological investigations, remediation and rehabilitation of contaminated ground
- 1994 to 1999 **GIBB Africa** – Technical Director
Environmental Services Director responsible for environmental division
- 1986 to 1994 **Hill Kaplan Scott Inc** - Alternate Director
Head of Environmental Services and Geotechnical Division together with control of the Hill Kaplan Scott's soils and materials laboratory
- 1971 to 1985 **Hill Kaplan Scott Inc** - Executive Partner/Associate/Engineering Geologist
Engineering Geology and Geotechnical Specialist and head of Hill Kaplan Scott's soils and materials laboratory. Co-ordination and specialist involvement in environmental studies
- 1969 - 1971 **Falconbridge Exploration Ltd (Zimbabwe)** - Geologist in Charge
In charge of all geological exploration works in Zimbabwe, controlling nine geologists and field teams, in mapping, geochemical and geophysical surveys and exploration drilling
- 1968 **Blanket Gold Mine Gwanda, Zimbabwe** (Subsidiary of Falconbridge Nickel Corporation) - Mine Geologist
In charge of all surface and underground exploration work, geological mapping, sampling and calculation of ore reserves
- 1965 to 1967 **Falconbridge Exploration Ltd** - Senior Geologist
Exploration for base metals in South Africa, Namibia, Zimbabwe and Swaziland, and control of field teams involved in geological mapping, geochemical sampling, geophysical surveys and exploration drilling and sampling

Project experience

Key projects include:

Environmental and Land Use Planning

- State of the Environment Report (SOER). Project leader for SOER for eight local municipalities (approximately 24 000 km²). Eden District Municipality, current
- Draft Western Cape Transport Infrastructure Bill. Environmental advisor for the environmental authorisation process, proclamation and expropriation processes for new Transport Infrastructure Bill. Provincial Government of Western Cape, Road Infrastructure Branch, current
- Training and management of Environmental Officers. Project manager for the recruitment, training and management of eight environmental officers for the reviewing and evaluation of outstanding environmental applications and compilation of Records of Decision in terms of the Environmental Conservation Act (No 73 of 1989) for Provincial Government of Western Cape, Department of Environment and Development Planning. Department of Environmental Affairs and Tourism, current
- George Municipality Strategic Environmental Assessment (SEA). Project manager for Strategic Environmental Assessment (SEA) for 1 068 km² municipal area in support of the Spatial Development Framework and seven Strategic Development Plans, Municipality of George, current
- Mozambique Water Supply Systems. Technical advisor for environmental services to World Bank requirements: TOR for environmental impact assessments, development and implementation of environmental management plans, resettlement action plans and environmental management systems on water supplies to various cities and towns in Mozambique including Maputo, Beira, Quelimane, Nampula and Pemba. Fundo de Investimento e Património do Abastecimento de Água (FIPAG) Mozambique, 2002 - 2005
- Knysna Catchment Management Plan. Management plan for the catchment management and control of alien vegetation. Department of Water Affairs & Forestry, 1998
- Environmental guidelines for the realignment of telephone lines. Telkom SA Ltd, 1992
- Hout Bay River. Project leader for environmental and planning study of Special Standards River. Western Cape Regional Services Council, 1991
- Cape of Good Hope Nature Reserve. Specialist input for environmental and development plans. Western Cape Regional Services Council, 1990
- Lourens River. Specialist input and co-ordination for environmental study and guidelines for planning and development of river environment. Lourens River Advisory Board, 1984
- Garden Route Freeway. Specialist input for land use evaluation study of 2 000 km² to identify suitable route for freeway between George and Storms River (150 km). National Transport Commission, 1978

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- National Route 4. Project leader for land use evaluation study of 150 km² for proposed 20 km road route in eastern Transvaal. National Transport Commission, 1975
- National Route 7. Project leader for land use evaluation study of 2 900 km² to identify route for proposed 125 km road in South West Cape. National Transport Commission, 1974
- Swartkops River Basin. Specialist input for land use study, 100 km² environmental study for Port Elizabeth Municipality, 1973

Environmental Impact Assessments (EIA)

- George Western Bypass Road. Project manager for the environmental impact assessment for a 13 km bypass road linking the Outeniqua Pass to the National Road near the George Airport. The proposed road passes through a sensitive socio-economic area comprising 40 small rural properties. Provincial Government of Western Cape, Current
- Nuclear Power Station. Task leader for the environmental impact assessment and environmental management programme for a conventional Nuclear Power Station and associated infrastructure in the Western Cape. Eskom Generation Division, Current
- Senior project scientist for the EIA and EMP for the proposed construction of the Pebble Bed Modular Reactor and associated infrastructure in the Western Cape. The project proponent is the Generation Division of Eskom Holdings Limited. The EIA includes a detailed environmental impact assessment. The project includes detailed specialist studies, including social and biophysical, EIA process, public consultation, legal and nuclear technology studies, ongoing.
- Morupule Power Station. Project director for environmental impact assessment for expansion of the 118 MW coal fired power station. Botswana Power Corporation, 2004 - 2005
- Groot Drakenstein Rural Housing. Project director for environmental impact assessment for 600 low cost houses in environmentally and heritage sensitive Berg River Valley. Cape Winelands District Municipality, 2003 to date
- Coega Industrial Development Zone. Technical advisor and reviewer for environmental issues and planning related to the landside development, Ngqura Port and the hazardous waste disposal site. Coega Development Corporation, 2003 to date
- Rooisand Nature Reserve. Project director for environmental impact assessment for development of a Nature Reserve in Kogelberg Biosphwre, Kleinmond. Western Cape Nature Conservation Board, 2003
- Highway development plan for N1/N3 Johannesburg Pretoria Road. Project director for environmental assessment for phased high infrastructure development plan for the N1/N3 Johannesburg/Pretoria Road corridor network in Gauteng. Superhighways Consortium and National Roads Agency, 2002
- Chapman's Peak Drive. Project director and leader for integrated environmental management process for the rehabilitation, upgrade and reopening of Chapman's Peak Drive. South Peninsula Municipality/Provincial Administration of Western Cape, 1999 – 2002
- National Route 2, George to Port Elizabeth. Project director for environmental scoping study for proposed toll road; including Knysna bypass, toll stations and future upgrades. National Road Agency and Group 5 Consortium, 1999 - 2000

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- Blanco Boulevard. Project director for environmental impact assessment for road through residential area in George, Western Cape. George Municipality, 1999 - 2000
- Voëlvlei Augmentation Scheme. Project leader for environmental scoping and environmental impact assessment for potential increased water supply to Voëlvlei Dam from the Berg River. Department of Water Affairs & Forestry, 1998 - 2000
- Maputo Iron and Steel Plant. Project director for environmental study of four million tonne/annum plant and 300 km slurry pipeline. Industrial Development Corporation of South Africa, 1997 - 1998
- Westhof-Doodekraal 66 kV line. Project leader for environmental impact assessment of 3.5 km electrical link. Bellville Municipality, 1996
- Blanco Road. Project Director for environmental impact assessment for proposed road between Outeniqua Pass and National Road N2. Provincial Administration of Western Cape, 1995
- Outeniqua Pass. Project leader for detailed environmental impact assessment for proposed upgrading of Pass. Cape Provincial Administration, 1991
- Fish Hoek By-Pass Road. Project leader for environmental evaluation to identify suitable route and impact assessment of proposed 3.2 km urban freeway in Cape Peninsula. Fish Hoek Municipality, 1991
- National Route 1 : Du Toitskloof. Project leader for environmental impact assessment of proposed 16 km highway through environmentally sensitive area in SW Cape Mountains. National Transport Commission, 1988

Environmental Management Plans (EMP)

- Mozambique Water Supply Systems. Technical advisor for development and implementation of environmental management plans for water supplies in various cities and towns in Mozambique including Maputo, Beira, Quelimane, Nampula and Pemba. Fundo de Investimento e Património do Abastecimento de Água (FIPAG) Mozambique, 2002 – 2005
- Rooisand Nature Reserve. Project director for construction and operational environmental management plan for development of a Nature Reserve in Kogelberg Biosphere, Kleinmond. Western Cape Nature Conservation Board, 2004
- Chapman's Peak Drive. Project director and leader for preparation of environmental management plan for the rehabilitation, upgrade and reopening of Chapman's Peak Drive and South Peninsula Municipality/Provincial Administration of Western Cape, 2002
- Outeniqua Pass. Co-ordinator for environmental management plan for R47 m upgrading of 20 km long pass in mountain catchment area. Cape Provincial Administration, 1992
- National Route 1 : Du Toitskloof. Project manager for environmental management plan for R110 million construction of 16 km road through environmentally sensitive area. National Transport Commission, 1991

Environmental Management Systems (EMS)

- Mozambique Water Supply Systems. Technical advisor for development and implementation of environmental management systems for water supplies in various cities and towns in Mozambique including Maputo, Beira, Quelimane,

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Nampula and Pemba. Fundo de Investimento e Património do Abastecimento de Água (FIPAG) Mozambique, 2002 - 2005

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- ACSA Environmental Services. Project director for environmental studies and environmental management system for Cape Town International Airport and precincts. Airports Company South Africa, 2000 - 2001
- Table Mountain Aerial Cableway. Project director for environmental management system for upgrading and operation of cableway and tourist facilities on Table Mountain. National Parks Board, 1998

Environmental Audits

- Bulk storage chemical terminals. Phase 1 environmental site assessment of three chemical storage terminals. Client confidential, 1995
- National Softdrink Supplier. Phase 1 environmental site assessment of 19 facilities in South Africa. Client Confidential, 1995
- US softdrink manufacturer. Phase 1 environmental site assessment of 22 facilities in South Africa and Namibia. Client confidential, 1994

Waste Management, Remediation and Rehabilitation

- CMC Vissershok North Waste Disposal Site. Project director for planning and development of 70 ha hazardous waste disposal site. Cape Metropolitan Council, 2002 to date
- East London Regional Waste Disposal Site. Geotechnical and environmental input to the investigations, planning, permitting and construction of the East London Regional Hazardous Waste Disposal Site. Buffalo City Municipality, 1999 to date
- Oudtshoorn Waste Disposal Site. Project leader for the environmental impact assessment for the identification and planning of the waste disposal site. Oudtshoorn Municipality, 2003 to date
- Hermanus Solid Waste Transfer Station. Project director for feasibility design and development of a solid waste transfer station. Overstrand Municipality, 2000 - 2001
- Kleinmond Solid Waste Transfer Station. Project director for feasibility design and development of a solid waste transfer station. Overstrand Municipality, 2000 - 2001
- Karwyderskraal regional waste disposal site. Project director for identification, permitting and design of regional waste disposal site. Overberg District Council, 1999 - 2000
- CMC Vissershok Waste Disposal site. Project director for design and construction supervision of 4.2 ha hazardous waste cell. Cape Metropolitan Council, 2000
- CMC Vissershok Waste Disposal Site. Planning and design for 117 ha hazardous waste disposal site. Cape Metropolitan Council, 1998 – 1999
- Armaments testing facility. Project director for decommissioning, ground remediation and rehabilitation of 11 ha armaments facility in Koegelberg Biosphere. Somchem, Division of Denel, 1998
- CROSAS Remediation. Project director for planning and investigations for remediation of contaminated land at explosives factory. Somchem, a division of Denel, 1997 - 2000
- Vissershok Uitspan Waste Disposal Site. Project manager for design and

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construction of clay/HDPE lined hazardous waste cell. Waste-tech (Pty) Ltd, 1997

- Wateruintjiesvlei Waste Disposal Site. Permitting of domestic and industrial waste disposal site. Paarl Municipality, 1995
- Vissershok Waste Disposal - site co-ordinator for environmental impact control report and permitting of 116 ha hazardous waste disposal site. Cape Town City Council, 1993

Geotechnical Investigations

- Zalu Dam. Geotechnical specialist for foundations and construction materials for 40 m high dam - Transkei Government, 1989
- Ovkraal Dam. Geotechnical specialist for foundations and construction materials for 25 m high dam. Ciskei Government, 1983 - 1990
- Roxeni Dam. Geotechnical specialist for foundations and construction materials for 25 m high dam. Ciskei Government, 1983 - 1984
- St Matthews Dam. Geotechnical specialist for foundations and construction materials for 40 m high dam. Ciskei Government, 1983
- Sandile Dam. Geotechnical specialist for foundations and construction materials for 60 m high dam. Ciskei Government, 1980 - 1989
- Cata Dam. Geotechnical specialist for foundations and construction materials for 40 m high dam. Ciskei Government, 1977 - 1979

Soils and Geological Mapping

- Luvuvhu River Basin Study. Project leader for geological mapping of river basin. Department of Water Affairs & Forestry, 1986
- Keiskamma River Basin Study. Specialist input to geological mapping of river basin. Ciskei Government, 1977

Professional affiliations

Chairman of the International Association for Impact Assessment, Western Cape Branch, 1993 – 1995

Chairman of the Environmental Planning Professions Interdisciplinary Committee (EPPIC), Western Cape Branch, 1990 - 1995

Branch Committee Member of the International Association for Impact Assessment, Western Cape Branch, 1995 - 1997

National Committee Member of the International Association for Impact Assessment, 1993 - 1997

Member of the Advisory Committee for the Certification of Environmental Assessment Practitioners, 1998 – 2000

Planning Advisory Board Member and Chairman. Department of Governmental Affairs & Housing, Western Cape, 1998 – 2002

Member of the Interim Certification Board for Environmental Practitioners South Africa, 2000 to date

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Publications

INTERNATIONAL

NG Carter. Geology of Port Elizabeth, Republic of South Africa. Bulletin of the Association of Engineering Geologists Vol XXIV, No 4, 1987

NG Carter and C Kretzmann. Solid Waste in Residential Areas. 11th IAHS Housing Congress, Cape Town, May 1993

SOUTH AFRICAN

RD Beaumont NG Carter and JS Gregg. A System for Land Use Evaluation - Third Symposium on Terrain Evaluation and Data Storage - Division of Soil Mechanics and Foundation Engineering, South African Institution of Civil Engineers, February 1975

NG Carter. The Engineering Geology of Port Elizabeth. Symposium on the Engineering Geology of Cities in South Africa - Association of Engineering Geologists, SA Section, September 1981

MJ Taylor and NG Carter. Foundation Grouting at Sandile Dam. SAICE Grouting Course, July 1983

NG Carter. Contributions to Engineering Geology of Southern Africa, Volume 4 by A B A Brink. Building Publications, Pretoria, November 1985

NG Carter. Du Toitskloof Environmental Study. Tenth Annual Transportation Convention, Session 1D, Environmental Aspects, Pretoria, August 1990

NG Carter. A Highway without Environmental Hazards. Environmental Action, December 1990

G Rosenthal and NG Carter. The Problem of Hazardous Waste. Environmental Planning and Management Vol 2, No 3, March/April 1991

CT Gaunt, PJ Heydenrych and NG Carter. Infrastructure Requirements - Financial Management of Industrial Projects, Technoeconomic Society of Southern Africa, Johannesburg, February 1991

NG Carter and E van den Honert. National Route 1 : Du Toitskloof, Environmental Management Plan. Annual Transport Convention, Pretoria, July 1992

NG Carter, CA Rose, WM Silbernagl. Upgrading of Outeniqua Pass - a case study incorporating engineering, art and science in environmental management - World Environment Day Symposium, Art Engineering and Science in the Environment, Mintek Auditorium, Randburg, 1 June 1994

NG Carter, E van den Honert. Environmental input in the new National Route N1 du Toitskloof. Supplement to Environmental Planning and Management, May 1994

CA Rose, NG Carter, IG Melville. Reconstruction of Outeniqua Pass. An engineering challenge in a sensitive environment, SAICE Congress, Port Elizabeth. April 1995

NG Carter. Environmental Management Plans in road construction - Some lessons learned. The second conference on Environmental Management Technology and Development, Indaba Conference Centre, Fourways. 7 & 8 October 1996

NG Carter. Environmental Management Programmes - Some lessons learned from engineering construction projects. International Association for Impact Assessment, 1997 Conference, Kwa Maritane, Pilansberg National Park, September 1997

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MacFarlaine R, Carter N. Landfilling at Vissershok – An ideal geohydrological setting. Wastecon '98, Kempton Park, 1998

Carter NG - Environmental management programmes for road projects. SA Transport Conference, CSIR, Pretoria, September 1998

NG Carter, R MacFarlaine - The Karwyderskraal regional solid waste disposal site and associated waste transfer stations – a success story. Wastecon 2000. Somerset West, Cape. September 2000

Language capability

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Afrikaans	Fair	Fair	Fair

Signature

Date
