

Bart Carpenter

| 303-956-1415 | bart@vpeinc.com |

Expertise	Bart Carpenter has 35 years of process engineering, consulting and management experience in petroleum refining, gas processing and industrial biotechnology. At ConocoPhillips, his downstream experience ranged from chief process engineer to corporate roles in operations planning and strategic management for COP's refining industry. Mr. Carpenter has extensive optimization experience and is skilled at combining business needs with technology to create high value projects.	
Education	Bachelor of Science – Chemical Engineering, <i>University of Colorado, Boulder, CO</i>	<i>1981</i>

Career History and Sample Accomplishments

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| Senior Process Engineer, <i>Vanderpool Pipeline Engineers Inc.</i> | <i>2015 - Present</i> |
| <ul style="list-style-type: none"> • Provided economic feasibility study for a new 20 MBPD hydroskimming refinery to produce ultra-low sulfur diesel and various intermediates. • Supported major refinery client to reduce the cost of building and maintaining tanks across their refinery system. • Reviewed crude gathering /crude stabilization / pipeline project and provided recommendations to improve crude stabilizer design. | |
| Technology Director, <i>AECOM</i> | <i>2013 – 2015</i> |
| <ul style="list-style-type: none"> • Developed conceptual design and estimate for a 150 MMSCFD facility to separate produced gas, water and condensate including gas dehydration and compression and condensate stabilization. • Led a project team of 25 process engineers to evaluate and correct deficiencies in the Plant 1 & 3 flare systems, including PSV sizing, inlet and outlet line sizing, and flare header sizing. • Developed FEED package for Cool Planet's first commercial facility to convert biomass into high-octane, drop-in biofuel and soil enhancing biochar. Implemented improvements to significantly improve the gallons/ton yield. | |
| Senior Technical Specialist, <i>Merrick & Company</i> | <i>2008 – 2013</i> |
| <ul style="list-style-type: none"> • Co-led profit improvement audit at Catlettsburg, KY refinery. Recommended a total of 54 improvements, earning an estimated \$65 million/ year. • Analyzed Ceramatec's upgrading technology to understand the commercial opportunity and economic feasibility. Study centered on diluted bitumen streams from Canada. • Facilitated Refinery Leadership Team to develop a 10-year strategic plan to improve the refinery's long-term viability. Developed and documented a 3-year implementation plan. • Developed refinery optimization model and evaluated alternatives to improve plant operation. • Co-led yield and energy audit. Screened 100+ ideas and recommended 48 improvements that could be implemented with operating changes or small capital projects. Estimated earnings were in excess of \$50 million/year. • Led pilot plant process design effort to produce biobutanol from biomass including hydrolysis, fermentation and product recovery. Developed fractionation train to separate the acetone/butanol/ethanol mixture into high purity products. • Developed process simulation of the Gas Oil Hydrotreater Fractionator and recommended operating changes to improve tower operation to increase diesel production. • Developed design package for a commercial scale bioacrylic acid facility using renewable feedstocks. Developed a risk- based pro forma to support fundraising activities. • Developed strategy to manage butane imports, exports and iC4 production within the refinery. Provided recommendations to increase isobutane production. • Guided detailed process design for the Integrated Biorefinery Research Facility at the National Renewable Energy Laboratory. | |

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Refining Strategy Manager, ConocoPhillips	2005 – 2008
<ul style="list-style-type: none">• Provided guidance to refinery management at site level in developing major capital projects (> \$20MM) for 5 refineries on the East and Gulf Coasts. Performed decision and risk analysis and developed overall project economics. Led cross- functional integration efforts to ensure refining projects were aligned and optimized across the downstream value chain.	
Regional Optimization Manager, ConocoPhillips	2002 – 2005
<ul style="list-style-type: none">• Optimized the downstream value chain for the Western Region (5 refineries) across Commercial, Transportation and Marketing functions. Developed and implemented constraint removal projects to increase earnings by > \$10MM/ year.	
Six Sigma Project Champion, Conoco Inc.	2000 – 2002
<ul style="list-style-type: none">• Initiated and led the Six Sigma effort in the Rockies Business Unit. Supervised a team of 15 Black Belts to implement Six Sigma projects across the 6-state downstream business unit.	
Rockies Strategy Manager, Conoco Inc.	1998 – 2000
<ul style="list-style-type: none">• Responsible for developing and implementing the “Big Dog” strategy to insure long term viability of Rocky Mountain Business Unit by raising value chain performance to meet low cost USGC competitor.	
Director of Operations Planning & Economics, Conoco Inc.	1996 – 1998
<ul style="list-style-type: none">• Led operations planning activities at the Denver Refinery including crude selection, production forecast, yield accounting and product blending. Primary liaison between refinery and Houston commercial groups. Active member of the Refinery Leadership Team	
Regional Engineering Office Lead Process Engineer, Conoco Inc.	1993 – 1996
<ul style="list-style-type: none">• Led process design activities for Rockies Business Unit, including the Denver and Billings refineries. Managed projects from concept through successful start-up, troubleshooting and hand-off to Operations.	
Chief Process Engineer, Conoco Inc.	1990 – 1993
<ul style="list-style-type: none">• Led and mentored a team of six process engineers to develop and design projects to improve yields, energy efficiency and reliability of the plant. Responsible for developing the annual capital budget.	
Senior Economics Planning Engineer, Senior Process Engineer, Process Engineer, Conoco Inc.	1981 – 1990

Licensing, Certifications and Specialized Training

- HYSYS Process Simulation Program
- PIMS Linear Program
- Certified Six Sigma Project Champion
- Decision & Risk Analysis
- Safety Trained Supervisor

Professional Affiliations

- American Fuel & Petrochemical Manufacturers
- Gas Processors Suppliers Association
- University of Colorado External Advisory Committee, Department of Chemical and Biological Engineering
- University of Colorado Student Alumni Mentor Program, Department of Chemical and Biological Engineering