

## **STEPHEN JAMES EMERY**

**Qualifications** B.Eng(Hons)(Uni. NSW) MBA(Uni. WA) PhD(Rand)  
FIEAust CPEng FSAICE PrEng FAICD FSAT MAAPT MISAP MAGS

### **Specialist Engineering Consultant**

#### **PERSONAL PROFILE**

- Specialist consultant with wide ranging engineering, technical and commercial expertise earned during the course of 36 years in the fields of road and airport engineering, and engineering management.
- Key areas of expertise include roads, pavements, materials, bitumen, asphalt, airports, diagnostic engineering and research, multi-faceted and multi-disciplined projects, commercial practice, and engineering education.
- Technical Expert in disputes covering roads, airports, pavements, materials, road engineering, airport engineering, design, project financial analysis, transport economics, and safety.

#### **PROJECTS IN LAST FIVE YEARS**

- a) Team leader for aerodrome design at Magburaka, Sierra Leone, Africa including layout, airside configuration, runway design, terminal layout design, landside, access road, runway lighting, fire service, tower location, services. 2011.
- b) Pavement structural upgrade including structural design and asphalt overlay design for runway. Broome, Australia. Team leader, 2010 and continuing.
- c) Upgrade design for airport at Sao Tome, Africa, including masterplan, airside configuration, runway extension design, terminal layout design, landside, fire service, tower location, services. 2010. Specialist.
- d) Operating company business plan for airport at Sao Tome, Africa, 2010.
- e) Investigation into runway surfacing at George Airport, South Africa following aircraft overrun accident. Specialist. 2010.
- f) Airport terminal layout design, Broome, Australia. 2010.
- g) Investigation into staining of new asphalt pavements at New Doha International Airport. Construction audit, audit of contractor and laboratory, production results audit. Team leader. 2009.
- h) Technical expert on asphalt and bitumen problems at port/industrial terminal, Western Australia. 2009.
- i) Implement complete pavement management system into major road network for Perth Metropolitan North (TNC 8). Collect road condition data. Model road maintenance and rehabilitation needs for extended period, and prepare Operational Road Plan with all maintenance and rehabilitation works. Budget

- and level cashflow. Senior team member. 2003-2010.
- j) Detailed masterplan for existing Boeing 737/767 airport. Forecasting, airport layout, airside configuration, terminal layout design, landside, non-aeronautical uses, services. 2007 to 2008.
  - k) AHP Expert Choice decision support modelling for aircraft choice. Team member. 2008.
  - l) Technical Expert for contract dispute on pavement and surfacing performance, design and construct 30km freeway project, Western Australia, 2008 to 2010.
  - m) Technical expert in aviation safety case for single engined RPT operation, Western Australia, 2008; aviation safety case for CAGRO night operations, Broome, Western Australia, 2007; aviation safety case for gas plume rise near airport, Northern Territory, 2009.
  - n) Technical expert for ACN/PCN and airport compatibility analysis at 14 European airports, and airport operational assistance, for European airline, 2009 and continuing.
  - o) Technical Expert for contract dispute on surfacing performance, construct only 14km dual highway project, Western Australia, 2007 and continuing.
  - p) Specialist investigation into concrete pavements at Macau. Pavement investigation and analysis, pavement design, traffic forecasting, RESA analysis, and masterplanning elements. Team leader. 2007 to 2010.
  - q) Runway resurfacing. Materials sourcing, design, quality control, tendering, construction supervision, quality control and establishment of onsite bitumen laboratory. 2005 to 2008. Team leader. Western Australia.
  - r) Specialist investigation into materials and pavements at Walvis Bay International Airport, Namibia for A380 upgrade. Pavement designs for flexible runway and new concrete apron, audit ICAO compliance, limit salt damage, accelerated testing of materials, long term maintenance planning, traffic forecasting. Senior team member. 2007 to 2010.
  - s) Airport ownership and management at Broome International Airport. Strategy, airport development, infrastructure expansion, environmental and noise planning, land-use planning, geometric and structural design, construction management. Senior team member. Ongoing since 1991.
  - t) Geometric and structural design of runway rehabilitation for Boeing 747 at Waterkloof Airforce Base, Pretoria. Senior team member. 2007 and onwards.
  - u) Forecasting, traffic mix, geometric and structural design, construction advice of runway for Boeing 747/A340-600 at Bloemfontein Airport. Senior team member. 2006 to 2009.
  - v) Developed new unit for Latrobe/Deakin University CPEE postgraduate course on Heavy Duty and Industrial Pavements in 2007, wrote the textbook, and Unit chair for 2007 and ongoing.
  - w) Technical expert in investigation of failure of heavy duty asphalt pavements at a container terminal in Townsville. 2006
  - x) Technical expert for PMBs and asphalt for \$35 million airport surfacing problems in Dubai, including asphalt on what will be the world's largest airport at Jebel-Ali, involving field and laboratory studies, accelerated pavement testing, auditing, airport pavement design, and development of PMBs. 2006 to 2007.
  - y) Leader of a multi-disciplinary research team into bituminous surfacings and polymer modified bitumens for Australian Airports Association, including

- investigation of stripping, groove closure, performance issues, modified binder manufacture and specification, development of new airport binders. 2004 to 2007.
- z) Technical expert in bitumen surfacing and materials for \$0.8 million airport surfacing claim; Gingin, Western Australia. 2005 to 2009. Technical expert in bitumen surfacings and materials for \$0.65 million road surfacing claim; Mt Magnet to Sandstone, Western Australia. 2004. Technical expert in surfacings, pavements and materials for \$1.7 million construction and road performance claim in Ripon Hills, Western Australia. 2002-2007.
  - aa) Technical expert in development of bitumen refining, bitumen specification and shipping specification, quality control, and transport economics for a bitumen company. Commercially confidential. 2004 to 2006.
  - bb) Technical expert in analysing PMB bitumen, multigrade bitumen and asphalt production, performance and quality control on airports. Various projects and airports for Australian Airports Association. 2005 to 2007.
  - cc) Design and documentation for rehabilitation and re-alignment of 33 kms of rural highway N2-14, Keiskamma to Green River, South Africa. Senior team member. 2004 to 2006.
  - dd) Design and documentation for rehabilitation of 72 lane-kms of major urban freeway N12 Tom Jones to Daveyton, South Africa. Senior team member. 2004 to 2007.
  - ee) Unit chair for Latrobe/Deakin University CPEE postgraduate course on Pavement Management Systems from 2005 and ongoing.
  - ff) Unit chair for Latrobe CPEE postgraduate course on Flexible Pavement Construction for 2004-2007.
  - gg) Advanced research into airline economics and air travel forecasting at University of Western Australia, including demand and supply factors, aircraft operating costs, yield management, and tourism demand. 2002 to 2008.

### Contact details

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## DETAILED EXPERIENCE

**Kubu Consultancy Pty Ltd**  
**Kubu Australia Pty Ltd**  
Director

**Pretoria**  
**Perth**  
1998 to present

My experience in the previous five years is detailed above. My prior experience is detailed below.

### Materials, bitumen, asphalt and pavements

1. Specialist in R61 freeway pavement failure investigation for major construction claim in South Africa, involving advanced asphalt and materials testing. Senior team member. 2003-4.
2. Forecasting, traffic mix and structural design of 3 rapid exit taxiways at Johannesburg International Airport. Senior team member. 2004.
3. N4 Freeway rehabilitation (128 lane kilometres) near Pretoria, South Africa, including design and supervision of material and pavement investigation, design of pavement rehabilitation, introducing ISO 9000 quality system, toll-road economic analysis, and construction supervision. Senior team member. 2000 to 2004.
4. Technical expert for dispute in pavement performance in Western Australia involving prediction of pavement performance and probabilistic modelling. 2002-2003.
5. Specialist consultant for various material problems including bitumen stiffness, alkali-silica reaction, dust control, foamed bitumen stabilisation, insitu cement stabilisation, and excessive stone water absorption. 1999-2003.

### Technology

6. Leader of multi-disciplinary research team into extensive design airspace study including AS 3931 and AS 4360, analysis of accident databases, public survey of attitudes and statistical analysis. Team leader. 2003-2004.
7. Started soils laboratory, installed quality system, and gained NATA accreditation (14582) in 2001. Registered NATA auditor (16927) 2002 and continuing.
8. Design audit of ICAO Code 4D runway and taxiway reconstruction. Including FWD testing, materials location, pavement design using FAA and elastic layer analysis, pavement rating. Perth, Western Australia. Team leader. 2002.
9. Developed the business and operational plans for various airline operations. Commercially confidential. Team leader. 2000-2002.
10. Senior member of team in project to investigate improved productivity, potential for small business units and the commercialisation of the (South African) Gauteng Provincial Roads Department road maintenance activities (500 staff). Introduction of performance related specifications including skid resistance, riding quality and surfacing integrity. 2001-2003.
11. Masterplanning new Boeing 767 airport, and pavement design. Located new airport sites. Located materials, and leading research into use of local materials. Environmental planning for new airport at Broome including forecasting, risk and noise assessment. Senior team member. 1999-2001.

12. Major tender assessment for Main Roads Western Australia involving complex tender assessment techniques for a new form of long term (10 year) road maintenance operating contract. Performed in accordance with ISO 9000 quality system, risk management and performance based specification including skid resistance, riding quality and surfacing integrity. Team member. 1999.
13. Surfaced road network assessment for Johannesburg, prioritisation of works requiring interface with PMS and maintenance management system. 1998.

Academic

14. Lectured on airports, airline economics, forecasting and revenue management at Murdoch University, Perth in 2003-4.
- 15.
16. Ran South African workshops on ultra-thin asphalt layers and frictional road surfacing courses to broaden knowledge, disseminate best practice from around the world and fit ultra-thin asphalts to the new asphalt design guide and other thin surfacings in 2002.
17. Developed and managed engineer level extended course on asphalt surfacings for Botswana Roads Department in 1999.
18. Serving on various committees, including Steering Committee and Chairman of the Marketing Committee for CAPSA'99 conference, Technical Committee World of Asphalt Pavements conference 2000, National Council of the Society for Asphalt Technology (SAT), and the Flexible Pavements Committee of the Permanent International Association of Road Congresses (PIARC), as well as various national and specification committees for bitumen, geotextiles, natural materials.

**University of Witwatersrand**

Honorary Professor, Dept. Civil Engineering

**Johannesburg**

1998 and ongoing

19. Created and implemented an undergraduate course in roads and development engineering covering contractual relationships between parties, contract documents, tendering procedures, construction planning and control, human resource allocation, and introduction to the design of municipal services and roads over the full life cycle (from planning through to operation and maintenance), carried out within a development context. 1994-2000.
20. Supervise research of doctoral and masters students in the fields of technology management, chemical stabilizers in road construction, dust suppressants, skid resistance, bitumen viscosity, labour based construction of asphalt, and blast furnace slag. 1998 and ongoing.
21. Represented University in steering an advanced commercial bitumen and road performance laboratory including pavement surveillance, riding quality, deflectometer, skid resistance, asphalt, bitumen, and seals, 1998 to 2000.
22. Developed and delivered undergraduate course in roads and development engineering by distance education, 2001 to 2004.

**Colas Southern Africa Pty Ltd**  
Group Technical Director

**Johannesburg**  
1994 to 1998

23. Managed the technology resource for 3 modified bitumen plants, 7 emulsion factories and 15 asphalt plants, including R&D, centralised emulsion formulations and assistance. Led a team which developed and/or re-engineered commercial production of SBR modified bitumens, SBS modified bitumens, and crumb rubber-bitumen blends.
24. Main Board of Colas Southern Africa Pty Ltd, as a Murray & Roberts appointed director. Attended subsidiary board meetings. Represented Colas on the board of Bitutek, a partly owned commercial laboratory in Durban.
25. Developed effective business strategies and technical solutions to maintain revenues and profits in a rapidly changing marketplace, including Build-Operate-Transfer and long term operating contracts. Leader in developing Murray & Roberts strategies in the roads field, in the development of Small, Medium and Micro Enterprises (SMMEs) and in black empowerment.
26. Developed South Africa's first Performance based road surfacing specification including skid resistance, riding quality, cracking, and pot-holing.
27. Technical Expert in investigation into organic chemical production operations in Ghana for Danish Government.
28. Conceptualised and implemented re-engineering of Group technical function and laboratories, focused on commercial partnerships with 11 consultant engineering companies and 2 universities.
29. Implemented and managed marketing strategy including Internet, multimedia, advertising, public relations, and publications.

**University of Stellenbosch**

**Stellenbosch, South Africa**

Professor, SABITA Chair of Asphalt Pavement Engineering

1993 to 1994

30. Created and implement postgraduate and undergraduate courses in roads, materials and pavement engineering.
31. Conceptualised and implemented intensive course on pavement management systems (PMS), covering integrated road management, building blocks of a PMS, pavement condition surveys, visual pavement assessment, mechanical surveillance and skid resistance, identification of needs and maintenance alternatives, deterioration modelling and project prioritisation, economic analysis and optimisation, and preparation of a multi-year programme with alternative strategies to fit varying budgets.
32. Involved in the National Public Works Programme Working Group, with strong involvement in the Technical Working Group.
33. Provided academic support to Technikons and to professional development training.
34. Mentor and advise cross-cultural postgraduate students.
35. Supervise research projects, including bitumen penetration/viscosity modelling.

**Wallace, Emery and Associates Pty Ltd**

Managing Director

**Perth and Pretoria**

1986 to 1992

36. Director for a specialist engineering consulting firm involved in airports, mining, and roads in Australia and South Africa.
37. Led major research team investigating performance of bitumen surfaced low traffic roads. Rewrote national design standards for rural roads including geometric design, materials, pavement design, roadside furniture, safety aspects, drainage, construction, maintenance, rehabilitation, socio-economic and environmental aspects. Personally received SABITA research award in 1991.
38. Design and documentation for airport runway upgrade, new terminal, and communications at Christmas Island. Developed wind standards for Island using innovative analysis techniques. Controlled project schedule. Involved in management of claims, financial reconciliation, and contract disputes.
39. Initiated, investigated, designed and constructed runway extension and upgrade to Boeing 767 standard at Broome.
40. Senior member on ADB project on road safety in Malawi. Responsible for road engineering, black spot rectification, and accident data and analysis.
41. Other projects involving all aspects of airport operation and development including new airport sites. Other engineering projects including design, investigation, rehabilitation, training, and pavement failure analysis.

**National Institute for Transport and Road Research, CSIR**

Senior Research Engineer

**Pretoria**

1981 to 1985

42. Team leader of research project to investigate interaction between moisture, materials and pavement performance. Extensive involvement with field and laboratory testing. Extensive use of statistics. PhD was based on this research.
43. Leader of moisture investigation project and pavement failure analysis in Malawi.

**Department of Transport (Aviation)**

Engineer

**Australia**

1975 to 1981

44. Engineer in National Government Department responsible for airports.
45. Assistant Airport Engineer Sydney Airport 1975-76. Assistant Engineer Rural Aerodromes NSW 1976-1977. Airport Maintenance Programme Engineer, Head Office 1978. Divisional Engineer Western Australia South 1979-81, responsible for 10 airports.
46. Led team which developed masterplan for Jandakot Airport. Technical expert in land planning appeal tribunal for aircraft noise at Jandakot Airport in Perth.
47. Projects included site control of new multi-story carpark at Sydney Airport, runway friction testing Sydney and Canberra, resurfacing of airport runways at Perth and Adelaide, new terminal at Geraldton, numerous pavement investigations.
48. Administration of national airport maintenance funds for 279 airports.

**ACADEMIC AND PROFESSIONAL CREDENTIALS**

**University of Witwatersrand** **Johannesburg, South Africa**  
PhD (Civil Engineering) 1985

**University of Western Australia** **Perth, Australia**  
MBA 1990

**University of New South Wales** **Sydney, Australia**  
Bachelor Civil Engineering (1st cl. Hons) 1975

**Professional qualifications**

Chartered Professional Engineer (Australia) (National Professional Engineer Register) - CPEng

Fellow Institution of Engineers Australia - FIEAust

Professional Engineer (South Africa) - PrEng

Fellow South African Institution Civil Engineers - FSAICE

Member Association of Asphalt Paving Technologists, USA - MAAPT

Member Australian Geomechanics Society - MAGS

Fellow Society Asphalt Technologists, South Africa - FSAT

Fellow Institute Company Directors, Australia – FAICD

Member of International Society of Asphalt Pavements - ISAP

**Post-graduate courses**

Sources of Geotechnical risk (2009) 1 day course run by Australian Geomechanics Society, Perth.

FAARFIELD pavement design and PMS (2008) 1 day course run by FAA, Singapore.

Expert Determination (2006) 2 day course run by Institute of Arbitrators and Mediators, Australia

Expert Witness (2006) 1 day course run by Institution of Engineers, Australia

Demand analysis for airports/airlines (2004) 3 day course run by University of Westminster, London

Decision Choice modelling (2002) 3 day course run by University of Sydney.

Advanced bitumen technology (1998). 4 day course run by University of Stellenbosch

Airport Planning (1997) 5 day course run by University Texas at Austin and University of Stellenbosch

Bitumen/emulsion technology (1995) 4 day course Colas Southern Africa

**NATA – National Association Testing Authorities, Australia**

Assessor #16927

Chemical: Bitumen. Construction Materials: Soils, aggregates, asphalt.

## **PUBLICATIONS**

### **Papers published in Conference Proceedings (internationally refereed)**

OLIVIER, P., EMERY, S., HORAK, E. AND PRETORIUS, P. (2010) Holistic pavement management - experiences with performance based pavement management in Australia and South Africa. 4th SARF/IRF Regional Conference for Africa, Cape Town, 11-14 October.

FULTON, N, WESTCOTT, M AND EMERY, S. (2009). Simulating radio communication complexity in regional airspace design. 18th World IMACS/MODSIM Congress, Cairns, 13-17 July 2009

HORAK, E., MAINA, JW., EMERY, SJ. AND WALKER, B (2009) Mechanistic modelling of potential interlayer slip at base sub-base level. Eight International Conference on the Bearing Capacity of Roads, railways, and Airfields, June 29 to July 2, 2009, University of Illinois, Urbana Champaign.

HORAK, E., MAINA, JW. AND EMERY, S. (2009) A case study: quantification and modelling of asphalt overlay delamination on an airport pavement. Eight International Conference on the Bearing Capacity of Roads, Railways, and Airfields, June 29 to July 2, 2009, University of Illinois, Urbana Champaign.

HORAK, E AND EMERY, S (2009) Evaluation of airport pavements with FWD deflection bowl parameter benchmarking methodology. CROW 2nd European Airport Pavement Workshop, 13-14 May 2009, Amsterdam.

EMERY, S (2009) Risk analysis study on the need for a runway surface friction layer. CROW 2nd European Airport Pavement Workshop, 13-14 May 2009, Amsterdam.

EMERY, S AND MIHALJEVIC, I (2008) Accelerated Load Testing of Asphalt Mix Designs for Heavy Duty Pavements in Hot Climates. 23rd ARRB Conference, Adelaide 29 July-1 Aug, 2008

EMERY, S (2008) Seals for Heavy Duty Airport Pavements. 1st International Sprayed Sealing Conference. Adelaide, 27-28 July 2008

EMERY, S, COCKS, G and KEELEY, R (2007) Selection and Use of Locally Available Pavement Materials for Low Volume Roads in Western Australia. 9th International Conf. Low Volume Roads, Austin

HORAK, E and EMERY, S J (2006) Determining the Effect of Super Fine Tillite Filler in an Asphalt Layer. 3rd International Road Federation/South African Road Federation Conf. 11-13 Sept 2006, Durban.

EMERY S.J., O'CONNELL J. and WHITE L. (2004) Monitoring Bitumen Quality from Refinery to Pavement. 8th Conf. Asphalt Pavements Southern Africa, Sun City, South Africa

HORAK E., EMERY, S.J, AMOD, S., WEIDEMANN, J and JOUBERT, I (2004) Transformation of a Provincial Routine Road Maintenance Unit In South Africa. 8th Conf. Asphalt Pavements Southern Africa, Sun City, South Africa

LIEUW KIE SONG, M and EMERY S.J. (2001) Preliminary Development of Slag As A Stabilised Material For Labour Intensive Construction Of Roads. WORK 2001 Conference, Johannesburg, South Africa

EMERY S.J. and CORET, S.C.A (2001) Current Practice For The Construction of Hot Asphalt Surfacing By Hand WORK 2001 Conference, Johannesburg, South Africa

EMERY, S J and O'CONNELL, J (1999) Development of a High Performance SBS Modified Binder for Production. 7th Conf. Asphalt Pavements Southern Africa, Cape Town

EMERY, S J and O'CONNELL, J (1999) Computer-Based Expert System for Troubleshooting Emulsion Manufacture. 7th Conf. Asphalt Pavements Southern Africa, Cape Town

EMERY, S J, VAN ZYL, G and ESSMAN, J (1999) Management Of Resurfacing And Routine Surfacing Maintenance In Small Communities. 7th Conf. Asphalt Pavements Southern Africa, Cape Town

WALSTRAND, J L, O'CONNELL, J and EMERY, S J (1999) Reverse Engineering a Bleeding Seal in the Laboratory. 7th Conf. Asphalt Pavements Southern Africa, Cape Town

EMERY S J, HORAK E, OLIVIER P, RHODE A, VAN WIJK A J (1999) Re-engineering the delivery of laboratory services in the asphalt road sector. 7th Conf. Asphalt Pavements Southern Africa, Cape Town

EMERY, S.J. and O'CONNELL, J. (1997) Development and application of road bituminous emulsions in Southern Africa. 2nd World Conference on Emulsions, Bordeaux.

EMERY, S.J., CRONJE, P.G. and NYASULU, G. (1995) Development of emerging contractors through franchising. Joint IRF/SARF Conference, Midrand.

WOLFF, H., EMERY, S.J, VAN ZYL, G.D and PAIGE-GREEN, P. (1995) A design catalogue for low volume roads developed for South African conditions. 6th Int. Conf. on Low Volume Roads, Minneapolis.

EMERY, S.J, ALLI, N. and VELDMAN, B.H.W. (1994) Labour based construction of bitumen surfacings by small contractors. 6th Conf. Asphalt Pavements Southern Africa, Cape Town

ALLI, N. and EMERY, S.J (1994) Community participation in development projects. 6th Conf. Asphalt Pavements Southern Africa, Cape Town

EMERY, S.J and HENDRICKS, P. (1994) State of asphalt tertiary education in southern Africa. 6th Conf. Asphalt Pavements Southern Africa, Cape Town

EMERY, S.J, and ZACHARIAS, M.P. (1994) Temperature susceptibility of South African bitumens. 6th Conf. Asphalt Pavements Southern Africa, Cape Town

ZACHARIAS, M.P. and EMERY, S.J (1994) Application of the Brookfield Viscometer test method in South African road grade bitumen specification. 6th Conf. Asphalt Pavements Southern Africa, Cape Town

EMERY, S.J, VAN ZYL, G.D. and VOS, R.M. (1994) Bituminous surfacings for low volume roads in developing areas. 6th Conf. Asphalt Pavements Southern Africa, Cape Town

EMERY, S.J. AND CAPLEHORN, M. W. (1993) Use of surface treatments on runways for RPT jet aircraft. Conf. Airport Pavement Innovations, Am. Soc. Civil Eng., Vicksburg

EMERY, S.J, AND VOS, R. (1993) Bituminous surfacings for low volume urban roads in developing areas. XII World Int. Road Federation Meeting, Madrid

EMERY, S.J. and PETERSEN, T. (1987) Accelerated load testing for Derby airport runway. Institution of Engineers Aviation Symposium, Canberra

EMERY, S.J. (1984) Prediction of pavement moisture content in southern Africa. Eight Reg. Conf. Africa Soil Mech. Fndn. Engng., Harare, vol 1, pp239-251

**Papers published in Conference Proceedings (nationally refereed)**

HORAK, E AND EMERY, S (2008) Using Falling Weight Deflectometer Readings to Conduct Structural Benchmarking of Airport Pavement Structures. Innovative Pavement Management Systems Summit 2008, 8-9 Oct, Singapore.

HORAK, E AND EMERY, S (2008) Making the Connection Between Low Budgets and Pavement Maintenance Needs for Small Regional Airports In Southern Africa. Innovative Pavement Management Systems Summit 2008, 8-9 Oct, Singapore.

OLARU, D and EMERY, S (2007) Simulation and GA-optimisation for modelling the operation of airport passenger terminals. 29th Conference of Australian Institutes of Transport Research, Adelaide

HORAK, E and EMERY, S J (2006) Falling Weight Deflectometer Bowl Parameters as Analysis Tool for Pavement Structural Evaluations. 22nd ARRB Conference, 29 Oct-2 Nov 2006, Canberra

EMERY, S J (2006) Pavements and Overlays for Airports – Final Report. 25th Australia Airports Association Convention, Cairns

EMERY, S J (2005) Bituminous Surfacings for Pavements on Australian Airports. 24th Australia Airports Association Convention, Hobart

EMERY, S J (2005) Asphalt on Australian Airports. Australia Asphalt Paving Association Pavement Industry Conference, Surfers Paradise, Queensland

JONES, D, and EMERY, S.J. (2003). The development of a research protocol and fit-for-purpose certification for road additives. 21st ARRB and 11th REAAA conference, May 2003, Cairns

EMERY, S.J., MASTERSON, S, AND CAPLEHORN, M.W. (2003) Sand-clay pindan material in pavements as a structural layer. 21st ARRB and 11th REAAA conference, May 2003, Cairns

LIEUW KIE SONG, M., EMERY, S.J. and BENN, M. (2001) Alkali Activation of Milled Slag and its Implications for the use of Un-Milled Slag as a Road Stabiliser. Session 2A, Annual Transportation Convention, Pretoria.

HORAK, E, EMERY, S.J and AGAIENZ, A. (2001) Key Performance Indicators (KPIs) for road infrastructure asset management by a roads agency in a large local authority. Session 2A, Annual Transportation Convention, Pretoria

EMERY S.J (2000) Implications of Long Term Road Maintenance Contracts for the Asphalt Industry. 1<sup>st</sup> Conf. World of Asphalt Pavements, Sydney.

EMERY S.J (2000) Improved Construction Practices: Pavement Performance Evaluation as an Input to Stochastic Asset Management. 1<sup>st</sup> Conf. World of Asphalt Pavements, Sydney.

HORAK, E and EMERY S.J (2000) Implementation Of Partnering In Road Construction. 1<sup>st</sup> Conf. World of Asphalt Pavements, Sydney.

WEINMANN, N and EMERY, S.J. (1997) Engineering the properties of spray bitumens for labour enhanced construction. South African Transport Conference, Johannesburg.

EMERY S.J (1996) Large Aggregate Mixes In Bases. Institute of Quarrying 27th AGM Conference, Durban.

EMERY S.J (1995) South African Asphalt Initiatives. Keynote Address, 10th Industry Conf., Aust. Asphalt Paving Assoc., Adelaide.

EMERY S.J (1995) Large Aggregate Mixes for Bases and Granular Emulsion Stabilised Mixtures., 10th Industry Conf., Aust. Asphalt Paving Assoc., Adelaide.

EMERY S.J and VOS, R.M (1994) Practical implementation of a technology transfer system for asphalt practitioners. 9th Int Conf., Aust. Asphalt Paving Assoc., Brisbane.

EMERY, S.J and PRATT, P.M (1993) Geotextile reinforced bituminous surfacing for developing areas. Session 2B, Ann. Transp. Con., Pretoria

EMERY, S.J (1993) Weatherproof roads: a pavement class between gravel and paved roads. Session 2B, Ann. Transp. Con., Pretoria

JONES, D, EMERY, S.J and VAN ZYL, G.D. (1993) An integrated environmental procedure for roads. Session 1A, Ann. Transp. Con., Pretoria

WOLFF, H., VAN ZYL, G.D, PAIGE-GREEN, P. and EMERY, S.J. (1993) The development of a structural design catalogue for low volume roads. Session 4C, Ann. Transp. Con., Pretoria

EMERY, S.J, VAN ZYL, G.D., VAN HUYSSSTEEN, S. and SAMPSON, L. (1992) Performance limits for bituminous surfacings on low volume roads. Annual Transportation Conference 1992, Pretoria.

EMERY, S.J, VOS, R. and VAN HUYSSSTEEN, S. (1992) Economic justification for surfacing existing and new roads. Annual Transportation Conference 1992, Pretoria.

EMERY, S.J, VAN HUYSSSTEEN, S. and SAMPSON, L. (1992) Recommendations on the suitability and use of appropriate surfacings for temporary deviations. Ann. Transp. Conf., Pretoria.

PAIGE-GREEN, P, JONES, D, and EMERY, S.J. (1991) Roads and environment - compromise or conflict. South African Conf. Environmental Management, Cape Town.

EMERY, S.J. and PETERSEN, T. (1987) Accelerated load testing for Derby airport runway. Institution of Engineers Aviation Symposium, Canberra

EMERY, S.J., St JACK, K. and BONE, G.R. (1987) Management of aerodromes under local ownership. Institution of Engineers Conference on Local Government Engineering, Perth

EMERY, S.J. (1987) Unsoaked CBR design to reduce the cost of roads. Annual Transportation Conference 1987, Pretoria

EMERY, S.J. (1986) A new minimum width for the design of shoulders of sealed roads. Annual Transportation Conference, Pretoria

SAMPSON, L.R., EMERY, S.J. and ROSE, D. (1985) An investigation into premature pavement distress in the Cape Province. Annual Transportation Conference 1985, Pretoria

**Theses and academic research reports**

EMERY, S.J. (2007) Heavy duty and industrial pavements. Lecture notes in rigid and flexible pavements, empirical and mechanistic design, airports, mines, ports, and container terminals. Unit CPE656. Centre for Pavement Engineering Education, Melbourne.

EMERY, S.J. (1990) Case study on the theory, practice and implementation of a business plan. MBA thesis, Graduate School of Business, Univ. Western Australia.

EMERY, S.J. (1985) Prediction of moisture content for use in pavement design. PhD thesis, University of Witwatersrand, Johannesburg.

EMERY, S.J. (1985) A new map of Thornthwaite's moisture index. NITRR Report TS/29/85, CSIR, Pretoria

SHACKLETON, M.C. and EMERY, S.J. (1985) Investigation of CBR versus moisture content relationships for untreated materials. NITRR Report TS/4/85, CSIR, Pretoria

EMERY, S.J. and BASSON, J.E.B. (1984) Draft standard dynamic cone penetrometer. NITRR Report TS/15/84, CSIR, Pretoria

EMERY, S.J. (1983) Diurnal and seasonal measurements of suction, resistance, deflection, radius of curvature, temperature at Jwaneng, Botswana. NITRR Report TS/33/83, CSIR, Pretoria

EMERY, S.J. (1983) The investigation of moisture in roads in Natal and the Cape Province. NITRR Report RS/1/83, vols 1-6, CSIR, Pretoria

EMERY, S.J. (1982) An investigation into the installation, reliability and accuracy of psychometric equipment. NITRR Report TS/12/82, CSIR, Pretoria

EMERY, S.J. (1982) The effect of infiltration and surface drainage on the pavement moisture regime. NITRR Report TS/29/82, CSIR, Pretoria

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