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From the Editor

Unless you have been blissfully spending your retirement life isolated in a cool Blue Ridge mountain cave (I envy you) the first half of this year has provided plenty of excitement. First, according to some pundits the 3-month Iran war caused the largest oil and gas supply shock ever. It depends on where you live in the world and your relative income bracket but in the USA, the economic pains are not as severe as during the 70's and 80's because our service and information economy is less energy intensive. Nevertheless, Chevron and Exxon have set all time high production volumes and stock prices. Yet their latest quarterly earnings actually were down from the similar quarter year ago. More of that later in the issue.

Then there has been a lot of anxiety about the global economic growth, the war's negative impacts on emerging / developing markets, truck drivers, farmers and crops, business and leisure travel. Interestingly enough, economists are predicting decent 2.6% to 3.2% global economic growth for 2026 and a 2.7% to 3.4% range for 2027. These bold forecasts are from economists who have predicted nine out of the last five recessions. Perhaps, unlike the majority of us retardees who do not comprehend the AI economy which keeps powering on, economists have it figured.

With all these 'noises' and distractions, it is good to retreat to that 'cave' and reflect on what is really important in our lives and grab that opportunity before it slips away. For me, I wish I had met Jim Brazell, a long time BRMCRA member, who sadly has left us recently (obituary on page 3).

In the last issue I began to review the Downstream business of Petroleum Refining with an overview of the Supply/Demand of crude oil feed stocks and touched on Refining economics. In this issue of Downstream: Refining Pt II, I will explain in more details the major units of a modern oil refinery. Hopefully, it won't be too geeky for the readers.

Blue Ridge Chapter Membership

We welcome new member **Larry Tedesco**, from Weaverville! At the recent Annual Meeting, our chapter received the Award for the highest increase in membership! Being a small chapter and getting dues paid by June 30 helped! Congrats!

Chevron

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The Chevron Retirees Association (CRA) is not a subsidiary of the Chevron Corporation, but an independent organisation comprised of retired employees of Chevron or its predecessor companies. The contents and opinions expressed in this chapter newsletter does not necessarily reflect the views of the Corporation nor the national Association.

Chevron Retirees Association

Membership Committee
Recognizes



BLUE RIDGE MOUNTAINS CHAPTER

104% Membership Increase

21 Members July 1, 2024 → 44 Members June 30, 2025

Chapter Highlights

- Our Chapter's bank balance stood at **\$2411 as of May/29//2026**
- **Please bring your dues to the June meeting or send Kathy Dawkins a check:**
 - **97 Arthur Road, Asheville, NC 28806**
- We have a new [Chapter website!](#) This will be our Communications vehicle going forward. Check it out and send feedback!
 - To request postings on the website, please write to our new chapter email address: brmchevronretirees@gmail.com

Calgary Annual Meeting (May 18-20)

- **Attendance / Membership**
 - **52 delegates / 31 guests**
 - 7118 dues paying members out a total of approximately 18-20,000 retirees.
 - No change in **\$5 dues to National**
 - **44 chapters** (49 last year)
 - **Steve Bergthold** elected president
 - Best practices from chapters
 - Two Public Service awards (\$5000 each) to **Mike Colvin (Contra Costa)** and **Maya Pendleton (Houston)**
- **Communications**
 - New website has created opportunities -
 - **100+** responses/month
 - **725** new member requests
 - Recruiting letter to go out to all names in database (**± 15,000**)
- **Budget:**
 - 2027 budget of **\$197,273** approved (-9 % from 2026). May increase if successful in convincing Chevron for more \$\$.
- **Benefits:**
 - CMS [announced a 2.48 % average](#) increase for Medicare Advantage and Part D payments for 2027.
 - To take advantage of [ChevRec Benefit Hub](#), requests a **code** from [Jim Bonwell](#).

Blue ridge Membership (continued)

Membership dues are \$10 per person per year **with the first year waived for new members**. Because the National Chevron Retirees Association (CRA) works on a July 1- June 30 fiscal year, all dues need to be in by June 30 to National CRA for members to be 'counted' by June 30. **SEE the side bar on how to pay dues. We also gladly accept donations!**

March 3 2026 Chapter Meeting

We met at the Bay Breeze Restaurant, had a wonderful luncheon and enjoyed getting to know Louis Lacroix, a new member! Melanie Bell, Khoi & Deb Le, David & Holly Kent, Sue Roat, Dave Wagner also were there. Apologies if we missed a few names. Photo of a few of us below.



Wednesday June 3, 2026 11:30 AM chapter meeting

Our June chapter meeting will be a picnic at [COWPENS NATIONAL BATTLEFIELD](#), Gaffney, SC on **WEDNESDAY, JUNE 3rd, instead of the usual first Tuesday of June**. The picnic will be held at the covered Group Shelter in the picnic area. **BYO food and drinks**. COWPENS is **FREE** to visit and the Visitor Center is open 9 am to 5 pm. Stop in the Visitor Center either before or after the chapter meeting to learn more and chat with Rangers; it has maps of the battlefield, information on the Southern Campaign, a short movie, and a museum featuring Revolutionary War weapons and uniforms. [Directions here](#).

Metro Houston CRA chapter visits Asheville

The Houston chapter had two packed days in Asheville on a bus tour. On April 28, they visited the Biltmore followed by dinner at the Cornerstone with a few of our BRM members joining them. The next day the group spent time sightseeing the Blue Ridge Parkway, the Folk Art Center and other sites. It was good to catch up with some old friends and see another CRA chapter spending time in our area.



Chapter Members and Partners

Richard & Barb Adams
 Richard & Barb Ambler
 Charles Barber
[Melanie Bell \(Membership\)](#)
 Katherine Boyers
 David Burnash
 Bo Cribbs & Margie Savoie
[Kathy Dawkins \(Sec./Treasurer\)](#)
 Ron & Charlotte Dethloff
[Jim Engel & Bella Karafela \(Social\)](#)
 Daniel Grigas
 John & Lori Groce
 Suzanne & Lee Hardin
 Michael & Beth Helmer
 John & Donna Howland
[David \(President\) & Holly Kent](#)
 Don & Rae Anne Kinney
[Louis LaCroix](#)
[Khoi \(Vice-President\) & Deb Le](#)
 Kamal Osman & Dr. Johara Nour
 Joy & Mayur Patel
 John & Betty Petkovich
 Chris & Jeannine Prattini
 Robert Ragan
 Duane Richard & spouse
 Suzanne Roat
 Betty Runion (Past-President)
 Jack & Welandia Stevenson
 David Strait
 Larry Tedesco
 Dave & Barb Wagner
 Larry Wesserlink
 Jeremy Zimmerman

In Memoriam:

Sandra Fascher- 3/3/26 Retiree
 Peggy Gagnon - 3/14/26 Survivor
 Norma Perry - 2/28/26 Survivor
 Joseph Silva – 2/23/26 Retiree
 James Matthews – 3/6/26 Retiree

In Memoriam -

With deep regrets, our chapter has lost a long-time member, James Ervin "Jim" Brazell. A decorated World War II veteran and retired Texaco executive who led international Exploration and Production, Jim passed away at 99½ in Asheville, NC, on April 27, 2026. He was a dedicated community activist and UNCA athletics supporter, and was widely known for his environmental work with [RiverLink](#) and for his membership on many Community and Churches' Boards. Read about his amazing life [here and come celebrate](#) it on June 24 at Givens Estates.



Member's Profile

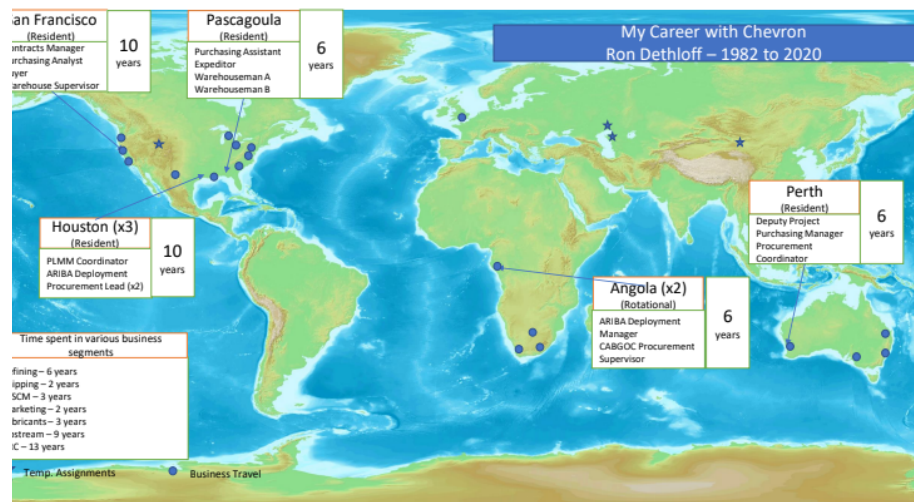
Ron Dethloff in his own words:

I remember my first day with Chevron as much as my last. I joined Chevron at the Pascagoula, MS refinery on March 22, 1982, and retired on July 10, 2020. As a native of Pascagoula, I always thought working at that refinery would be a forever job but never really thought I would have the opportunity to enjoy 38 incredible years with Chevron all over the world. Even today, my family and I continue to enjoy the benefits of working for this world class company.

All my career was in the Supply Chain function (warehousing, expediting, buying, contracts, systems support, analytical support and major capital project procurement). I was privileged to be able to work in multiple locations: Pascagoula, MS (1982-1988), San Francisco, CA (1988 - 1998), Richmond, CA (1989), Houston, TX (1998 - 2000, 2005 - 2011 and 2017-2020), Angola, West Africa (2000 - 2005 and 2007) and Perth, Australia (2011 to 2017).

I married my beautiful wife, Charlotte early in my career. Without her love, support, and encouragement, I would not have been able to have the career I had. We employees and retirees owe so much to our spouses for the dedication they gave us while we worked. Charlotte also worked for Chevron 9 years while we were in the Bay Area. She became a full-time mom when our son was born in 1997. We have 2 children. Our oldest, Mitchell, is an Engineer working in Alabama. Sarah, our youngest lives with us in S. Carolina.

For retirement, we chose Landrum, SC where we are enjoying a more relaxed lifestyle watching the neighbour's horses feed and play. We stay busy with our Church, supporting the [David's Table](#) organisation and keeping up with Sarah's busy schedule. I also help coach youth shooting sports at the local gun club. We feel blessed to get to know all of you!



1Q / FY2026 earnings report ([link](#))

- Stock price / Dividend: \$190 / \$7.12
- \$ 48.61 Bn Revenue
- **\$ 2.2 Bn** Earnings (\$1.11 /sh. adj)
 - \$3.91 Bn Upstream
 - **(\$0.82 Bn)** Downstream
 - **(\$0.88 Bn)** Other
- **Cash Flow / FCF \$2.5 Bn / \$4.1 Bn Adj**

1Q2026 vs 1Q2025

Company Notes on 1Q 2026 Earnings Call

- Earnings **negatively** impacted by
 - Downstream loss **(\$817 million)**
 - Special items: **(\$360 million) legal reserve and (\$223 million) FX loss**

Company forward guidance (2026)

- **7-10 %** production growth
- **\$18 to \$19 Billion** Capex
- **\$3 to \$4 Billion** structural cost reductions

Baseball Humour*

Why do people sing 'Take Me Out to the Ballgame' when they're already there?

I wondered why the baseball was getting bigger ... And then it hit me.

What has 18 legs and catches flies? A baseball team

Baseball players are the only ones that are happy when they get the runs!

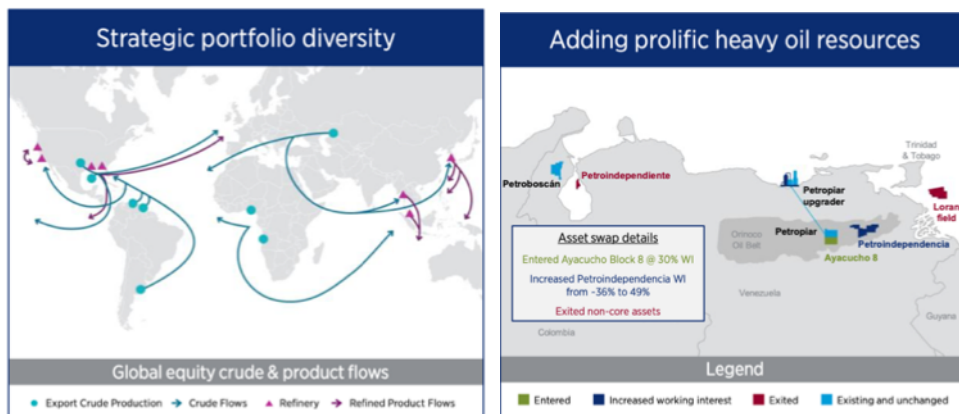
Girls who date baseball players eventually see a diamond.

* Beats the so-so earnings report

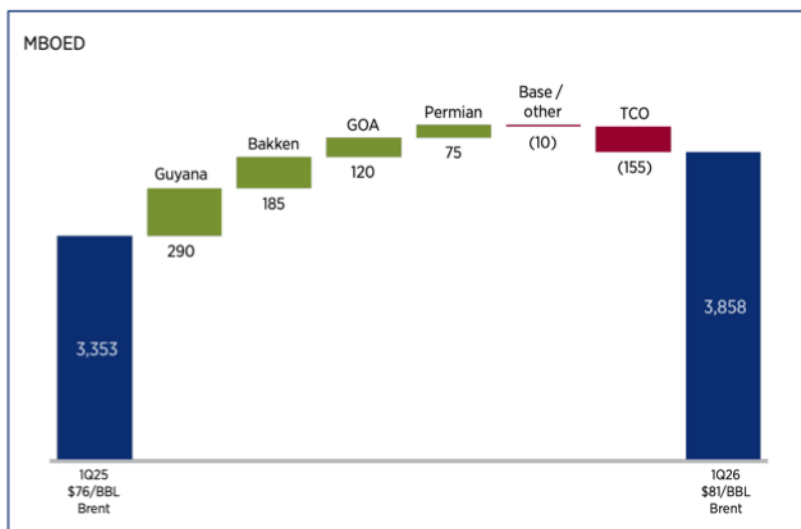
CHEVRON NEWS

First Quarter 2026 Earnings: May 1 2026

- Limited production impact from Middle East Conflict - only 5 % of our portfolio there
- **\$50 billion** cash returned to shareholders last 2 years (Dividends & Sh. Repurchase)
- **US** production over **2 MBOEPD**
- **TCO** producing \pm **1 MBOEPD**
- Wheatstone and Gorgon LNG running at full rates
- US refineries operating at **record crude throughput**
- Strategic Portfolio Diversity provides opportunities for value capture (see slide)
- Strengthen Venezuelan Portfolio - asset swaps (see slide)



- Production of **3.86 MBOEPD (+ .503)** from 1Q2025. Some impacts from [weather \(Australia\)](#) and at TCO (see slide below)



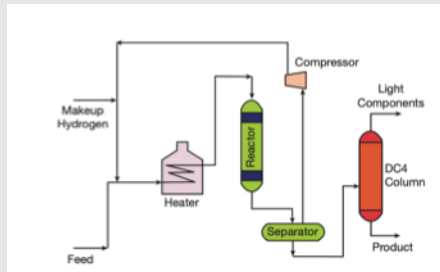
- Unfavourable timing effects totalled nearly **\$ 3 Bn** for the quarter, reflecting the steep rise in commodity prices. Effect is roughly split evenly between inventory valuations and mark-to-market paper derivative positions linked to physical cargoes. Company expects about **\$1 Bn** of this paper position to unwind in the second quarter.

Selected news from [TidBits](#) and other sources

- Mike Wirth warns about Jet [crush](#) deepening on [CBS' Face The Nation](#).
- Sulfur [prices are setting records](#). [Tengizchevroil benefits?](#)
- Gas from Leviathan and Tamar fields off Israel resumed production on April 3 after 33 days shut-down due the security situation
- Syria Petroleum Company, UCC Holding and CVX [selected a deep offshore exploration block](#).
- Energean plc has acquired 31% and 15.5% in Chevron's Angola block 14 & 14-K respectively.
- OXY discovered oil at the [Bandit prospect](#) in Green Canyon Block 680 (CVX has 37.1%)
- With the HESS acquisition, CVX is the largest leaseholder in the GOA and plans 300 KBOEPD.
- Microsoft, Engine No. 1 and Chevron have entered into an [Exclusivity Agreement](#) for a Data Center power plant (\$7 Bn, 2500 mW) .
- California Air Resources Board (CARB) updates its [Cap-and-invest Program](#) to support affordability and align with climate goals after intense lobbying from all groups.
- The company's [Comprehensive Wildlife Plan](#) is being shaped in Colorado.

Hydrotreaters:

[Hydrotreaters](#) are located throughout the refinery and their main purpose is to remove impurities such as sulphur, nitrogen, oxygen, metallic salts. They use hydrogen (thus the name) and catalysts to do this. Below is an image of a naphtha reformer unit.



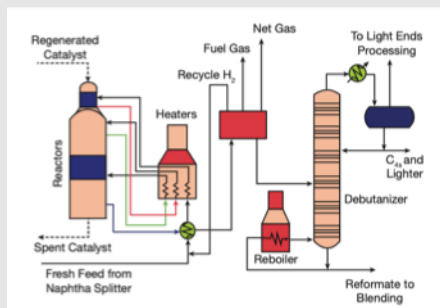
▲ Figure 5. The naphtha hydrotreater removes impurities from the heavy straight-run (HSR) naphtha prior to it entering the naphtha reformer. The DC4 column is a debutanizer that removes butanes from the naphtha product.

Reformates, Isomerates, Alkylates:

These blending components are critical for raising the [octane rating in gasoline](#). Reformates are made by combining heavier naphthenes and paraffins into cyclic aromatic rings. Isomerates are made by reshaping straight-chain light molecules such as butane and light naphtha into branched ones. Alkylates are formed by combining an isobutane feed (from the butane isomerization unit) and olefins (propylene, butylene) from the FCC unit to form these larger molecules.

Heavy Naphtha Reformer unit:

The reforming process uses 3-4 reactors in series where the heated heavy naphtha reacts with catalysts to make reformate and excess hydrogen for the hydro cracker and hydrotreaters. Image below for a Reformer unit that has continuous catalyst regeneration



▲ Figure 4. The naphtha reformer converts naphthenes into aromatics to increase the gasoline octane rating or to obtain a feedstock for aromatics production. The reformer produces a gasoline intermediate known as the reformate.

Butane Isomerization unit:

Wet gases coming off the top of the Atmospheric Fractionator are primarily Propane and Butane. The Butane goes through this unit which uses a catalyst and hydrogen to convert n-Butane into isobutane.

Alkylation unit:

The isobutane output from above unit is combined with olefins from the FCC and sulphuric and HF acid catalysts to make valuable alkylates for gasoline blending.

Light Naphtha Isomerization unit:

Similar Butane isomerization, this unit uses excess hydrogen and a catalyst to convert n-pentane and n-hexane into Isopentane and Isohexane branched molecules which are higher-octane gasoline blending components.

Chevron Business Focus Area – Downstream: Refining pt. II

Refining economics:

Refineries make their money by buying crude as cheap as they can and selling petroleum products at the highest price they can attain. The [3-2-1 Crack Spread](#) is the simplest way to describe this gross profit margin. "Cracking" is the process of breaking long-chain hydrocarbons into lighter hydrocarbons by breaking their carbon-carbon bonds. This spread is the difference between the wholesale price of refinery yield of 2 barrels of gasoline and 1 barrel of diesel less the price of 3 barrels of crude feed. Needless to say, this spread is simplistic because we get more than just gasoline and diesel and the spread varies widely across states, regions and areas of the globe but it is still a useful benchmark to gauge the global refineries' profitability margin. Below is a 5-yr chart of that [3-2-1 Crack Spread](#). It normally hovers around \$20-\$30 / bbl but in 2022-2023 it spiked up to \$40-60/ bbl with the onset of the Ukraine war and inflation, similar to what is happening now. So yes, refiners' margins are good now.

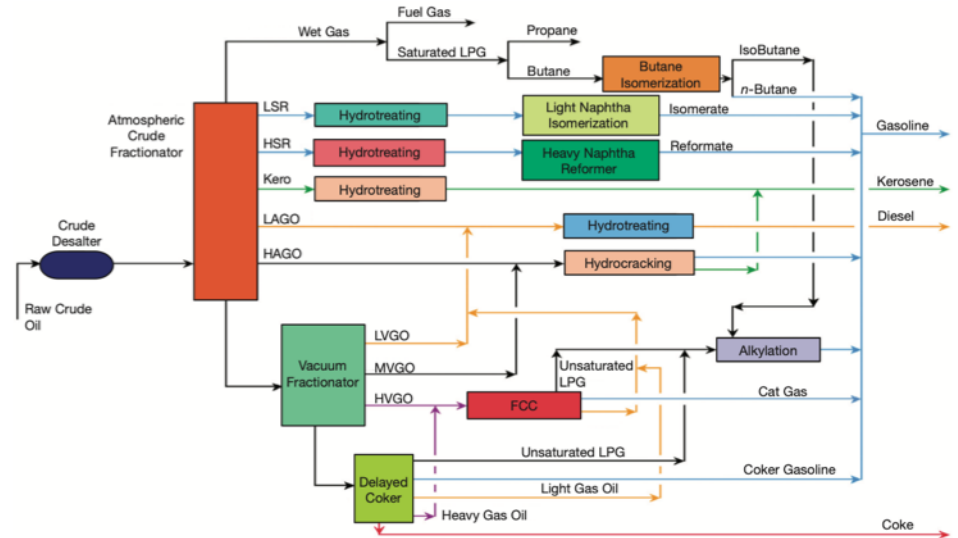


Main Refinery Units :

Figure 1 below [from CEP](#) shows the main units of a modern refinery. See the sidebar for details on the smaller units while the main units are described below. Recall the three main functions of a refinery: sorting the molecules, cutting and pasting, and treating the molecules.

Crude oil is first mixed with water and pre-heated to 650-700 F in a **Crude Desalter** where salts are removed to mitigate piping corrosion and fouling. Above this temperature, thermal cracking would deposit unwanted petroleum coke in pipes and vessels. In the last article the **Atmospheric Crude Fractionator** was described where naphtha, kerosene and gas oil fractions are separated based on their Boiling Points. These first two units involve no chemical reactions or catalysts whereas downstream units contain specific catalysts to convert one product to another product with more desirable properties.

Article continues on next page



▲ Figure 1. This refinery flow diagram demonstrates how raw crude oil is converted into fuels. LSR = light straight-run naphtha. HSR = heavy straight run naphtha. Kero = kerosene. LAGO = light atmospheric gas oil. HAGO = heavy atmospheric gas oil. LVGO = light vacuum gas oil. MVGO = medium vacuum gas oil. HVGO = heavy vacuum gas oil.

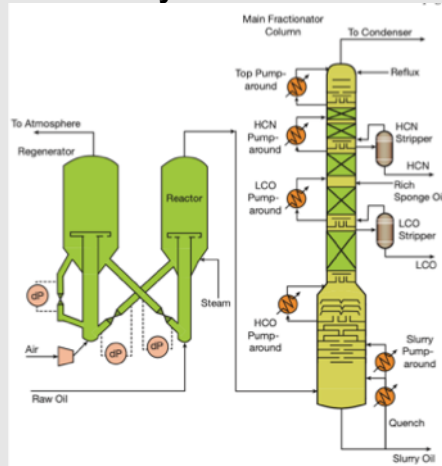
Downstream of the **Atmospheric Fractionator** is the **Vacuum Fractionator** which further separates the heavier, higher boiling-point components under a vacuum. Boiling points decrease under lower pressure thus avoiding thermal cracking. Steam is added to improve vaporisation. The **Vacuum Fractionator** is usually much larger in diameter than the Atmospheric one because under a vacuum, vaporised crude oil occupies a larger volume.

The intermediate products of the fractionators are gas oils which are further broken down and combined in the **Fluidized Catalytic Cracker (FCC)** and the **Hydrocracker**.

Fluid Catalytic Cracker (FCC)

The **FCC** is the heart of a modern refinery and gets its name from a very fine catalyst that flows like a liquid. A diagram of the FCC is shown in the side bar on following page. It consists of three main units: a Reactor, a Regenerator and a Main Fractionation column. The fluidized catalyst and feed oil react at very high temperatures (900-1000F).

Fluid Catalytic Cracker:



▲ Figure 3. The fluidized catalytic cracking (FCC) unit converts heavy vacuum gas oil (HVGO) from the vacuum fractionator into gasoline intermediates. The FCC is composed of a reactor, a catalyst regenerator, and a downstream main fractionating column, as well as a series of distillation columns.

Catalysts:

Besides the cost of crude oil and hydrogen, **catalysts** are among the highest operating cost component in a refinery. A FCC requires almost a ton (\$2000-\$5000 / ton) of catalyst per 1000 bbl of oil feed. They principally are synthetic **zeolites** which are highly porous and have active acidic sites. When the feed oil encounters high temperatures in the FCC Reactor it is vaporized. These neutral gas oil vapours enter microscopic pores of the zeolite, where they take on a positive charge, become a highly reactive, unstable intermediate ion (called a carbocation) whose C-C bonds break and re-arrange themselves into branched structures (isomerization) which produce higher octane fuels for IC engines.

Amine Treating and Sulfur Recovery

Not shown in Figure 1 are important units that capture Hydrogen Sulphide from the refinery gas streams and concentrates it through adsorption into an amine solution which is then converted into elemental sulphur in a recovery unit. As regulations have placed stricter limits on sulphur emissions, these units have required considerable revamps.

Blending

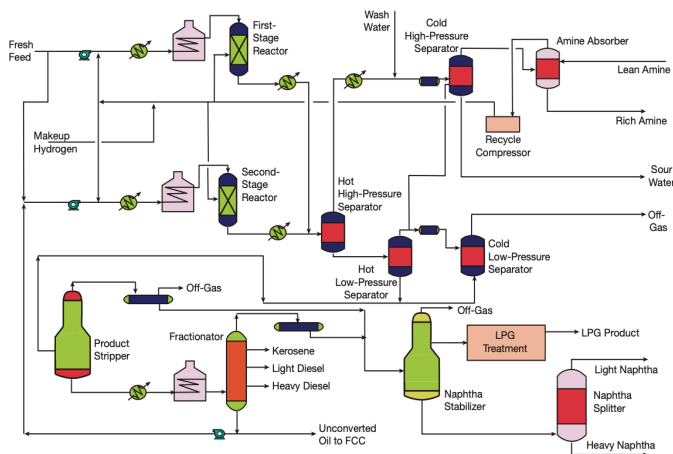
Various fuel components and intermediates (alkylates, isomerases, reformates) and n-butane are blended into final commercial products to meet particular specifications based on the consumers' locations. This will be covered later in a Fuels issue.

Fluid Catalytic Cracker (continued)

The reaction of oil and catalysts inside the FCC coats the spent catalyst with coke that is burned off in the Regenerator by introducing air. This regeneration reaction creates high heat and the cleaned catalyst exits at 1200-1500F to be re-used with fresh feed gas oil entering the Reactor.

Hydrocracker

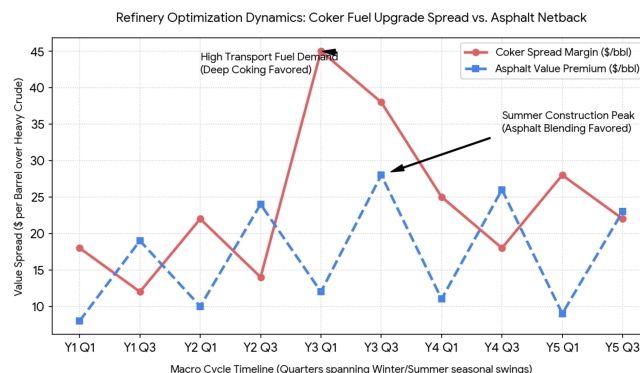
This **unit** uses hydrogen as well as catalysts to break the long-chain hydrocarbons and re-arrange them. Because they operate at high pressure (3000 psi) and need expensive hydrogen, these units' capital and operating costs are higher than the FCC's. But they are very efficient in converting heavy, sour crude oils into premium middle distillates such as jet-fuel and low-sulfur diesel. Most modern refineries have both Crackers to give more flexibility. Below is a diagram of a Hydrocracker.



▲ Figure 6. Hydrocracking units operate at high pressures (up to 3,000 psig) and are big hydrogen consumers. They maximize ultra-low-sulfur diesel and jet fuel production.

Delayed Coker and Asphalt Production

This **unit** thermally cracks the residuum oil from the Vacuum Fractionator to produce **solid coke** and lighter components for blending into gasoline and diesel. The name "delayed" comes from the 2-step process where oil is first heated to high temperature and pressure and pumped at high velocity to prevent thermal cracking, then after fractionation to recover the gases, it is dumped in a large "Coking Drum" to let the coke settle out. Refineries without these units have the option of producing asphalt from this residuum (bitumen) by combining with stone/gravel or selling it to other refineries who can process it. The decision to produce coke and lighter products for additional fuel yields instead of making asphalt is dependent on the quality of crude oil, the markets and seasonality of the end products (e.g. asphalt during paving season). Chart below compares a theoretical "Coker Spread" with Asphalt value.



USEFUL LINKS

Chevron Corporation: <https://www.chevron.com/>

Blue Ridge Mountains CRA chapter: <https://www.chevronretirees.org/brmhome>

Chevron Retirees Association (National): <https://www.chevronretirees.org>

CRA Membership Info: <https://www.chevronretirees.org/membership>

In Memoriam: <https://www.chevronretirees.org/inmemoriam>

Chevron HR - Retiree Benefits: <https://hr2.chevron.com/formeremployee>

Chevron Retirees Benefit Hub: <https://www.chevronretirees.org/benefits>

Chevron Retirees Chevron Advocacy Network: <https://chevronadvocacynetwork.com/>

Chevron Humankind: <http://www.chevronhumankind.com/>

Chevron Retirees Dental Program: <https://www.cradental.com/>

VIA Benefits: <https://my.viabenefits.com/chevron>

Chevron Store: <https://www.chevronstore.com/products.asp?cat=53>