

# DOWNSTREAM | ADVISORS



## Résumé

**Steven D. Graybill - President**

### Expertise

Technical, economic, and financial aspects of the downstream petroleum industries with experience ranging from the valuation of international refining and marketing businesses to overseeing the design, construction, and operation of grassroots refineries. Typical engagements include transaction due diligence, business and asset valuations, project development and management, model building, price forecasts, market/industry analysis, crude oil valuations, design and optimization, strategic planning, and expert testimony.

### Employment History

Downstream Advisors, Inc. – President	2015-Present
NEXIDEA, Inc. – Partner	2006-2014
Stancil & Co. – Vice President	1996-2005
Goldman Sachs J. Aron & Company (U.K.) – Executive Director	1994-1996
Muse, Stancil & Co. – Consultant	1992-1994
AroChem Corporation – Manager	1990-1992
Conoco, Inc. – Senior / Process Engineer	1983-1990

### Education

MBA, University of Houston, Texas – 1990  
Graduate of Conoco Management Development Program – 1984  
B.S. Chemical Engineering, Iowa State University – 1982

### Professional Affiliations

Registered Professional Engineer in the State of Texas  
American Society of Appraisers – Accredited Senior Appraiser  
Specializing in Business Valuation  
American Institute of Chemical Engineers  
American Chemical Society  
Rotary International

### Publications

DAI Spiral World Model  
Integrated Supply and Demand Pricing Model  
SE Innovation Summit (San Antonio, Texas, 2017)

“Where’s the Resid?”  
AFPM Annual Meeting (San Antonio, Texas, 2016)  
Argus Fuel Oil Conference (Miami, Florida, 2016)

“Update on Eagle Ford Shale Production and Pricing”  
AIChE Spring Meeting (Austin, Texas, 2015)

“Crude Oil Quality Considerations under Carbon Cap and Trade”  
NPRA Annual Meeting (Phoenix, Arizona, 2010)

“Minicut Assay System Overview”  
Crude Oil Quality Group Meeting (Philadelphia, Pennsylvania, 2009)

“California Clean Energy Project - Powering the Road to a Better Environment,” Presentation to National Energy Technology Laboratories (Pittsburgh, Pennsylvania, 2006)

***Continuing Education in Valuation (American Society of Appraisers):***

- BV201N: Introduction to Business Valuation.
- BV202N: The Income Approach to Value.
- BV203N: BV Selected Advanced Topics: The Market Approach.
- BV204N: Business Valuation Case Study.
- BV301: Valuation of Intangible Assets.
- BV302: Special Topics in the Valuation of Intangible Assets.
- ME203: Machinery and Equipment Valuation — Advanced Topics and Case Studies.
- Uniform Standards of Professional Appraisal Practices Course.

**Summary of Work History**

- President, Downstream Advisors, Inc.
  - Founded Downstream Advisors international consulting practice with engagements spanning six continents.
  - In 2020, provided due diligence and valuation of refining and marketing business under reorganization from bankruptcy; provided valuation due diligence on behalf of bidders of seven refinery businesses being sold by Petrobras; led development of plastics pyrolysis project; assisted due diligence and negotiations for a UK refinery acquisition; led profit improvements engagement for Spanish refining company, assisted bidder due diligence for a U.S. refinery, and led the completion of DAI's Post-COVID-19 Global Outlook and Price Forecast.
  - In 2019, provided valuation due diligence for Carlyle's 2019 acquisition of 37 percent of the shares of Spanish company CEPESA in 2019; led team as owner's engineer in the design, construction, and start-up of refinery in Germany, and led the development of grass roots refinery projects in Bahamas and Uganda.
  - From 2015-2020, provided due diligence and/or valuations of oil refining and marketing businesses comprised of 35 refineries, 160 petroleum terminals and 1400 retail service stations located in 30 countries. Valuations included oil supply and marketing companies, refineries, service stations, and tank storage terminals located in Botswana, Cote d'Ivoire, Germany, Kuwait, Myanmar, Pakistan, Spain, Sweden, the UK, and the United States. (See selected valuation engagements of existing business or asset).
  - Also provided technical and economic support to buyer in relation to refinery transactions in Argentina, Papua New Guinea, and the United States.
  - Provided assessments of existing businesses and assets in Denmark, Greece, Morocco, Italy, Ireland, and the United States in which transaction did not occur.
  - Provided price forecast and valuation in support of Russian refinery expansion.
  - Provided project scoping economics for reconfiguration study of German refinery.
  - Provided technical and economic due diligence, business plan evaluation and valuation of refinery business under bankruptcy.
  - Provided project feasibility studies for new refineries in Africa, the Bahamas, and Brazil and for an ethane cracking opportunity in Europe.
  - Led completion of DAI's inaugural Downstream Global Oil Outlook.
  - Led development of DAI's world supply and demand pricing model.
  - Served as an expert witness. (See selected expert witness engagements.)

## Summary of Work History (Continued)

- Partner, Nexidea
  - Assisted refinery transactions, including VARO Energy's purchase of the Cressier, Switzerland Refinery and interest in Bayernoil, Germany; Puma Energy's purchase of refineries in Port Moresby, Papua New Guinea, Acajutla, El Salvador, Managua, Nicaragua; Anika Enterprises' purchase of the state-owned refining assets of Albanian National Refining Company (ARMO); Glencore's purchase and resale of interest in the Cartagena, Colombia Refinery; and Petroplus' purchase of the Ingolstadt, Germany and Coryton, England Refineries.
  - Provided valuations of oil supply and marketing companies, refineries, and tank storage terminals to assist with financing and/or purchase price allocation. (See selected valuation engagements of existing business or asset).
  - Evaluated existing businesses and assets in Africa, Belgium, Caribbean, China, England, Germany, Hong Kong, Ireland, Italy, Romania, and the United States in which transaction did not occur.
  - Provided market studies and valuation reports to lenders to Varo Energy for the purchase of OMV's interest in Bayernoil; to lenders of a new condensate refinery in Corpus Christi, Texas; and to the secured lenders (bankruptcy workout) of Lyondell Bassell's Houston Refinery.
  - Developed weight-based short and long-range planning optimization models for ECOPETROL's refineries and petrochemical operations located in Barrancabermeja and Cartagena, Colombia. Models were based on AspenTech's PIMS modeling system and included an integrated model encompassing all ECOPETROL's downstream operations. Developed and facilitated PIMS users training and certification course for ECOPETROL personnel.
  - Provided refinery model, economic analysis, and financial analysis documents for Refineria de Cartagena (Reficar)'s project to expand the Cartagena, Colombia refinery. Provided the modeling, economic analysis, and design optimization document for construction of Ecopetrol's petrochemical complex to be built in Cartagena, Colombia.
  - Provided economics, logistics analysis, and design basis for construction of Novatek's grassroots condensate refinery in Ust-Luga, Russia which started operation in 2013.
  - Provided economics, logistics analysis, and design basis for construction of a grassroots refinery located in Açú Port, Brazil.
  - Provided feasibility study for construction of an oil terminal on the United States Gulf Coast.
  - Provided oil market studies and price forecasts for United States Gulf Coast market.
  - Provided market study of hydrogen supply opportunities in China.
  - Provided technical and economic analysis for gasoline blending in Far East, Middle East, and Mexico.
  - Conducted due diligence of different process technologies involving gasification of recyclable waste.
  - NEXIDEA Systems – Acquired the assets of HPI Consultants and developed software products for the downstream petroleum industries including NEXIDEA Systems' Minicut assay system, refinery simulator, and crude oil and product blenders.
  - Quadrise Fuels International – Participated in joint venture to market emulsified fuels technology in Central and South America.
  - California Clean Energy – Participated as co-developer of direct-fired power project for combustion of petroleum coke to steam and electricity using advanced supercritical coke-fired boiler technology with near zero-emissions flue gas.
  - Non-executive Director, Renova Energy PLC – Served on the board of Renova Energy – an alternative fuels company producing fuel ethanol in Torrington, Wyoming.
  - Served as an expert witness. (See selected expert witness engagements).

## Summary of Work History (Continued)

- Vice President, Stancil & Co.
  - Assisted numerous oil refinery transactions and valued refineries, pipelines, oil tankers, and tank storage terminals in support of bank financing or property tax appeals. Built economic models for the purpose of refinery acquisitions, toll processing, project development, process optimization, crude and product valuations, and pricing studies. Assisted project developments involving refineries located in the United States, South America, Europe, Russia, and Middle East.
  - With joint developer LTDI, Inc., conducted the economic feasibility study and arranged commercial contracts to build and operate an integrated combined cycle (IGCC) power plant supplied by petroleum coke in the Los Angeles basin.
- Executive Director, J. Aron & Company (U.K.)
  - Managed third-party contractors in the design, construction, and operation of the 70,000 b/d Euro-Splitter condensate refinery in Rotterdam, The Netherlands. Established and integrated the refinery scheduling, economics, and planning functions with the J. Aron & Company (U.K.) trading desk.
- Consultant, Muse, Stancil & Co.
  - Assisted negotiations toward the design and construction of the Euro-Splitter condensate refinery. Assisted 15 refineries with development of respective 1990 gasoline baselines required by the Clean Air Act Amendment. Signed as the certified EPA auditor for eight gasoline baseline submissions. Engaged in accident investigations, a cogeneration project development, toll processing negotiations, bankruptcy “workouts,” and evaluations of joint venture project opportunities in the former Soviet Union.
- Manager, Refining Operations Planning, AroChem Corporation
  - Set up operations planning system along with yield and financial variance reporting for AroChem’s Ponce, Puerto Rico refinery. Coordinated refinery feedstock acquisitions and product movements. Cut refinery yield losses through operating changes and capital investments. Developed and marketed refinery upgrade for sour resid conversion. Evaluated asset acquisitions and coordinated planned integration of 250 MW cogeneration project with refinery.
- Engineer, Conoco, Inc.
  - Senior Engineer, Refining Strategic Planning, Conoco, Inc. – Coordinated the Gulf Coast and European refinery strategic planning for Conoco’s fully integrated refineries in Lake Charles, Louisiana and Humberside, England. Developed gasoline reformulation and low sulfur diesel studies for Lake Charles refinery. Acted on four project task forces for developing Conoco’s Lake Charles and Humberside refineries. Evaluated refinery acquisitions, coordinated capital budgets, and assisted Vice President of Refining.
  - Staff Engineer, Ponca City Refinery, Conoco, Inc. – Acted as temporary operations superintendent. Participated in the design, construction, and start-up of a fuel gas cryogenic unit, a new vacuum tower, an FCC revamp, and a 65 MW cogeneration plant. Provided engineering support to operations having a butamer, crude unit, cryogenic fractionation, fluid catalytic cracking units, naphtha reformer, and MTBE unit.
  - Process Engineer, Refining Operations Analysis, Conoco, Inc. – Provided technical support for fluid catalytic cracking and hydroprocessing processes in Conoco’s refineries using resources in R&D, outside consultants, vendors, and computational models. Completed the Conoco Management Development Program.

***Selected Valuation Engagements of Existing Business or Asset:***

- African oil terminal in support of investor participation
- African assets in support of investor participation
- African oil products supply and marketing companies located in five countries in support of bank financing, purchase price allocation, and/or share purchase offering
- Chinese oil storage and shipping company in support of investor participation
- European refinery business in support of reorganization from bankruptcy
- European refinery business units in support of bank financing
- European refineries for purpose of acquisition
- European refinery for purpose of seller
- European asphalt terminal for purpose of acquisition
- Latin American oil products supply and marketing companies located in six countries in support of bank financing and purchase price allocation
- Latin American assets located in four countries in support of bank financing
- Myanmar terminal and marketing business in support of debt and equity financing
- Papua New Guinea refining and marketing business in support of bank financing and purchase price allocation
- Puerto Rico refinery for litigation support
- Puerto Rico oil products supply and marketing company in support of bank financing and purchase price allocation
- U.S. Oil tankers for purpose of ad valorem tax appeal
- U.S. asphalt refinery for purpose of acquisition
- U.S. asphalt refinery in support of bank financing
- U.S. storage terminal and condensate fractionator in support of investor participation and bank financing
- U.S. ethanol plant for purpose of seller
- U.S. pipeline assets for purpose of ad valorem tax appeal
- U.S. refineries for purpose of acquisition
- U.S. refinery assets for purpose of ad valorem tax appeal
- U.S. refinery business for purpose of asset allocation
- U.S. refinery business for purpose of bankruptcy workout

**Selected Expert Witness Engagements:**

- 2019 – Expert Report, international oil loss claim
- 2019 – Expert Report, refinery valuation for property tax appraisal
- 2018 – Expert Report, review of U.S. refinery business interruption claim
- 2017 – Expert Report, refinery valuation for property tax appraisal
- 2014 – Expert Witness, Federal Energy Regulatory Commission (Docket No. OR14-6-000) – Formal Complaint of Flint Hills Resources Alaska, LLC against BP Pipelines (Alaska) Inc., ConocoPhillips Transportation Alaska, Inc., and ExxonMobil Pipeline Company regarding the pricing of ANS crude oil for Trans Alaska Pipeline crude oil Quality Bank.
- 2006 – Expert Witness, International Arbitration, Koch v. Vopak. Expert report on valuation of the economic damages associated with a Euro-Splitter refinery interruption in 2003 caused by tank terminal fire.
- 2005 – Expert Witness, Valdez Tax Appraisal Board. Tesoro ad valorem tax appeal to City of Valdez. Expert report on valuation of Captain Downing, Pride, and Arctic oil tankers.
- 2004 – Expert Report, refinery valuation for property tax appeal.
- 2002 to 2003 – Expert Witness, U.S. District Court of Harris County, Texas. Cause No. 1999-01743. Jerral W. Jones v. Sanford P. Brass.
- 2001 to 2002 – Expert Witness, The High Court of Justice Queen’s Bench Division, Commercial Court of the United Kingdom. The Strategic Fuel Fund Association of South Africa v. HBTI and Trafigura. Expert report on reasonableness of oil trading agreement.
- 2001 to 2002 – Expert Witness, U.S. District Court of Harris County, Texas. Cause No. 2000-57839. Air Liquide America Corporation v. API Basco Inc., API Heat Transfer Inc., American Precision Industries Inc., and Thermal & Mechanical Equipment Partnership, Ltd. Expert reports and testimony on technical and economic aspects of damages claim related to manufacturer’s equipment.
- 2000 to 2001 – Expert Witness, U.S. District Court for the Southern District of Texas, Houston Division. Case No. H-94-3930; Richard M. Coan, as Trustee for Arochem International, Inc., et al v. Chase Manhattan Bank, N.A., et al – Expert reports on speculative trading and valuation of damages.
- April 1999 – Expert Witness, U.S. District Court for the Central District of California. Case No. CV98-3157-RSWL; LTDI, Inc. v. MG Industries, Inc., et al – Valuation of LTDI Business Development Services.
- March 1999 – Expert Witness, Richard Coan, as Arochem Trustee, et al v. Chase Manhattan Bank, et al – Hydrocarbon Loss Claim v. Corco, Inc.
- March 1998 – Fact Witness, U.S. District Court Southern District of New York, The Chase Manhattan Bank, N.A., et al v. Ernst & Young, et al.
- March 1997 – Expert Witness, Wyoming District Court, First Judicial District. Docket No. 140,405; Frontier Refining Inc. v. Reliance Electric Industrial Co. – Review of Business Interruption and Property Loss Claim.
- 1996 to 2000 – Non-testifying Expert, Federal Energy Regulatory Commission (Docket Nos. OR96-14-000, et al) – Formal Complaint of Tesoro Alaska Petroleum Company against Amerada Hess Pipeline Corporation, et al. Assisted testimony regarding the pricing of ANS crude oil for TransAlaska Pipeline crude oil Quality Bank.
- September 1993 – Expert Witness, U.S. District Court for District of Colorado (Civil Action No. 92-Z-153) – W. R. Wilson, et al v. Sinclair Oil Corp. – Expert Report on the Cause of Asphalt Tank Rupture, Silt, Colorado – September 17, 1990.