

## **EDUCATION**

1976 **Bachelor of Science in Chemical Engineering**  
University of California at Davis

## **EXPERIENCE**

2002 **Engineering Design & Testing Corp.**  
to Present **Oakland, California**

*Consulting Engineer*

Expertise includes process design, process simulation, mechanical equipment design and specification, project management, cost estimating, facility startups and operations troubleshooting, Process Hazard Analysis (PHA), Layers Of Protection Analysis (LOPA), Chemical Exposure Index calculations (CEI), Fire Exposure Index calculations (FEI), relief system design.

Projects include petroleum production and refining facilities, marine loading terminals, and transfer stations, chemical and catalyst manufacturing plants, food processing plants, hazardous waste storage and neutralization facilities, cogeneration plants, water treatment facilities, pollution abatement and vapor recovery systems

2001 **Eichleay Engineering**  
to 2002 **Concord, California**

*Process Engineer*

Process Engineer for new DOW ProFume® fumigant plant. Designed the hydrofluoric acid and sulfur dioxide offloading and storage facilities, sulfuryl fluoride storage, recovery and packaging facilities, and volatile organic carbon (VOC) abatement system. Did the chemical exposure index (CEI) and fire exposure index (FEI) calculations for the plant.

1999 **Dexter/Loctite**  
to 2001 **Bay Point, California**

*Project Manager*

Project Manager for aerospace adhesive company. Projects included adhesive manufacture and filming line upgrade, Ross Mixer and Dual Range Mixer heating and cooling system replacements, wiped film evaporator improvements, Triple Range Mixer heat transfer debottlenecking, Ross Mixer instrumentation improvements.

1997 **Eichleay Engineering**  
to 1999 **Concord, California**

*Project Manager/Project Engineer/Process Engineer*

Project Manager for ethylene glycol catalyst plant expansion, preliminary engineering, and cost estimate for naphtha hydrotreater replacement. Project Engineer for modifications to an aerospace adhesive manufacturing facility. Process Engineer for a new palm oil purification facility, preliminary engineering and cost estimate for fluid coker modifications, modifications to the distillation section of a nitrogen trifluoride plant.

1986  
to 1997

**ESI, Engineering Services, Inc.**  
**Walnut Creek, California**

*Project Manager/Project Engineer/Process Engineer/Certifying Entity*

Project Manager for crude unit revamp. Project Engineer for crude oil pumping station, detergent manufacture plant, food processing plant modifications, refinery wastewater treatment plant modifications, cost estimate for storm water system modifications. Process Engineer for 5 crude oil or gasoline marine vapor control systems, Stretford unit modifications, gas fired steam boilers for oilfield recovery, oil refinery flare header expansion, modifications to electronic grade sulfuric and nitric acid plants. U. S. Coast Guard Certifying Entity for changes to a marine vapor control system.

1981  
to 1986

**Hallanger Engineers**  
**Orinda, California**

*Process Engineer/Project Engineer*

Process Engineer for cogeneration plant, refinery feasibility studies, geothermal power plant. Project Engineer for waste oil reprocessing facility, cost estimate for crude unit and vacuum unit refurbishment.

1976  
to 1981

**Shell Oil Company**  
**Martinez, California**

*Process Engineer/Economics and Scheduling Engineer/Operations Engineer*

Process Engineer for \$800 million refinery modernization. Economics and Scheduling Engineer responsibilities included profitability analysis, crude oil and gasoline shipping coordination and gasoline blending oversight. Operations Support Engineer for crude oil, carbon monoxide fueled steam boiler, vacuum tower, alkylation, naphtha, gasoil, and FCCU hydrotreaters.

## **REGISTRATIONS and CERTIFICATIONS**

Registered Certification Engineer, United States Coast Guard

Registered Professional Engineer in California (#6152)

## **PROFESSIONAL ORGANIZATIONS**

American Institute of Chemical Engineers