

James Broad

Contract Chemical Engineer

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CAREER SUMMARY

Chemical Engineer with extensive experience in process engineering, project management, plant operations, and environmental solutions for operating companies and engineering contractors.

AREAS OF ACCOMPLISHMENT

Process plants -- design, construction, start-up, and operation of many chemical, petroleum, and utility process facilities. Supervised multi-discipline and multi-national office staffs and field crews on domestic and international projects.

Environmental -- design, construction, and commissioning of air pollution control, wastewater treatment, and hazardous waste recycling systems. Led pollution prevention and process safety studies.

Writing -- feasibility studies, project specifications and proposals, business plans, operating procedures, chemical safety manuals, technical brochures, marketing materials, French and German translations, a travel book, and a web site.

Teaching -- University of California (UCLA and UCI) Hazardous Materials Management Programs (HMMP) lecturer. Saginaw Valley State University, Chemistry, adjunct professor.

International -- projects in Europe, Middle East, former Soviet Bloc, SE Asia, Africa, and South America. USA experience from Alaska to Florida.

EDUCATION

College of Engineering, University of Detroit, Detroit, MI.	
Chemical Engineering diploma, cum laude.	1965
Law School, evenings, DePaul University, Chicago, IL.	1965-1966
Graduate Engineering School, Kansas State University, Manhattan, KS.	1971
Graduate Business School, evenings, Wichita State University, Wichita, KS.	1973-1974
Talenpracticum Dreefzigt, Haarlem, The Netherlands. Dutch language.	1975-1977
Alliance Française, Paris, France. French language.	1978 and 1986
Eurosprachschule, Aschaffenburg, Germany. German language.	1991-1993

PROFESSIONAL EXPERIENCE

- Contract Chemical Engineer 1994 to present
Self-employed. Specialist in design, construction, start-up, and optimization of process plants. Executed projects in facilities producing chemicals, semiconductors, petroleum products, and consumer goods. Assignments in Michigan, California, The Netherlands, Germany, Nigeria, and Saudi Arabia.
- ENSR Consulting and Engineering, Newport Beach, CA 1989-1994
Manager of Engineering for the Newport Beach office. Started the department, then hired and trained a staff of process engineers. Led the firm into air pollution control systems engineering and PSM. Transferred to Germany with a division of the parent company, RWE AG, for two years. Responsible for technology development, acquisition, and marketing. Represented the company at German technical trade shows. Made initial marketing trips for the Board of Directors to Singapore, Malaysia, and Ukraine.
- Chemical Process Consultant; Newport Beach, CA 1982-1989.
Self-employed. Designed process improvements for Los Angeles area petroleum refineries and chemical plants. Awarded and executed many contracts by ARCO Petroleum Products and Mittelhauser Corporation for process design, pilot plant operations, cost estimates, and feasibility studies.
- E&L Associates, Long Beach, CA 1978-1982
Project Manager. Managed design, procurement, construction, and start-up of new and revamped facilities in a number of Los Angeles area petroleum refineries and chemical plants. Managed a crew of project engineers within the Chevron El Segundo refinery running dozens of E/P/C projects and start-ups.
- Fluor Engineers, Los Angeles, CA 1974-1978
Project Engineer. Coordinated design and construction of major petroleum facilities, domestic and international. Transferred to Haarlem, The Netherlands for two years to manage design of an offshore LPG terminal in Saudi Arabia.
- Racon, Inc., Wichita, KS 1969-1973
Process Engineer. Improved yields and optimized operations for this manufacturer of fluorocarbon refrigerants (CFCs). Started up a new R-22 plant. Saved major customers on technical troubleshooting trips. Promoted to production manager.
- Liquid Carbonic Corp., Chicago, IL 1965-69
Project and Process Engineer. Designed, oversaw construction, and started up dry ice and hydrogen plants in midwest and southern states.
- Udylite Corp., Detroit, MI 1962-1964
Laboratory Technician. Electroplating solutions. Customer Service Lab. College co-op job.
- Dow Corning Corp., Midland, MI 1959-1960
Laboratory Technician. Silicone foams. Organic Research Lab. High school co-op job.

REPRESENTATIVE PROJECTS

Amoco Oil, Kansas City, KS; Wastewater Sludge Treatment Plant.
Construction manager and operations manager.

Aramco, Juaymah, Saudi Arabia; Offshore LPG Terminal.
Project Engineer.

ARCO Petroleum, Los Angeles, CA; Propane Recovery Plant.
Process Engineer and Project Manager.

BP, Toledo, OH; Major Refinery Modernization.
On-Site Engineering and Construction Coordinator.

BP Exploration, Anchorage, AK; North Slope Waste Incinerator.
Mechanical Design Manager.

Cetrel, Bahia, Brazil; Hazardous Waste Incinerator.
Technical Manager.

Chevron USA, El Segundo, CA; Floating Roof Crude Oil Tanks; Multiple Projects.
Process Engineer; Project Manager.

Dow Chemical Company, Midland, MI; Dow Automotive Daytona Project
Procedure writer.

Four Corners Pipeline, Long Beach, CA; Marine Oil Terminal HazOp.
Team Leader.

GNB Battery Technology, Los Angeles, CA; SB-14 Waste Minimization Project.
Process Engineer.

Hemlock Semiconductor Company, Hemlock, MI. Decomposition and Utilities plants.
Procedure writer and start-up engineer.

Hughes Aircraft Company, Los Angeles, CA; SB-14 Waste Minimization Project
Originator and Project Manager.

Hughes Electronics, San Fernando, CA; VOC Emissions Control System.
Process and Project Manager.

Libby Glass, Los Angeles, CA; SB-14 Waste Minimization Project.
Process Engineer.

Liquid Carbonic Corp., Dania, FL; Hydrogen Plant.
Project Engineer.

Liquid Carbonic Corp., Dallas, TX; Dry Ice Plant.
Project Engineer

Nigerian National Petroleum, Kaduna, Nigeria; Refinery Modernization Study.
Process Engineer.

Petrolchemie, Schwedt, Germany; Wastewater Plant Upgrade.
Proposal and Process Manager.

Racon, Wichita, KS; Chlorodifluoromethane (Refrigerant 22) Plant.
Process Engineer and Construction Coordinator.

RWE AG, Essen, Germany; RDF Power Plant Feasibility Study.
Technical Manager.

Spectrolab, Newport Beach, CA; VOC Emissions Control System.
Process Engineer and Project Manager.

Star Enterprise, Port Arthur, TX; Wastewater Oily Sludge Treatment.
Project Manager.

Texaco Refining, Los Angeles, CA; Wastewater System Upgrade.
Project and Process Manager.

University of California at Los Angeles (UCLA); HMMP.
Lecturer on Air Emissions Control Technology.