



R. Lynndon Harnell

Mechanical/Pipeline/Project Engineer

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Australia

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BIODATA

MARITAL STATUS: Married

DATE OF BIRTH: 29 July 1955

CHILDREN: Two

NATIONALITY: Australia

PASSPORT No: E5150629.

QUALIFICATIONS

- Bachelor of Engineering (Mechanical), University of Queensland, 1978

CURRENT POSITION

- Origin Energy CSG
- Part time availability only

KEY SKILLS AND EXPERIENCE

Mr Harnell has a total of 25 years professional engineering experience, primarily in the oil/gas/pipelines field, as well as general construction, with a broad based expertise in all aspects of project and engineering office management, including planning, scheduling, design, estimating, project control, site supervision, inspection, ISO9000 systems, training and operations.

Strong coordination, investigative/problem solving and implementative skills, coupled with a high degree of drive and determination, together with a high degree of computer literacy and communication skills.

SPECIFIC EXPERTISE

- * Oil & gas/pipeline design, procurement, construction supervision, testing & commissioning.
- * Coal Seam methane facilities development.
- * Design management and office management.
- * Project engineering and management.
- * Operations engineering.
- * Project and financial planning and modelling.
- * ISO9000 Management, and training.

TRAINING

- * Construction Programming, 1996 (Prima Vera)
- * Operational Health & Safety Course Module 1, 1996
- * Lead Assessor Course, 1993 (PE Batalas)
- * AACE Cost Engineering & Project Management, 1992
- * Instructional Skills, Ithaca TAFE, 1992
- * BHP Engineering Project Management Course, 1991
- * Ultrasonic NDT Introductory Course, 1982
- * Solar Gas Turbine & Compressor Maintenance, 1981.

June 98 to present	<u>Origin Energy/Oil Company of Australia</u> Project Engineer (Contract Basis)
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Project Manager for Spring Gully to Wallumbilla Pipeline (90km x 12" #900). Project management and design for numerous CSG, oil and gas wellhead hook-up, flowline, compression, facility, transmission line and metering projects in the Peat CSG, Surat Basin, Denison Trough, Moura CSG, Tubridgi (WA) gas fields, and Eromanga oil fields in addition to providing operational technical support.

July 2003 to present	<u>Hydrostatic Testing Services</u> Director and NATA Hydrotest Engineer
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Partner and director of HTS providing NATA-endorsed pipeline hydrostatic testing of pipelines to AS2885.5 including Duke Tasmania projects, Energex (Qld) pipelines, Mobil (Sydney) pipelines, and Delco constructed projects, including Moran PNG Re-injection pipelines (#2500). Involved with SAA AS2885.5 standards sub-committee.

Oct 96 to June 98	<u>Bateman Kinhill & Kinhill Engineers</u> Consulting Engineer
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For **Bateman Kinhill**, project controls, including capex and project scheduling for the Gunpowder copper mine expansion feasibility study, Shell Theodore coal plant, Togara North coal plant, George Fisher Lead/Zinc Concentrator Upgrade Study, and Qsmelt Copper Smelter.

For **Kinhill Engineers**:

- ◇ Route selection for the proposed Brisbane Gas Pipeline
- ◇ Pipeline and station design and specification for Gilmore Gas Pipeline.
- ◇ Design, route selection, cost estimate, specification, project controls for Fairview Interconnect Pipeline
- ◇ Capital Cost estimate for Ballara airport expansion, and Phosphate Hill Acid Handling system. Pipe specification and piping design, and project engineering for Phosphate Hill offplot services.

Oct 96 to June 2003	<u>Tank Calibrators</u> NATA Hydrotest Engineer
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NATA pipeline hydrotesting of pipelines including Amberley Airforce Base jet fuel, Fairview Interconnect, Cheepie-Gilmore, Ticor Connection, Cadia-Blayney slurry, Marsden-Dubbo, Namarah-Yarrabend, Myall Creek, Dawson Valley Extension, McArthur R reconstruction, Tristar 18X.

Feb 94 to Sept 96	<u>Self Employed</u> Consulting Engineer
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Clients included:

- ◇ **[Worley Ltd](#)**; Review of specifications on the Client's behalf for the Stuart Energy Oil Shale project in central Queensland. Assistance with design proposal for proposed fertiliser plant in Mt Isa, Qld.
- ◇ **[Pipeline Technologists](#)**; Route selection analysis for SW Queensland pipeline. Pipeline cost estimates for Port Longford to Adelaide.
- ◇ **Macmahon Construction**; Hydrostatic testing of Namara pipeline, Surat Basin, Qld.
- ◇ **GWB Engineering**; Draft and implement management system to comply with ISO 9001.
- ◇ **Electaire**; Draft and implement management system to comply with ISO 9002
- ◇ **Oil Company of Australia**; Training in Piping Standards (ANSI B31.3, AS2885), Project Controls. Hydrotest of Major-Boxleigh pipeline. Design/costing for Wilga oil well flowline (2-phase) and oil storage facilities.

June 94 to Sept 96	<u>Thiess Contractors (Process Engineering)</u> Project Engineer/ Quality Manager	Referee: Mr Richard Walker +622 1 7800796
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Implementation and maintenance of ISO-9001 systems for Process Engineering division, leading to successful accreditation, including drafting, issue and control of procedures, audits, and on-going training programs. Responsibility for ISO9001 management systems for \$mA48 South Blackwater Kenmare coal mine, and \$mA32 Burton Coal project. Project Engineer to the team preparing a major claim associated with the South Blackwater project.

Sep 93 to Feb 94	<u>Oil Company of Australia</u> Consulting Engineer (Contract Basis)
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Contracted to analyse and implement the finding of a Hazop study on the Kincora LPG Plant in Western Queensland, entailing operational methodology, design, costing, construction supervision, scheduling shutdown works, and liaison with Management and Operations staff. Works included re-location of plant piping and pipeline, installation of flame/gas detection systems, integration with existing control systems, overhaul of drawing management practice,

design and installation of emergency shutoff/venting systems, implementation of maintenance inspection systems, upgrading fire protection systems for control room, re-design of LPG load-out handling system.

April 92 to June 93	<u>PI CONSULT (Al Khobar, Saudi Arabia)</u> Branch/Project Manager	Referee: Mr. E. Stites
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Management of the Ras Tanura Branch Office, with a staff of 70 engineers & drafting personnel. Project Manager for numerous design projects, including both infrastructure and refinery works. This included the Ras Tanura refinery DCS system upgrade (25,000 man hours), trans-Saudi NGL pipeline valve replacement project (investigation, design, planning), and investigation, design and recommendations for resurrection of a 8,000 man construction camp. Responsible for implementation of company wide (220 employees) ISO 9001 compliant system.

Aug 90 to Feb 92	<u>PIPE LINE TECHNOLOGISTS</u> Senior Engineer	REFEREE: Mr. B. Dickerson
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Design and procurement for the Rockhampton Branch Pipeline, including concept design, supervision of drafting office, detail design and specifications, supervision and inspection of subcontract mechanical works, and the drafting of Operations and Maintenance Manuals.

NATA and other hydrostatic testing of pipelines, including Alice Springs airport jet A1 and Fitzroy River crossing. Recommissioned the reconstruction of the Fitzroy River crossing. Provided advice to ESSO on hydrostatic testing & reinstatement concerns for a leaking oil pipeline on the Flounder offshore platform.

Oct 1989 to Aug 90	<u>BHP ENGINEERING</u> Senior Project Engineer	
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Provided project controls to a variety of works within Queensland and PNG. Coordinated and implemented QA procedures and systems in the Brisbane office, and performed internal audits.

Feb-Jun 89 Sep-Nov 88	<u>KINHILL LTD</u> Project Control Engineer	REFEREE: Mr. A. Goodwin PHONE: (61) 7 33689228
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Prepared the Operating Cost estimate for the Kunwarara magnesia mine, and integrated this data into an overall feasibility study and preparation of financial documentation. Prepared and maintained the Project Schedule for Thalanga Base Metals project using Prima Vera and other software.

Jan 89 to Feb 89	<u>A.J. LUCAS (CONSTRUCTION) PTY LTD</u> Project Engineer (Contract Basis)	REFEREE: Mr. A.J. Lukas PHONE: (61) 2 98096866
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Planning, coordination and maintenance of project schedule for construction of several oil and gas pipelines and facilities at Moomba gas fields, South Australia.

Jan 88 to Sep 88	<u>WILLIAMS BROS CMPS</u> Senior Mechanical Engineer (Contract Basis)	
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Detail pipeline, mechanical and piping design, and specification for the Roma-Gladstone natural gas pipeline. Commissioning of a pilot methane drainage system, and implementation of office computer information systems.

May 1984 to July 87	<u>BILSTON WELDING ENGINEERS</u> Transport Engineer (<u>Perisher Skitube JV</u>)	
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Seconded from BWE to Skitube, the first and currently only rack (using a rack and pinion drive) railway in Australia in a two level role, firstly to administer Transport and Track construction contracts, and secondly to act as an executive assistant to Mr. Bilston, a JV partner and originator of the concept. Duties performed included:

- ◇ Project financial modelling, project scheduling, conceptual design and coordination of 7 D&C contract packages;
- ◇ Control certification documents and liaise with Government Bodies;
- ◇ Establish Project Office drawing/document control systems, Project and Site Office staff and logistics;
- ◇ Provide technical management of Transport Contract (value \$M18) and Tracklaying Contract (value \$M2), and coordination of these packages with the overall project. Establish specialised rail track construction techniques. Liaison and coordination of commissioning. Design of the permanent tunnel drainage system;
- ◇ Formulate and obtain approval for O&M Procedures and philosophy including energy management control.

Performed NATA-certified hydrostatic testing on numerous gas, oil and slurry pipelines in Australia and PNG.

Jan 84 to Apr 84	<u>PROMET/IPCO MARINE, E. Malaysia</u> Quality Control Engineer (Contract Basis)
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As QC Engineer for the construction of the onshore facilities for the Sabah Gas Utilisation Scheme, supervised radiographic/NDT teams and clerical staff (12 personnel), updated, collated and maintained QC Manuals and documentation, liaised with Client's QA/QC representatives, compiled QC documentation of all mechanical works, assisted with hydrostatic testing and commissioning pipeline and terminals.

Sept. 1983 to Dec. 83	<u>WORLEY ENGINEERING (AUST)</u> Mechanical Engineer - (Contract Basis)
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Provided mechanical engineering input to projects and proposals associated with the oil and gas industry, particularly CNG transportation systems.

Feb 1980 to Sept. 83	<u>THE PIPELINE AUTHORITY</u> Mechanical Engineer	REFEREE: Mr. M. Kimber PHONE : (61) 411 321084
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Designed metering stations, instrumentation and mechanical upgrades including design and construction planning for the Wagga and Canberra lateral pipelines and facilities, and Sydney City Gate upgrade. Investigated equipment performance including non-operation of Automatic Line Break, line valve vibration, and blowdown vent noise reduction study.

Assisted with the conceptualisation/development of UT inspection procedures following pipeline failure at Moomba 1982. As Site Engineer for ultrasonic inspection of 10 km of pipeline at Moomba, responsible for procedure development, contractor liaison, collection/collation of records.

Preparation of procedures, equipment and performance of all aspects of hydrotest and commissioning of a 10 km 660mm O.D. pipeline at Moomba, and the 60 km 273mm O.D. Canberra pipeline. Assisted in hydrotesting and commissioning of the 130km, 323mm O.D. Young-Wagga pipeline.

1979-1980	<u>NETWORK SUPPORT FACILITY</u> Facilities Engineer	Mr. C.J. Hill PHONE: (61) 6 231 3664
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NSF provided central engineering support in the area of building services for three NASA satellite tracking stations in the ACT. Study and design of an outside air economiser system for the Honeysuckle Creek Tracking Station.

1978-1979	<u>ROVER MOWERS</u> Industrial Engineer
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ADDITIONAL QUALIFICATIONS AND EXPERTISE

- **Computing Skills:** Prima Vera/Suretrak, MS Project, Simflex pipe stress analysis, AutoCAD 14, Word, Excel (above average spread sheeting skills), Access, Visual Basic, Lotus, Corel Draw.
- **Micro-controllers:** Winner of [Simmstick2000](#) electronics design contest for ToneSCADA project, an implementation of DTMF tones in radio data communications.
- Accepted by Northern Territory Work Health Authority as **Pressure Vessel Inspector** for Magellan Glycol Injection Project in Alice Springs.
- Performed in a casual **teaching position** at the Ithaca College of TAFE, conducting training courses in several computer languages including Lotus 123 and Dbase.

REFERENCES

The following references will be made available upon request:

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| ● THIESS PROCESS ENGINEERING | ● PI CONSULT |
| ● KINHILL LTD | ● PIPE LINE TECHNOLOGISTS |
| ● A.J. LUCAS (CONSTRUCTION) PTY LTD | ● |