

Oilgram Price Report

Volume 101 / Issue 178 / September 19, 2023

News

South Korea crude imports tumble to 30-month low amid lackluster economic activity

- Country's oil demand likely to undershoot industry forecast
- Saudi, US crude shipments fall more than 20% on year
- Pump prices to test consumer sentiment, cap throughput

South Korea's crude oil imports tumbled to the lowest level in two and a half years in August, customs data showed Sept. 19, as consumer spending dwindled, pump prices increased, and industrial fuel demand remained pressured, market participants said.

The world's fourth-biggest crude importer received 73.59 million barrels, or 2.37 million b/d, of crude oil in August, down 24.1% from 96.92 million barrels imported a year earlier and down 10% from July, Korea Customs Service data showed. It was the lowest monthly refinery feedstock shipment since 71.82 million barrels received in March 2021.

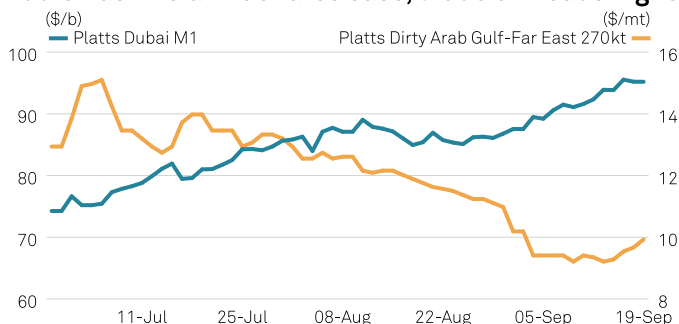
South Korea's oil demand is expected to sharply undershoot what the refining and financial sectors initially forecast for 2023 as overall economic activity is in a bad shape, according to middle distillate marketers at two major refiners and fixed-income market analysts at Daishin Securities and Meritz Securities based in Seoul.

High household debt and inflation concerns restrained private spending as well as new property construction projects, while high-tech manufacturing plant operation rates continued to dwindle amid tepid goods and services exports to China, the analysts added.

Earlier in the year, financial market analysts and refining margin strategists broadly expected South Korea's oil demand to

[\(continued on page 21\)](#)

Middle East-Asia VLCC rates ease, crude oil heads higher



Source: S&P Global Commodity Insights

Market analysis

International Crude

Kazakhstan to China oil export capacity expansion depends on tariffs, volumes

- Ukraine war spurring export diversification
- Kazakhstan targeting 20% increase in oil output by 2030
- Major Tengiz project key to oil output growth

Kazakhstan's Energy Minister Almassadam Satkaliyev said Sept. 19 that expansion of export capacity to China is dependent on talks with Chinese counterparts on tariffs and supply volumes via the route.

Kazakhstan, which is heavily dependent on oil exports via Russia, is pushing to diversify its oil export options in the wake of Russia's invasion of Ukraine.

"We have already started consultations with CNPC for increasing capacity of our pipeline to China. Technically it's not a sophisticated project, it's just a question of our final agreements about tariffs about volumes," Satkaliyev said on the sidelines of the World Petroleum Congress.

Officials in Kazakhstan said previously that the route could take up to 20 million mt/year of crude or around 400,000 b/d.

Alongside increasing supplies to China, Kazakhstan is working to increase supplies via Azerbaijan, as well as via rail to Central Asian countries.

Most of its oil passes through Russia, with the Caspian Pipeline Consortium (CPC) accounting for 80% of its exports. The route runs via the Russian Black Sea port of Novorossiisk, which has experienced several disruptions due to active fighting in the area. It remains exposed to security, as well as weather-related risks.

Bulat Zakirov, deputy chairman of the management board of state-owned oil and gas producer Kazmunaigas (KMG) said Sept. 19 that Kazakhstan is focused on export reliability.

"It is our primary goal today to ensure stable and reliable operations of all these pipelines despite all the complexities of the current situations, which are related to increased application of sanctions," he said.

Kazakhstan's oil industry is not subject to any sanctions, and Western countries have stressed that its exports and access to key technology should not be affected by restrictions on neighboring Russia.

"We believe it is important to have diversified options, also taking into account that we aim to increase our production in the future, especially from the Tengiz oilfield," Zakirov said.

[\(continued on page 3\)](#)

Inside this issue

Market analysis

International Crude

Kazakhstan's Tengiz oil field maintenance completed early: consortium	3
Russian Urals loadings down 15% on week: Commodities at Sea	3
ExxonMobil pledges 40,000 b/d Nigeria production boost, presidential spokesman claims	4
Angola set to export 34 crude cargoes in November	5
China's Shandong province rekindles small CDU closure program	5
NIOC raises most of Oct Asia-bound crude OSPs by 5 cents/b	6
CRUDE MOC: Sour crude complex climbs amid tighter fundamentals	6
Platts Mediterranean & Black Sea Sweet Crude Daily Commentary	7
Platts North Sea Crude Daily Market Analysis	7

Americas Crude

Enbridge may launch open season this fall for Gray Oak crude pipeline expansion ..	8
--	---

Gasoline

Kenya extends fuel import deals with Saudi Aramco, ADNOC, ENOC	8
Platts Asia and Middle Eastern Gasoline Daily Market Analysis	9

Jet

Global weekly airline seat capacity off 0.14% to 111.6 million: OAG	9
---	---

Diesel

Platts Asia and Middle Eastern Gasoil Daily Market Analysis	10
Platts European Diesel Daily Market Analysis	10

Resid

Pakistan refineries to export 100,000 mt of fuel oil by end-October: source	11
South Korea's SK Energy suspends Sep-Oct spot HSFO bunker supply on tank inspections	11
Singapore's HSFO cash premiums wane amid ample stocks	11

Feedstocks

Singapore's PCS shuts No 2 naphtha-fed steam cracker: sources	12
Sinopec to add new 1 mil mt/year ethylene plant at Hunan Petrochemical complex 13	

Gas Liquids

European LPG lull exacerbated by poor petrochemical demand	13
Saudi Aramco announces acceptances of Oct LPG cargoes without cuts, delays ..	14
Iran's Aug-loading LPG exports edge up to around 900,000 mt	15
Platts Asian LPG Daily Commentary	15

Tankers

Platts East of Suez Clean Tanker Daily Commentary	16
Platts West of Suez Dirty Tanker Daily Commentary	16
Platts Americas Clean Tanker Daily Commentary	17

News

Crude oil futures edge lower as market consolidates ahead of US Fed interest rate decision	17
Equinor signals further capex blowout for flagship Barents Sea crude project	18
US unconventional oil, gas production seen falling further in October: EIA	19
INTERVIEW: COP28 director-general says progress on carbon markets needed to accelerate climate action	19
Nagorno-Karabakh hostilities highlight risks to Azerbaijan oil, gas exports	20

Data inside this issue

Angola November crude program	5
EIA weekly summary, Sep 13 (PGA page 95)	26
Asia, Sep 19	27
China, Sep 19 (PGA page 2010)	27
Fujairah, FOB, Sep 19 (PGA page 2018)	27
Arab Gulf, FOB, Sep 19 (PGA page 2004)	27
Asia product premium/discount assessments	27
Platts Index, Sep 19 (PGA page 115)	27
European bulk, Sep 19	28
West Africa products (\$/mt), Sep 19	28
Renewable fuels (\$/mt), Sep 19 (PGA pages 1414, 483 and 2414)	28
European feedstocks and blendstocks	28
New York, Sep 19 (PGA page 152)	29
USAC CPL Linden*, Sep 19 (PGA page 410)	29
U.S. Buckeye pipeline, Sep 19 (PGA page 310)	30
Chicago pipeline, Sep 19 (PGA page 160)	30
Group Three, Sep 19 (PGA page 160)	30
Marine Fuel (PGA page 30)	30
U.S. Gulf Coast, Sep 19	31
U.S. Gulf Coast pipeline cycles, Sep 19 (PGA page 156)	32
West Coast pipeline, Sep 19 (PGA page 158)	33
West Coast waterborne, Sep 19 (PGA page 158)	33
Latin America, FOB, Sep 19 (PGA page 164)	34
Trinidad product postings (PGA page 466)	34
Gas liquids (¢/gal), Sep 19 (PGA page 780)	34
Asia Pacific/Middle East spot crude assessments (\$/barrel), Sep 19	35
International, Sep 19	36
Asia (\$/barrel), Sep 19 (PGA page 2210)	36
North Sea, Sep 19 (PGA page 1212)	36
West Africa, Sep 19 (PGA pages 1230 and 1232)	36
London, Sep 19 (PGA page 1214)	37
Mediterranean, Sep 19 (PGA pages 1220, 1222, 1234)	37
Canada, Sep 19 (PGA page 230)	37
Platts Euro denominated crude oil assessments (€/barrel) (PGA page 1252)	37
United States (\$/barrel), Sep 19 (PGA pages 210, 214 & 230)	38
US domestic crude assessments London close	38
Canadian spot crude assessments, Sep 19	39
US crude assessments Singapore close	39
Delivered-Asia spot crude assessments (\$/barrel) (PGA page 2238)	39
Latin America crude (\$/barrel), Sep 19 (PGA page 280)	39
Daily OPEC basket price (\$/barrel) (PGA page 207)	39
Crude oil postings	40
Spot tanker rates, Sep 19	41
Platts futures assessments Singapore MOC, Sep 19 (PGA page 703)	41
Platts futures assessments, Sep 19	41
Futures settlements, Sep 19	42
Five-Day Rolling Averages, five days ending September 19	43
US wholesale posted prices effective Sep 19	44
US wholesale posted prices effective Sep 16	45
Commodity Insights Analytics Weekly Feeder Crudes: September 11 - September 15, 2023	46
Commodity Insights Analytics Weekly Feeder Crudes (continued)	47
Commodity Insights Analytics Weekly Feeder Crudes (continued)	48
Commodity Insights Analytics Monthly Average Yields & Netbacks, August 2023 ..	49
Commodity Insights Analytics Monthly Average Yields & Netbacks (continued) ..	50
Commodity Insights Analytics Monthly Average Yields & Netbacks (continued) ..	51
Weekly asphalt cement assessments, Sep 15 (PGA page 580)	51
Monthly spot lube assessments, August 2023 (PGA page 1146)	51
US crude pipeline averages 26Jul23 - 25Aug23	52
European monthly averages, August 2023	53
Saudi Arabian Official Selling Prices (\$/barrel), Sep 6	54

Output plans

Kazakhstan is targeting a significant increase in oil output by the end of the decade.

It is aiming to produce 101 million mt/year, or around 2 million b/d by 2030. This would be an increase of 20% on 2022 volumes of 84.2 million mt.

Expansion of the major Tengiz project is key to these plans, but the project has suffered delays.

Satkaliyev said that 2024 production forecasts for the project have been revised down to around 28 million mt, after the expansion was delayed by 6 months. The previous plan included output of 31-32 million mt in 2024. Kazakhstan now expects to reach the planned oil and gas output level of over 1 million b/d of oil equivalent in 2025.

"Tengiz was delayed by 6 months. We have started to discuss with the consortium the reasons. We talk about the necessity to provide environmental and safety issues in the process of construction," Satkaliyev said.

Kazakhstan continues to produce below its OPEC+ quota, as it grapples with disruptions to oil production and exports as a result of bad weather, power outages, and security incidents linked to Russia's invasion of Ukraine.

Its output was 1.45 million b/d in August, according to the latest Platts survey by S&P Global Commodity Insights. This compares to July output of 1.5 million b/d, and a quota of 1.55 million b/d.

Earlier Sept. 19 the Tengizchevroil (TCO) consortium that operates Tengiz said that it has completed maintenance ahead of schedule, which will support September production volumes.

— Rosemary Griffin

Kazakhstan's Tengiz oil field maintenance completed early: consortium

- Tengiz increases to be non-linear during expansion works
- Kazakh oil output seen around 1.9 million b/d after power outages
- CPC Blend prices seen stabilizing despite Black Sea tension

The Tengizchevroil (TCO) consortium that operates Kazakhstan's highest-producing oil field, Tengiz, has fully restored output levels after completing a maintenance turnaround ahead of schedule, the consortium said Sept. 19.

The announcement represents a boost for Kazakh crude exports marketed as CPC Blend; Tengiz is the biggest contributor to CPC Blend, which typically amounts to around 1.5 million b/d. The completion of maintenance will be particularly welcome for the Kazakh authorities after a reduction in overall oil production, notably at fields that don't feed CPC Blend, which have been affected by power outages.

In a statement, TCO, which has Chevron as its largest shareholder, said it had completed "one of the most complex turnarounds in its history", adding that "production at all TCO's units at Tengiz has safely resumed."

The maintenance turnaround did not affect all the Tengiz facilities, but focused on the Complex Technology Line 2, and was part of the gradual rampup of a major expansion project expected to lift oil and gas output to over 1 million b/d of oil equivalent in 2025.

Loadings of CPC Blend at the Russian port of Novorossiisk had been expected to average around 1.29 million b/d in September, before recovering to 1.45 million b/d in October, according to data compiled from traders. Kazakhstan typically supplies around 90% of CPC Blend loadings, with the remainder derived from fields in Russia's portion of the Caspian Sea.

Despite an escalating naval conflict between Russia and Ukraine in the Black Sea, prices for CPC Blend have continued to stabilize in the wake of the 2022 invasion of Ukraine. CPC Blend was assessed by Platts at a 80 cent/b discount to North Sea benchmark Dated Brent on Sept. 18. Platts is part of S&P Global Commodity Insights.

Gradual expansion

Chevron and its partners plan two further turnarounds at Tengiz in the course of 2024, as part of the overall expansion, known as the Future Growth Project-Wellhead Pressure Management Project, meaning the overall upward trend in production will have interruptions.

The project is already 98% complete from a mechanical point of view, however, commissioning of the project, is expected to be complex. In the third quarter, "We'll begin a lot of work and start-up on utility systems, boilers, steam system [and] other utilities that are required for start-up of the pressure boost facility, which is the key driver of WPMP," Chevron CEO Mike Wirth said in a July 28 presentation.

Overall Kazakh oil production appears to have recovered in recent days, judging from preliminary daily figures released by the energy ministry, following prolonged disruptions thought to have mainly affected onshore heavier oil production by legacy producers.

A daily snapshot for Sept. 18 put Kazakh oil production at 253,000 mt, equivalent to around 1.9 million barrels for the day.

— Nick Coleman

Russian Urals loadings down 15% on week: Commodities at Sea

- Russian seaborne crude exports, including Urals volumes, fall on the week
- Urals flows to Asia soften as refineries start seasonal turnarounds

Loadings of Russia's flagship Urals crude fell 15% to 1.922 million b/d in the week to Sept. 15, according to S&P Global Commodities at Sea, to remain above the previous four-week average of 1.809 million b/d.

Overall Russian seaborne crude exports, excluding Kazakh grades, fell 17% to a four-week low 2.942 million b/d,

according to CAS.

Russian crude shipments to India and China fell to five-week and four-week lows, respectively, CAS data showed, as maintenance season begins to ramp up in Asia.

Flows to India, comprising exclusively Urals, dropped 597,000 b/d on the week to 941,000 b/d. Meanwhile, China took 766,000 b/d of Russian crude, a drop of 563,000 b/d on the week.

Urals shipments to Bulgaria from the Black Sea port of Novorossiisk nearly doubled on the week to a record 313,000 b/d, according to CAS, buoying weekly volume. Bulgaria's exemption on Russian oil purchases runs through 2024.

Tensions in the Black Sea escalated last week as Russia declared part of the Bulgarian economic zone closed to shipping through the remainder of September amidst heightened military activity.

In shipping news, vessel operators domiciled in Turkey transported 12% of Russia's September Urals crude exports through the first 15 days of the month, CAS data showed, after not carrying any of Russia's flagship grade last month.

Destinations for Urals aboard Turkish-operated vessels included China, India and Turkey.

Through Sept. 15, vessels operated by companies domiciled in Greece continued to facilitate Russian Urals crude flows but loaded just 17% of the month's cargoes, according to CAS, down from 35% in August.

The decrease in Greek-operated vessels involves in the transport of Urals comes at a time when the grade continues to exceed the G7's \$60/b price cap.

Platts, part of S&P Global Commodity Insights, assessed Urals FOB Primorsk at \$82.345/b on Sept. 18, the highest level since July 4, 2022.

— Luke Stuart

ExxonMobil pledges 40,000 b/d Nigeria production boost, presidential spokesman claims

- Nigeria spokesman says ExxonMobil eyeing investment push
- US company has looked to offload Niger Delta assets
- Tinubu eager to reverse oil production declines

ExxonMobil has promised to boost production at its Nigerian oil projects by almost 40,000 b/d as part of a new "investment push," a Nigerian presidential spokesman claimed Sept. 19.

New Nigerian president Bola Tinubu, who made significantly boosting oil output a key plank of his election campaign, met Liam Mallon, ExxonMobil's head of upstream, in New York City on Sept. 18, in an effort to secure further investment in Nigeria's upstream sector, spokesman Ajuri Ngelale said.

Tinubu "made his position known that Nigeria is no longer settling for crumbs and leftovers on the investment agenda of the world's most prolific energy conglomerates," and said that Africa's biggest oil producer is "ready for business," Ngelale said in a statement on Facebook.

In return, Mallon "assured President Tinubu that he is aware of the new and personal commitment that the president is bringing to bear on behalf of Nigeria and is well placed to reciprocate

Platts

S&P Global
Commodity Insights

Oilgram Price Report

ISSN: 0163-1292

Contact Client Services: ci.support@spglobal.com;
Americas: +1-800-752-8878;
Europe & Middle East: +44-20-7176-6111;
Asia Pacific: +65-6530-6430

Managing Editor

James Bambino, james.bambino@spglobal.com

Senior Editor

Benjamin Morse, benjamin.morse@spglobal.com

Oil Manager, US

Richard Swann

Oil Manager, London

Joel Hanley

Head of Pricing & Market Insight

Dave Ernsberger

President of S&P Global Commodity Insights

Saugata Saha

Manager, Advertising Sales

Bob Botelho

Advertising

Email: advertising@spglobal.com

Tel: +1-720-264-6618

Oilgram Price Report is published every business day in New York and Houston by S&P Global Commodity Insights, a division of S&P Global, registered office: 55 Water Street, 37th Floor, New York, N.Y. 10038.

Officers of the Corporation: Richard E. Thornburgh, Non-Executive Chairman; Doug Peterson, President and Chief Executive Officer; Ewout Steenbergen, Executive Vice President, Chief Financial Officer; Steve Kemps, Executive Vice President, General Counsel

© 2023 by S&P Global Inc. All rights reserved.

S&P Global, the S&P Global logo, S&P Global Commodity Insights, and Platts are trademarks of S&P Global Inc. Permission for any commercial use of these trademarks must be obtained in writing from S&P Global Inc.

You may view or otherwise use the information, prices, indices, assessments and other related information, graphs, tables and images ("Data") in this publication only for your personal use or, if you or your company has a license for the Data from S&P Global Commodity Insights and you are an authorized user, for your company's internal business use only. You may not publish, reproduce, extract, distribute, retransmit, resell, create any derivative work from and/or otherwise provide access to the Data or any portion thereof to any person (either within or outside your company, including as part of or via

any internal electronic system or intranet), firm or entity, including any subsidiary, parent, or other entity that is affiliated with your company, without S&P Global Commodity Insights' prior written consent or as otherwise authorized under license from S&P Global Commodity Insights. Any use or distribution of the Data beyond the express uses authorized in this paragraph above is subject to the payment of additional fees to S&P Global Commodity Insights.

S&P Global Commodity Insights, its affiliates and all of their third-party licensors disclaim any and all warranties, express or implied, including, but not limited to, any warranties of merchantability or fitness for a particular purpose or use as to the Data, or the results obtained by its use or as to the performance thereof. Data in this publication includes independent and verifiable data collected from actual market participants. Any user of the Data should not rely on any information and/or assessment contained therein in making any investment, trading, risk management or other decision. S&P Global Commodity Insights, its affiliates and their third-party licensors do not guarantee the adequacy, accuracy, timeliness and/or completeness of the Data or any component thereof or any communications (whether written, oral, electronic or in other format), and shall not be subject to any damages or liability, including but not limited to any indirect, special, incidental,

punitive or consequential damages (including but not limited to, loss of profits, trading losses and loss of goodwill).

ICE index data and NYMEX futures data used herein are provided under S&P Global Commodity Insights' commercial licensing agreements with ICE and with NYMEX. You acknowledge that the ICE index data and NYMEX futures data herein are confidential and are proprietary trade secrets and data of ICE and NYMEX or its licensors/suppliers, and you shall use best efforts to prevent the unauthorized publication, disclosure or copying of the ICE index data and/or NYMEX futures data.

Permission is granted for those registered with the Copyright Clearance Center (CCC) to copy material herein for internal reference or personal use only, provided that appropriate payment is made to the CCC, 222 Rosewood Drive, Danvers, MA 01923, phone +1-978-750-8400. Reproduction in any other form, or for any other purpose, is forbidden without the express prior permission of S&P Global Inc. For article reprints contact: The YGS Group, phone +1-717-505-9701 x105 (800-501-9571 from the U.S.).

For all other queries or requests pursuant to this notice, please contact S&P Global Inc. via email at ci.support@spglobal.com.

the president's efforts with new investment as he pledged new production of nearly 40,000 b/d in its Nigerian operations in phase one of a new investment push in Nigeria," Ngelale said.

Mallon is said to have added: "We are growing our production, and we are working hard on expanding in the deepwater production."

Ngelale did not offer details on the timeframe for the production rise.

"I confirm that a meeting between President Tinubu and an ExxonMobil team led by Liam Mallon...took place in New York on the sidelines of the United Nations General Assembly," Oge Udeagha, a spokesman for ExxonMobil Nigeria, told S&P Global Commodity Insights. "We will not be providing any further comments."

ExxonMobil's head office did not respond to a request for comment.

The US major has been attempting to divest from production assets in the restive Niger Delta with a deal to sell its shallow-water projects to local producer Seplat for \$1.28 billion, but the sale has been challenged in the courts. Former president Muhammadu Buhari initially agreed to the deal before withdrawing his support in August 2022.

Nigeria has been attempting to retain IOCs and encourage new investment as it looks to reverse years of production declines driven by oil theft, a lack of exploration activity, underinvestment in aging fields and technical issues.

Nigerian oil output has collapsed in recent years



The country produced 1.41 million b/d in August, according to its upstream energy regulator, well below its 2.2 million b/d capacity, and is facing the prospect of a downgrade to its OPEC quota – currently set at 1.74 million b/d – at November's meeting of the group.

— Charlie Mitchell, *Newsdesk-Nigeria*

Angola set to export 34 crude cargoes in November

- Nov program set at 34 cargoes, down on the month
- Sonangol to lift 36.7% of program

Angola will export 31.33 million barrels of crude in November, across 34 cargoes, according to a copy of the loading program seen by S&P Global Commodity Insights Sept. 19.

Average loadings have been set at 1.044 million b/d, down 178,892 b/d from the finalized October program.

The program indicates a single deferral into November — a Nov. 2-3 loading Girassol stem which was originally scheduled for the end of October.

Key grades have seen volumes fall on the month with both Cabinda and Dalia losing a cargo each compared to October. Cabinda will load two Suezmax cargoes of 950,000 barrels, while Dalia is to load three, according to the program.

State oil company Sonangol is scheduled to lift 36.7% of Angola's November volume for a total of 11.5 million barrels.

Angola November crude program

Crude	Dates	Lifter	Barrels
Cabinda	17-18	CHEVRON	950,000
Cabinda	27-28	SONANGOL	950,000
Dalia	07-08	TOTAL	950,000
Dalia	15-16	SONANGOL	950,000
Dalia	23-24	SONANGOL	950,000
Clov	04-05	TOTAL	1,000,000
Clov	15-16	EXXONMOBIL	1,000,000
Clov	25-26	TOTAL	1,000,000
Girassol	02-03*	SONANGOL	1,000,000
Girassol	19-20	BP	1,000,000
Hungo	07-08	SONANGOL	950,000
Hungo	22-23	SONANGOL	950,000
Gindungo	30-01	SONANGOL	950,000
Kissanje	11-12	ENI	950,000
Mondo	14-15	EXXONMOBIL	950,000
Nemba	10-11	CHEVRON	950,000
Nemba	22-23	TOTAL	950,000
Olombendo	15-16	SONANGOL	950,000
Palanca	28-29	PRODOIL	580,000
Pazflor	02-03	SONANGOL	950,000
Pazflor	15-16	EXXONMOBIL	950,000
Pazflor	28-29	TOTAL	950,000
Plutonio	12-13	BP	1,000,000
Plutonio	28-29	SONANGOL	1,000,000
Sangos	07-08	ENI	950,000
Sangos	23-24	ENI	950,000
Saturno	04-05	BP	950,000
Saturno	17-18	SONANGOL	950,000
Saturno	29-30	SSI	950,000
Saxi	TBC	TBC	TBC
Mostarda	03-04	EXXONMOBIL	950,000
Mostarda	10-11	SONANGOL	950,000
Mostarda	17-18	TOTAL	950,000
Mostarda	25-26	SSI	950,000

*Deferred from October

— George Delaney

China's Shandong province rekindles small CDU closure program

- Still about 16 CDUs with 2 mil mt/year capacity or below in Shandong
- Around 32 mil mt/year capacity mothballed since 2018
- Construction at new 400,000 b/d Yulong plant to complete this year

China's Shandong provincial government is rekindling its campaign to phase out smaller, less efficient crude distillation units in the province ahead of the completion of the 400,000 b/d greenfield Yulong Petrochemical plant.

A bureau set up by the Shandong government to oversee the

closures issued a document on Sept. 12 that requires refineries with CDUs of up to 2 million mt/year (40,000 b/d) to submit detailed information on their facilities and their readiness to close.

Shandong — home to many of China's small independent refineries — launched an upgrade and consolidation campaign for the refining sector in 2018. The campaign has fallen behind the original plan announced in 2018, which aimed to permanently shut small refineries with under 3 million mt/year capacity by the end of 2022, and to consolidate refineries of 3 million-5 million mt/year capacity by 2025.

As a part of the upgrade and consolidation plan, Shandong planned two 30 million mt/year (600,000 b/d) refining complexes and one of 20 million mt/year (400,000 b/d) to replace eliminated capacity.

Only the smaller of those projects, the 400,000 b/d greenfield Yulong Petrochemical plant — a \$17.5 billion project developed by the provincial government with the private Nanshan Group owning 51% and state-owned Shandong Energy owning 46.1% — has made any progress so far and is set to complete construction by end-2023.

Since the start of the campaign, around 31.8 million mt/year of capacity at 23 refineries in the province has been mothballed. Ten of these refineries uninstalled CDUs with combined capacity of 27.8 million mt/year and are set to transfer 13 million mt/year of crude import quota to Yulong Petrochemical.

There are still some 16 CDUs of 2 million mt/year or below in province, amounting to a combined 11.3 million mt/year capacity, according to a local information provider. About 25 refineries have capacity of between 2 million mt/year and 5 million mt/year, amounting to 78.1 million mt/year.

Limited impact

Refining sources said the impact of the bureau's document would be limited as the units are unlikely to be shut immediately given China's current economic situation. Even if they are closed, the new Yulong is more than enough to compensate the reduction.

In the document, there were no more details about the closure process, such as deadlines or compensation to refiners.

"Oil refining has been one of the most profitable sectors in China this year, when the economic recovery is uneven and slower than expected... It is not a good time to kill them immediately," a Beijing-based policy observer said.

The CDUs with up to 2 million mt/year usually process domestically produced crude, imported fuel oil or bitumen blend as they are not allowed to refine imported crude oil. They are swing producers and only operate when margins are good.

China's total refining capacity is estimated at 924 million mt/year (18.6 million b/d), according to PetroChina.

Similarly, China embarked on a massive iron and steel capacity swap in 2018, aiming to mothball smaller steel mills to upgrade the sector.

Over 2018 to mid-2023, China closed 166 million mt/year of

crude steel capacity, accounting for about 13% of the country's total capacity, S&P Global estimated.

It usually takes about one to two years to mothball an operational plant and closures usually happened after replacement facilities had been commissioned in order to minimize disruption.

NIOC raises most of Oct Asia-bound crude OSPs by 5 cents/b

State-owned National Iranian Oil Company has raised most of the October official selling price differentials for its Asia-bound crude grades by 5 cents/b on the month, according to a notice seen by S&P Global Commodity Insights Sept. 19.

The company raised the Iranian Light OSP to Asia by 5 cents/b to a premium of \$3.50/b to the average of Platts Oman and Dubai assessments. The Iranian Heavy OSP differential was cut by 5 cents/b, while the Forozan OSP differential was kept steady on the month from September, with both priced at a premium of \$1.75/b to the average of Platts Oman and Dubai assessments.

NIOC also raised both the Soroosh and Pars differentials by 5 cents/b, to a discount of \$1.75/b and a premium of 15 cents/b to Oman/Dubai respectively.

For other regions, NIOC dropped the Iranian Light, Heavy and Forozan OSPs for cargoes bound for the Mediterranean and Northwest Europe.

The October OSP differential for Iranian Light bound for the Mediterranean was cut by 10 cents/b to a premium of \$2.55/b against ICE Brent. The OSP differential for the same grade bound for Northwest Europe was cut by 15 cents/b to a premium of \$4.00/b against ICE Brent.

The differentials for NIOC's Mediterranean-bound Iranian Heavy and Forozan crude grades were cut by 15 cents/b and 10 cents/b respectively.

For Northwest Europe-bound Iranian Heavy and Forozan crude, the differentials were both cut by 15 cents/b to premiums of \$1.75/b and \$1.80/b against ICE Brent, respectively.

— Mei Huey Ng

CRUDE MOC: Sour crude complex climbs amid tighter fundamentals

The Middle East sour crude complex continued on an upward trajectory on Sept. 19, with a projected fall in US production through October adding to the shortness in supply stemming from the OPEC+ voluntary supply cuts, sources said.

Platts, part of S&P Global Commodity Insights, assessed November cash Dubai at a premium of \$2.72/b to same-month Dubai futures, up 37 cents/b from the previous session.

November cash Oman was assessed at a premium of \$2.72/b at market close Sept. 19, up 37 cents/b from the previous session.

Alongside the voluntary output cuts by OPEC+ mainstays Saudi Arabia and Russia, a projected fall in US unconventional

oil and gas production through October could further tighten the global crude landscape.

The US Energy Information Administration had forecast total domestic oil output to fall 40,000 b/d on the month to 9.393 million b/d in October, according to its latest Drilling Productivity Report.

Meanwhile, in refinery news, Nigeria's Dangote refinery will receive its first crude cargo in two weeks, according to Dangote Group's Executive Director Devakumar Edwin.

The launch will happen in phases, starting with 350,000-370,000 by October when the crude distillation unit, sulfur block and hydrogen plant should be online. Meanwhile, S&P Global analysts predict that the refinery will reach its full operating capacity of 650,000 b/d in mid-2025 due to possible further delays.

The refinery is able to process most African crudes, Middle Eastern Arab Light, US light tight oil as well as some Russian grades, Edwin stated.

During the Platts Market on Close assessment process, three Dubai partials changed hands, compared with four in the previous session.

The seller was PetroChina, and the buyers were Gunvor and Vitol.

This brought the total number of partials traded in September so far to 53, all of which were Dubai partials.

— Mei Huey Ng

Platts Mediterranean & Black Sea Sweet Crude Daily Commentary

- Kazakhstan's Tengiz oil field maintenance completed early: consortium
- Kazakh oil output seen around 1.9 million b/d after power outages

The Tengizchevroil (TCO) consortium that operates Tengiz, Kazakhstan's highest-producing oil field, has fully restored output after completing maintenance ahead of schedule, it said Sept. 19.

The announcement represented a boost for Kazakhstan's flagship CPC Blend crude exports. Tengiz is the biggest contributor to CPC Blend, which typically amounts to around 1.5 million b/d.

TCO said it had completed "one of the most complex turnarounds in its history", adding that production at all units at Tengiz has resumed.

The turnaround was part of the gradual ramp-up of a major expansion project expected to lift oil and gas output from the Tengiz field to over 1 million b/d of oil equivalent in 2025.

Loadings of CPC Blend at the Russian port of Novorossiisk had been expected to average around 1.29 million b/d in September, before recovering to 1.45 million b/d in October, according to data compiled from traders.

The completion of maintenance will be particularly welcome for the Kazakh authorities after power outages in the country

have reduced overall oil production in 2023.

Kazakh oil production appears to have recovered in recent days, judging from energy ministry data. A snapshot for Sept. 18 put Kazakh oil production at 253,000 mt, equivalent to around 1.9 million barrels for the day.

Prices for CPC Blend have gradually ascended across 2023, according to assessments made by Platts, part of S&P Global Commodity Insights.

Platts has assessed the Kazakh grade above a \$1/b discount to Dated Brent since Sept. 13, and differentials for the grade are currently at their highest level since January 2022.

Platts is part of S&P Global Commodity Insights

— Luke Stuart

Platts North Sea Crude Daily Market Analysis

- Brent paper contracts in flux
- North Sea light sweet differentials steady

North Sea sweet crude values were broadly steady Sept. 19, while market participants noted recent volatility in paper Brent contracts.

Differentials across the most fungible North Sea light sweet grades have been steady week on week, supported by a variety of factors led by strong refinery margins.

Market participants have also increasingly cited thinning crude inventories as a potentially supportive development for European sweet differentials.

"Good margins, low inventories," one trader said of the recent support.

Light sweet grades such as Ekofisk were trading mostly flat on the week and said to be around a \$3.40/b premium to Dated Brent through the day.

Meanwhile, traders noted increased volatility in Brent paper instruments.

"I think the DFL structure is very weird the last week, even in contango. These days it has become more reasonable," the trader said.

Some paper traders have recently judged the unusual structure to be a consequence of recent sharp moves in ICE Brent futures.

A significant jump in the Brent-Dubai exchange of futures for swaps contract has made US WTI Midland less economical for East Asian buyers that have absorbed large volumes in recent cycles.

Sweet traders generally expect greater volumes of the grade to land in Europe through October. Still, the market remained largely in between monthly trade cycles with greater clarity expected in the coming week, the trader said.

In upstream news, Norway's state-controlled Equinor signaled the latest in a series of increases in capital expenditure forecasts for its flagship Barents Sea oil project Johan Castberg, up 40% from the original plan, but said startup was on track for Q4 2024, in line with an earlier revised schedule.

Castberg is the second oil field to be developed in the Norwegian Barents Sea after Goliat, a field operated by Var Energi, majority owned by Italy's Eni.

Castberg crude was expected to be of medium gravity, with an API of 31 degrees, heavier than Goliat, and the facilities will be able to handle close to 190,000 b/d. The field lies around 150 km north of Goliat and 240 km north of the mainland.

— Sam Angell

Americas Crude

Enbridge may launch open season this fall for Gray Oak crude pipeline expansion

- Additional Ingleside storage expected by H1 2024
- Enbridge system to lose some barrels temporarily to TMX
- Flanagan South open season expanded to 110,000 b/d

Canada's Enbridge may launch an open season this fall for a projected 200,000 b/d expansion of the Gray Oak crude pipeline, and for a crude storage expansion of over 3 million barrels at the company's Ingleside terminal, Executive Vice President and President of Liquids Pipelines Colin Gruending said Sept. 18.

"We will likely officially launch an open season this fall," Gruending said on the sidelines of the World Petroleum Congress in Calgary.

Enbridge operates and owns 68.5% of the 900,000 b/d pipeline, which delivers crude from the Permian Basin and Eagle Ford to Freeport, Texas and Corpus Christi, Texas, home of the Enbridge Ingleside Energy Center.

Phillips 66 and Marathon Petroleum are co-owners of the line. Ingleside is the largest US crude export terminal by volume, with a recent peak at 964,000 b/d in June, Kpler vessel tracking data showed.

Current crude storage capacity at Ingleside is around 15.3 million barrels, according to Enbridge's website.

The storage expansion at Ingleside has already been permitted, Gruending said, with 2 million barrels of incremental storage capacity expected in the first half of 2024.

"It is conceivable those capacities would go hand in hand," he said.

Additional storage is being constructed and "should be in service in the first half of 2024," he said.

"The extra storage really just unlocks an already built dock facility," he added.

Full until TMX comes on-line

Extra pipeline capacity is needed as Enbridge has had to turn away nominated shipments because of capacity constraints.

Enbridge's Mainline system will be apportioned by 7% to 10% in October, Gruending said. That is up from 3% in September and zero in August.

"We expect the system to be quite full here until TMX comes on," he said, referring to the Trans Mountain crude pipeline expansion.

On Sept. 11, Trans Mountain Pipeline said in a filing that its crude pipeline expansion project could be delayed in a worst-case scenario by nine months until December 2024 if regulators do not approve a reroute plan.

Trans Mountain plans to expand its capacity to 890,000 b/d from 300,000 b/d, significantly growing the only pipeline system that transports oil from Alberta to Canada's Pacific Coast.

"We do expect some volumes to leave the system" once the Trans Mountain expansion comes online, he said. "Probably in the circa 5% of our mainline capacity range, so 150,000 b/d off the mainline initially. Then supply growth should refill."

"There will still be significant demand pull from the Gulf Coast," Gruending said.

With Mexico building its new Dos Bocas refinery, "there will be less Mexican crude competing with Canadian crude," he said.

Industry experts doubt Dos Bocas will start operations in 2024 as planned, citing several challenges including the refinery's access to gas.

'Working through' Flanagan South expansion

Enbridge is still "working through" the open season to expand its Flanagan South crude pipeline, Gruending said.

The 720,000 b/d pipeline delivers crude from Enbridge's Flanagan Terminal near Pontiac, Illinois to Cushing, Oklahoma. From Cushing, crude can be delivered on Enbridge's 950,000 b/d Seaway Pipeline to the Enbridge Houston Oil Terminal (EHOT).

Enbridge boosted its open season expansion to 110,000 b/d from 95,000 b/d, he said.

"We are full today. We've been full for years," he said.

The company has sanctioned its Enbridge Houston Oil Terminal project, which will focus on storing and exporting heavy crudes, Gruending said.

"That should be in service in early 2025," he said.

EHOT entails the construction of four, 680,000-barrel crude storage tanks with a total capacity of 2.7 million barrels, although there are plans to bring total capacity to nearly 15 million barrels.

— Jeff Mower

Gasoline

Kenya extends fuel import deals with Saudi Aramco, ADNOC, ENOC

- ENOC to supply three gasoline cargoes a month
- Follows March move to end open import tenders
- Deals intended to reduce pressure on Kenya shilling

Kenya's government has extended existing fuel supply deals with Saudi Aramco, Abu Dhabi National Oil Company (ADNOC), and Emirates National Oil Company (ENOC) to import oil products until December 2024, Kenya's energy commissioner Monica Juma said Sept. 19.

Kenya, which has no operating domestic refinery and imports all its fuel needs, first awarded the fuel supply contracts to the

three Gulf producers in March under six-month deals ending the country's open tender system in which local companies bid to import fuel each month.

Kenya is seeking around 4.24 million mt of diesel, 3.42 million mt of gasoline and 920,000 mt of jet fuel over the period of the deal, she said, adding that Dubai-based ENOC will supply three gasoline cargoes a month.

The supply deals come with 180-day credit terms designed to help reduce pressure on Kenya's shilling, she said. Under the previous open tender program, some \$500 million was required each month to pay for Kenya's fuel imports.

President William Ruto has recently faced criticism from the opposition that the deal has not reduced fuel prices at the pumps and that the Kenyan shilling has remained under sustained pressure from the dollar.

Kenya has been importing around 180,000 b/d of road fuels and jet on average since the start of the year, according to shipping data from S&P Global Commodities at Sea.

Kenya is considering converting its shuttered Mombasa refinery to a biofuel plant using technology provided by Italy's Eni. The Mombasa refinery, Eastern Africa's sole refinery, was shut down in 2013. Kenya is deciding upon a location for a new refinery in either Lamu or Mombasa.

— Robert Perkins, Namala Doreen

Platts Asia and Middle Eastern Gasoline Daily Market Analysis

- Malaysia import demand likely to fall on increased output
- Australia's July gasoline imports rise 4.07% on month

The Asian gasoline complex softened Sept. 19 amid expectations of reduced Malaysian import demand after a local refinery returned from a planned turnaround, sources said.

Hengyuan Refining's 120,000 b/d Port Dickson refinery completed a major turnaround in August, S&P Global Commodity Insights previously reported.

"Hengyuan is back from turnaround and possibly buying MTBE for gasoline blending, so Malaysian import demand could decrease," a trader said.

Brokers pegged the front-month FOB Singapore 92 RON gasoline swap crack against Brent swaps in the range of \$11.50-\$11.55/b at 0300 GMT, weakening on the day from the Platts assessment at \$11.91/b at the Asian close Sept. 18.

Brokers pegged the physical FOB Singapore 92 RON gasoline crack against front-month ICE Brent crude futures in the range of \$15.50-\$15.55/b at 0300 GMT, weakening on the day from the Platts assessment at \$16.29/b at the Asian close Sept. 18.

Meantime, Australia's automotive gasoline imports rose 4.07% month on month and were up 32.85% on the year to 5.19 million barrels in July, data from the Department of the Environment and Energy showed, following lower production at the Geelong refinery due to an extended maintenance period, sources said.

Australia's Viva Energy said refining production in the first half

of 2023 was impacted by an "extended major maintenance during Q2, with lower crude intake and higher intermediate product production."

The company had reported an incident with the compressor at its Geelong refinery that occurred June 6 during maintenance. The maintenance was completed by end-June, although the company said repairs to the units affected by the incident would take around three months, S&P Global earlier reported.

Domestic gasoline demand edged up despite the Southern Hemisphere winter period. Australia's automotive gasoline sales were up 1.33% on the month but were down 1.59% year on year at 8.2 million barrels in July, the data showed.

Australia's gasoline demand could moderate amid winters in August, sources said.

Platts is part of S&P Global.

— Joshua Ong

Jet

Global weekly airline seat capacity off 0.14% to 111.6 million: OAG

- Jet seat capacity continues to fall on week
- Northern Hemisphere summer travel over

Global airline seat capacity is expected to be 0.14% lower on the week that began Sept. 18, to 111.6 million seats, aviation tracker OAG data showed Sept. 19.

Capacity was also 2.2% below seats in the same week in pre-pandemic 2019.

Capacity should remain stable for the next few weeks and then decline to around 107 million/week as the beginning of winter approaches.

Global domestic capacity on the week rose to 67.0 million from 66.9 million. Global domestic capacity now sits 0.7% ahead of capacity in 2019. The schedule for coming weeks currently shows similar levels as domestic capacity tends not to fluctuate much at this time of year.

Regionally, domestic capacity increases came on the back of North American air travel adding 80,000 seats on the week, with Northeast Asia adding 109,000 seats.

International capacity showed another week of losses. Capacity was 6.3% lower than the same week in 2019.

European jet trends down

Following peak summer demand, the European jet fuel market will continue to trend down steadily over the next few weeks despite remaining strong, according to traders. The jet CIF NWE cargo price fell from \$1,054.50/mt to \$1,033.25/mt for the week between Sept. 11-18.

"[Amsterdam-Rotterdam-Antwerp] stocks are up around 4.5% last week," market source said. Demand has fallen in the Northern Hemisphere with the end of the summer travel season, he explained.

“Like most of the year, the arbitrage supply has been high but the market is trading turnarounds and stocks remain low,” according to a second trader.

Jet fuel is more of a supply-driven market given Europe is net-short jet fuel.

— *Sasha Foss*

Diesel

Platts Asia and Middle Eastern Gasoil Daily Market Analysis

- China transfers 800,000 mt of fuel oil export quota to clean oil products
- South Korea’s SK Energy to shut RHDS unit for 35-day turnaround in Oct

Backwardation in the Asian gasoil market eased Sept. 19 on talks of a transfer of China’s fuel oil export quotas to clean oil products, industry sources said.

Brokers pegged the front-month October-November Singapore gasoil swap time spread at plus \$3.35/b in intraday trading Sept. 19, narrowing from plus \$4.08/b at the Asian close Sept. 18.

China will transfer 800,000 mt of low sulfur fuel oil exports to clean oil products – gasoline, diesel and jet fuel, for 2023, industry sources said.

“More fuel oil quota could be transferred to clean oil products since gasoil export margins are good,” said a regional oil trader. Gasoil export margins are currently at \$18-20/b, S&P Global Commodity Insights reported earlier.

The recent transfer of allocation will not deter China from releasing a fourth batch of oil product export quotas, industry sources highlighted.

“There could be a fourth batch of around 5 million mt of clean oil product quota,” another regional gasoil trader said.

In other news, SK Energy will shut its 86,000 b/d Residual Hydrotreater (RHDS) 2 at its 840,000 b/d Ulsan refinery starting Oct. 18 for a 35-day planned turnaround, with completion expected to be around Nov. 21, industry sources said.

SK Energy operates the Ulsan complex that runs five CDUs with a combined capacity of 840,000 b/d on the country’s southeast coast — with the 60,000 b/d No. 1 CDU; 110,000 b/d No. 2 CDU; 170,000 b/d No. 3 CDU; 240,000 b/d No. 4 CDU; and 260,000 b/d No. 5 CDU.

The company was not immediately available for comment.

Elsewhere, Australia imported 18.18 million barrels of gasoil in July, up 5.5% on the month and 30.04% higher on the year, showed preliminary data from the Department of the Environment and Energy. Over January-July, gasoil inflows totaled 112.35 million barrels of gasoil, up 17.29% from the same year ago period.

The Australian government has committed to strengthening the country’s fuel reserves. From July 1, the Minimum

Stockholding Obligation has required the country’s two refineries and major importers of refined fuels to hold baseline stocks of gasoline, diesel and jet fuel ranging from 20-24 days. The second phase of the obligation will take effect in 2024 and aims to raise baseline stocks to 27-32 days.

Looking ahead, diesel inflows into Australia are set to climb higher with the government committing over \$200 million to construct additional storage capacity under the Building Australia’s Diesel Supply Program, with the first tanks expected to be constructed this year, S&P Global reported earlier, citing a spokesperson for the Department of Climate Change, Energy, the Environment and Water.

According to data drawn from Australian Petroleum Statistics, 20 days’ worth of diesel translates to 1,747 megaliters, or 10.99 million barrels, while 20 days of jet fuel amounts to 391 megaliters.

Platts, part of S&P Global, uses a conversion factor of 6289.81 to convert the original data — expressed in megaliters — to barrels.

Platts assessed FOB Singapore 10 ppm sulfur gasoil cargo at an average of \$101.76/b in July, up 10.33% on the month from June’s average of \$92.23/b, S&P Global data showed.

— *Amy Tan*

Platts European Diesel Daily Market Analysis

- High volatility due to gaps in supply; traders
- Russia to introduce duty on diesel exports

The Northwest European diesel market continues remained volatile, sources said Sept. 19, due to patchy supply from the US Gulf Coast and East of Suez.

“It has been the same story, it feels like there is not much supply, and resupply is very expensive,” said a trader active in the region.

The absence of Russian flows requires Europe to price higher to attract barrels from further away.

“It is always the question of who pays the most globally”, the trader said.

Russian authorities are considering a variety of measures aimed at capping surging oil product prices inside the country and shortages that have plagued gasoline and diesel markets.

According to media reports, the finance and energy ministries have proposed introducing extra duty on exports of oil products while not ruling out a complete export ban.

If a prohibitively high duty is introduced, however, it would be refunded to those who supplied the domestic market with volumes recommended by the energy ministry.

The high export duty could be one of measures aimed to restrict so-called grey exports when product earmarked for domestic consumption and for which producers have been paid compensation under the government’s road fuel-damping mechanism has nevertheless headed to export destinations, the reports said.

The surge in domestic prices and dearth of supply were recently addressed by Russian President Vladimir Putin who blamed them on changes to the price-damping mechanism, as the halving of the compensation that refineries received when export prices exceed domestic levels has resulted in the system not working efficiently.

The government's decision to halve the compensation from Sept. 1 has been highlighted by market participants as one of the main drivers of surging prices this summer, initially of gasoline and more recently of diesel, as rising export netbacks pushed up domestic values.

Among other factors cited as underpinning the higher prices and shortages have been railway delays, heavier than usual refinery maintenance, delayed restart of some refineries, higher than normal gasoline demand due to rise in domestic tourism, extra diesel demand by the military and high export flows.

In other news, Kazakhstan's Atyrau refinery has been gradually restarting units halted Sept. 13 due to reduced power supply. The incident will not affect the production process significantly. The refinery halted briefly operations in early July due to a power cut.

— *Nadia Bliznikova*

Resid

Pakistan refineries to export 100,000 mt of fuel oil by end-October: source

Pakistan refineries plan to export around 100,000 mt of fuel oil by the end of October as demand from power generating units will slow, a refinery source said Sept. 19.

PARCO and Pakistan Refinery plan to export 50,000 mt each by the end of October, the source said Sept. 19.

PARCO exported 50,494 mt in July and in August 50,698 mt of fuel oil, according to Oil Companies Advisory Council data.

Consumption of fuel oil has been falling as the government has been encouraging companies to generate electricity from cheaper fuels like nuclear, coal, LNG, said Muhammad Awais Ashraf, head of research at Foundation Securities.

Moreover, the cost of generating electricity with fuel oil is much higher than from other sources and consumption falls with the start of winter season, Awais said.

Fuel oil sales in the first two months of the 2023/24 fiscal year (July-June) dropped 260,000 mt, or 61%, year on year, according to the Oil Companies Advisory Council data.

— *Haris Zamir*

South Korea's SK Energy suspends Sep-Oct spot HSFO bunker supply on tank inspections

- Unlikely to cause significant tightness due to small market share
- Tighter supply balanced by poor demand
- Delivered 380 CST HSFO bunker premiums hit three-week high

South Korea's SK Energy suspended 380 CST high sulfur fuel oil spot bunker supply over September and October due to mandatory government inspection of its storage tanks, a company official said Sept. 19, though this is unlikely to contribute to significant product tightness in the country.

"We're not offering because our tanks are under inspection. It's mandatory by the government," the official said.

Nonetheless, market participants said the company's relatively small market share meant there should not be any major disruptions to deliveries of 380 CST HSFO bunker.

SK Energy sells around 25,000 mt of 380 CST HSFO bunker each month, while GS Caltex, the largest HSFO bunker supplier in South Korea, sells around 200,000 mt of the product over the same period. Hyundai Oilbank, the third and last HSFO bunker refiner-supplier in the country, supplies around 20,000-25,000 mt/mth of the product.

Nonetheless, sources noted signs of tightness among the remaining suppliers, though existing supplies so far have been adequate to meet inquiries amid persistently sluggish demand in South Korea and the broader North Asia region.

"Hyundai Oilbank getting tight [for HSFO bunker]. Not sure about GS Caltex," a South Korea bunker supplier said.

"Supply itself is tight. But demand has been poor, so it is balanced," the SK Energy official said.

The Platts-assessed premium for delivered 380 CST HSFO bunker at South Korea's southern ports of Ulsan/Busan against benchmark FOB Singapore 380 CST HSFO cargo values touched a three-week high of \$41.81/mt Sept. 18, up 16% on the day, S&P Global Commodity Insights data showed.

Late last week, Hyundai Oilbank's lead time for 380 CST HSFO bunker deliveries was heard at around seven days ahead, while lead times for GS Caltex were unclear.

The greater North Asian region has been struggling with weak bunker demand in recent months amid a deteriorating macroeconomic backdrop.

Latest data from the Korea Customs Service showed South Korea's crude oil imports tumbled to the lowest level in 2 1/2 years in August as consumer spending in Asia's fourth biggest economy dwindled amid surging household debt and rising pump prices.

The S&P Global South Korea Manufacturing PMI eased to 48.9 in August from July's 49.4 and remained below the no-change mark of 50.0, signaling a deterioration in overall business conditions and extending the current downturn to 14 months.

— *Yong ren Toh, Leon Wong*

Singapore's HSFO cash premiums wane amid ample stocks

- Cash differentials near 3-month low
- Bunker demand healthy

Upstream valuations of high sulfur fuel oil at the world's largest bunkering hub of Singapore are expected to come

under pressure as steady inflows are likely to keep inventories well-stocked and sufficiently meet buyers' requirements in the downstream markets, traders said Sept. 19.

Cash differentials for Singapore 380 CST HSFO bunker to the Mean of Platts Singapore 380 CST HSFO slipped to a near three-month low of \$4.50/mt Sept. 18, down \$1.25/mt day on day, according to data from S&P Global Commodity Insights.

The HSFO cash premium was last lower at \$2.45/mt June 30.

Overall, Singapore's HSFO cash differentials have fallen to average \$8.96/mt Sept. 4-18, compared with \$20.96/mt across August and \$10.65/mt for all of July, data from S&P Global showed.

Pockets of seasonal utility demand coming from South Asian countries such as Bangladesh and Sri Lanka are expected to weaken further in coming days as the ongoing monsoon season typically brings down peak summer temperatures and cuts demand from the fuel-oil fired power generation sector.

Asia's HSFO market, expected to grapple with supplies, is likely to be fundamentally weaker in the near term, but limited availability of non-sanctioned non-Russian cargoes would provide some support to the market, trade sources said.

A 747,336-barrel, or 117,691 mt, of HSFO originating from the UAE is scheduled to discharge around the Singapore Straits on Sept. 20, according to the latest data by Kpler.

Two shipments totaling 944,786 barrels, or 387,555 mt, of HSFO sourced from Ust Luga terminal are bound to land around Singapore port during Oct. 1-8, Kpler data also showed.

Meanwhile, the term contractual supply of Singapore ex-wharf 380 CST HSFO bunker cargoes for whole of September-loading dates were inked at premiums of around \$6-\$16/mt to the benchmark FOB Singapore 380 CST HSFO cargo values, wider than the \$7-\$15/mt premiums done for August-loading cargoes, according to local traders.

Substantial volumes of September's term ex-wharf cargoes were also traded around \$6-\$8/mt premiums, traders said, where a portion of these were reportedly basis loadings from offshore floating storage units within proximity of Singapore port.

The Singapore 380 CST HSFO October-November backwardation narrowed to \$5.75/mt Sept. 18, down \$1.20/mt day on day, while this timespread was last assessed flat at \$5.05/mt June 28, S&P Global data showed.

Steady downstream demand

Downstream bunker demand for HSFO is expected to remain relatively steady to slightly firmer in coming weeks as shipowners begin preparations in anticipation for an uptick ahead of the year-end holiday season, market sources said.

"[HSFO bunker] demand should be stable at current levels... But refinery run rates are good, so they are already producing a bit of HSFO and I don't think they can increase HSFO output anymore from here. So, therefore I'm a bit bullish on the HSFO side [going forward]," one trader said Sept. 19.

Singapore's HSFO bunker sales, inclusive of the bio-blended product, tumbled 6.2% on the month to around 1.39 million mt

in August, following milestone highs in July since International Maritime Organization's 0.5% sulfur marine fuel mandate became effective January 2020, according to the latest preliminary data from the Maritime and Port Authority of Singapore.

HSFO volumes sold in August accounted for 32.7% of the total bunker sales, a marginal 0.2 percentage points below July but 2 percentage points higher year on year, MPA data also showed.

Pressured by the ample upstream cargo availabilities, downstream HSFO sellers have reportedly cited slimmer margins for bunker deliveries in recent weeks, despite healthy overall demand, according to Singapore-based bunker suppliers.

Spreads between the HSFO delivered and ex-wharf grades, or known as barge spreads, averaged at \$3.91/mt Sept. 4-18, compared with \$3.82/mt across August but below July's \$6.24/mt, S&P Global data showed.

— *Nicholson Lim, Koustav Samanta*

Feedstocks

Singapore's PCS shuts No 2 naphtha-fed steam cracker: sources

Petrochemical Corp. of Singapore has shut its No. 2 naphtha-fed steam cracker at Pulau Merbau, industry sources said.

"Heard some issue with No. 2 cracker... No. 1 just came back [online] but not on-spec yet," a Singapore-based trader said.

"PCS No. 2 [unit is] down," another Singapore-based trader said.

"It should restart soon ... should have been down at least seven-eight days ago, heard a pipe leaking," an industry source said.

There were supply cuts in September and commitments to term buyers should resume by second-half October, market sources said.

"It is not our practice to comment on the operational status of our facilities," a spokesperson wrote in an email to S&P Global Commodity Insights Sept. 19. Asked if term commitments for toluene or xylenes to customers would be canceled or postponed for October and November, the spokesperson added, "that's the business side, we also cannot comment."

PCS has two naphtha-fed steam crackers. The No. 1 steam cracker is able to produce 475,000 mt/year of ethylene and 270,000 mt/year of propylene, and the No. 2 unit has a production capacity of 655,000 mt/year of ethylene and 350,000 mt/year of propylene, S&P Global reported earlier.

PCS also declined to respond to S&P Global's queries on the capacities of both steam crackers.

The No. 1 aromatics complex, also at Pulau Merbau, is able to produce 105,000 mt/year of benzene, 55,000 mt/year of toluene and 32,000 mt/year of solvent-grade mixed xylenes.

PCS with its No. 2 aromatics facility is able to produce a total 270,000 mt/year of benzene, 145,000 mt/year of toluene and 85,000 mt/year of mixed xylenes.

Asian toluene prices have been supported by short supply due

to low operating run rates in Southeast Asia and Northeast Asia, sources said.

Platts last assessed the marker at \$1,025/mt FOB Korea on Sept. 18, up around \$35/mt from \$990/mt FOB Korea Sept. 6, S&P Global data showed.

“Supplies are tight [for toluene],” a Southeast Asia-based trader said. “We have to wait until after the Chinese [National Day] holidays before we can see if there will be China-origin cargoes then.”

“There were talks of [South] Korea-origin offers at FOB Korea plus \$50/mt, but we’ll wait,” he added.

— *Lynette Lim*

Sinopec to add new 1 mil mt/year ethylene plant at Hunan Petrochemical complex

Sinopec’s Hunan Petrochemical complex recently received an approval from the provincial government to set up a new 1 million mt/year ethylene plant in central Hunan province, the company said on its official WeChat account Sept. 18.

Setting up the plant would be done with an investment of Yuan 31.08 (\$4.26) billion. It will be carried together with the upgradation of refining projects, costing around Yuan 4.6 billion, according to the report.

Hunan Petrochemical, newly registered in early June, was set up by consolidating Sinopec’s Changling Refining & Chemical and Baling Petrochemical in Hunan province to optimize the resource allocation and improve utilization efficiency and profitability at the two refineries.

Alongside the construction of the new ethylene plant, a 500,000 mt/year gasoline hydrocracker and another 12 units in addition to public utilities will be set up in the Yueyang Green Chemical High-tech Industrial Development Zone in central Hunan province.

The upgradation of the refining projects will include constructing a 3 million mt/year hydrocracking unit, a 60,000 mt/year sulfur recovery unit, a 1 million mt/year solvent deasphalting unit and public utilities.

The company didn’t disclose the timeline of the construction of the ethylene plant and was unavailable when requested for a comment.

In addition, the No. 3 crude distillation unit at Changling Refining & Chemical will be upgraded into 10 million mt/year and the other 3.5 million mt/year CDU at Changling will be mothballed accordingly. The 3.5 million mt/year Baling Petrochemical will also get rid of its sole CDU with a 3.5 million mt/year capacity.

Accordingly, the refining capacity at Hunan Petrochemical will be condensed to 10 million mt/year after the consolidation and upgradation, down from the initial plan of 15 million mt/year, market sources said. Previously, the ethylene plant’s capacity was expected to be 1.5 million mt/year ethylene, they added.

Changling Refining & Chemical, which produces oil products, is an integrated refinery that mainly processes pipelined crudes, including imported ones and domestic Shengli crudes.

However, Baling Petrochemical focuses more on products of petrochemicals, chemical fibers and fertilizers.

Changling Refining & Chemical and Baling Petrochemical generated revenue of Yuan 55.6 billion and Yuan 19.2 billion, respectively, in 2022, according to a local news report.

Gas Liquids

European LPG lull exacerbated by poor petrochemical demand

- LPG imports into Europe weaken month-on-month
- Sluggish petchem margins weigh on LPG’s use as a feedstock
- European prices struggling to attract additional volumes

With traders still waiting for an uptick in heating demand for propane and gasoline blending demand for butane, poor petrochemical demand has further weighed on sentiment and availability of supply, according to sources.

Analysts at S&P Global Commodity Insights said LPG flows into Europe from the US have declined in recent months as petrochemical demand remained sluggish.

With LPG imports into Europe closely tied to petrochemical demand around this time of year, the weakening imports have aligned with poor market sentiment.

US flows to Europe totaled 638,000 mt in July, around 400,000 mt in August, and are barely past the 146,000 mt mark by mid-September, data from S&P Global showed. In July and August last year flows totaled around 512,000 mt and 627,000 mt, respectively, with volumes continuing to increase until the end of the year.

“This came at a time when Europe’s LPG production is facing temporary decline due to a number of refineries either getting shut for planned and unplanned maintenance,” analysts at S&P Global said.

European feedstock competition

In the naphtha market, demand rose marginally, sources said, reflected by spot purchases by some petrochemical companies. The current general sentiment is that things “at least stopped getting worse”, one source said.

That said, overall petrochemical demand for naphtha remains sluggish, especially with poor margins as outright prices are on the rise, in line with the broader crude oil complex. Moreover, flexible crackers continue to choose LPG as preferred feedstock due to the steep spread between the two products.

Platts, part of S&P Global, assessed the naphtha CIF NWE cargo above the \$700/mt threshold on Sept. 12, the first time since March 8, and it was assessed at \$716.25/mt as of Sept. 18.

Despite propane and butane being at steep discounts to naphtha, and LPG giving more relief on margins for petrochemical crackers, sources still see a lack of demand surfacing from petchem buyers.

European ethylene margins with propane averaged around \$149/mt, while butane was giving \$175/mt, the analysts added.

Platts assessed propane CIF NWE large cargoes at \$580.50/mt on Sept. 18, while the CIF NWE butane large cargoes were assessed at \$608.75/mt or 85% as a proportion to naphtha on the day.

This put the propane and butane markets at a \$135.75/mt and \$107.50/mt discount, respectively.

"We're not seeing a light at the end of the tunnel [for the petrochemical industry]," an LPG trader said. "We do not see any improvement at all [for the remainder of 2023]."

While the European LPG to naphtha spread has remained at favorable levels to encourage cracker operators to favor LPG as a feedstock, downstream demand for ethylene in Europe remains poor with reduced rates and minimal spot opportunities still keeping a lid on any supplementary LPG demand.

Global feedstock battle

In Asia, mainland China is expected to continue to raise its import requirements to feed its new propane dehydrogenation plants.

"[In Asia] LPG and naphtha remain locked in fierce competition in the petrochemical feedstock area," analysts at S&P Global said.

Arbitrage economics for US deliveries to Asia have been favorable in the past month, thanks to resilient Asian propane prices, higher PDH demand and season stockbuilding.

This could push European buyers to price higher to attract further volumes from the US. While US production continues to ramp up and flood the market with ample propane supply, butane exports have remained poor.

According to data from S&P Global, US exports in August were down around 27.5% year on year at 594,120 mt on the back of underperforming petrochemical margins.

Sources suggest that hints of relief may be surfacing in the global petrochemical landscape. However, with margins in Europe still in negative territory, a significant jump in margins would be needed to drive maximum use of LPG as a feedstock.

— *Aly Blakeway, Vinicius Eduardo Maffei, Cari Kiddie*

Saudi Aramco announces acceptances of Oct LPG cargoes without cuts, delays

- Saudi Oct-loading cargo acceptances come with no added tolerance volumes
- Move set to support butane market as year-end Indian demand seen rising

Saudi Aramco announced acceptances of October-loading LPG cargoes under term contracts with Asian lifters in line with nominated dates, without cuts, delays or advanced loadings, trade sources said Sept. 19, adding that no additional tolerance

volumes were given.

"There are no delays or advanced loading, just hearing no plus tolerance for propane and butane," a North Asian lifter said.

According to a note from Saudi Aramco given to lifters and seen by S&P Global Commodity Insights: "Due to operational reasons, we regret to inform you that Saudi Aramco will not allow any positive operational tolerance on propane and butane out of RTJM during the month of October". RTJM refers to the port of Ras Tanura Ju'aymah.

Traders said the exclusion of additional tolerance volumes would particularly impact the Middle East and Asia butane market, especially since trading unit Aramco Trading Co., or ATC, has been restricting spot LPG cargo offers in view of Saudi Arabia's commitment to the OPEC+ alliance to cut oil output.

Saudi Aramco was not immediately available for comment.

A trader said the "operational reasons" cited by Aramco in its note to lifters referred to the crude cuts.

The Saudi move on LPG came amid growing demand for butane-heavy LPG cargoes for cooking from India, ahead of the Diwali celebrations in November, as well as year-end demand from Indonesia.

Butane premium to propane to widen

The market is also bracing for a possible rise in butane demand for winter-grade gasoline use in the US and Europe, which could boost demand for butane and limit the butane portion in US end-year LPG exports.

The premium of butane to propane has already shown signs of widening, with October butane CP swaps valued on Sept. 19 at \$9/mt above propane, versus \$5/mt valued the previous session.

Saudi Aramco last announced acceptances of September-loading term LPG cargoes in line with nominated dates, without cuts, delays or advanced loadings.

Abu Dhabi National Oil Co. also announced acceptances of October-loading term cargo nominations without cuts and delays, trade sources said, offering some relief to a market heading for winter when heating demand rises, amid concerns over shortfalls in Saudi Aramco's spot offers.

Any shortfall in Saudi LPG supply is also covered by Qatar, which has announced October acceptances largely in line with lifters' nominations and also sold by tender a spot propane cargo for early-October loading, after having skipped a spot offer for September loading.

Exports of mixed propane/butane cargoes from Iran have also been rising, mostly meeting demand from China. Shipments that loaded at Iranian ports in August were estimated around 900,000 mt, up from about 816,210 mt that loaded in July, shipping sources said Sept. 19.

The August-loading LPG shipments were just off record-high exports of 973,260 mt that loaded in May, the shipping sources said.

— *Ramthan Hussain*

Iran's Aug-loading LPG exports edge up to around 900,000 mt

- Iran's Jan-Aug LPG exports total around 6.42 mil mt
- Total 2023 exports projected around 9.63 mil mt
- LPG exports forecast around 10 mil mt/year by 2026: Poten

LPG exports that loaded at Iranian ports in August were estimated at around 900,000 mt, up from about 816,210 mt that loaded in July, shipping sources said Sept. 19.

The August-loading LPG shipments, which were mostly China-bound as in previous months, were just off record peak exports of 973,260 mt that loaded in May, the shipping sources said.

These took Iranian exports over the first eight months of 2023 to around 6.42 million mt, while the monthly average over the period stood at 802,500 mt.

If the loading programs hold around current volumes or more, total exports for 2023 are projected at 9.63 million mt, according to S&P Global Commodity Insights calculations. This would surpass analysts forecasts of about 8.3 million mt, leveraging early gas production from South Pars phase 11, which Iran shared with Qatar.

According to ship broking reports of prevailing ship-to-ship operations of Iranian trade in the Persian Gulf, the VLGC Fabino Gas discharged around Sept. 6 a full cargo into the VLGC Owens off-port limits in Dubai, while the VLGC Sona loaded a full cargo from an unknown LPG carrier or carriers, off Iran's Siri island around Sept. 13.

The VLGC Global Liberty loaded a full LPG cargo from unknown carriers off port limits Sharjah in the UAE, Aug. 26; the VLGC Nereus 1 loaded a full cargo from unknown LPG vessels in Sohar Anchorage, Oman Aug. 26, the VLGC Gas Orient loaded a full cargo from unknown carriers in the UAE's Sharjah anchorage Aug. 26 and discharged the cargo to Sea Hermes Sept. 6; the Calypso 7 loaded via STS off Dubai June 23 and discharged a partial cargo to VLGC Parvati, which was time-chartered as storage vessel to Siam Gas in Dhamra anchorage in the Bay of Bengal. The Parvati was scheduled to then leave for China's Zhuhai Gaolan and is due to arrive around Sept. 29, according to Platts cFlow, ship and commodity tracking software from S&P Global Commodity Insights.

VLGC Gas Leader loaded a full Iranian cargo from unknown carriers off Sharjah in the UAE; the Godavari Gas loaded a full Iranian cargo from unknown vessels in Sohar anchorage and the Artemis Gas loaded a full cargo from unknown carriers in Sohar anchorage.

Global Liberty was due to arrive in China's Jinshan and Jiaying around Sept. 17-20; Owens was due to arrive in Guangdong around Sept. 28; Nereus 1 had been at the Fujian Regas Terminal was due to arrive in Ningbo and Jiaying around Sept. 18-20; Godavari Gas was slated to arrive at Longkou in China, around Sept. 18; Sea Hermes was due to arrive in Guangdong around Sept. 26; Gas Leader is currently in the Malacca Straits and is due to arrive in Ningbo around Sept. 19-27, Artemis Gas is slated to arrive at Quanzhou around Sept. 20, according to Platts cFlow.

Growing oil output, LPG exports

Rising LPG exports came as Iran's crude oil output in August rose 190,000 b/d on the month to 2.95 million b/d, the latest Platts OPEC+ survey by S&P Global Commodity Insights showed. The National Iranian Oil Co. said oil production would rise to 3.5 million b/d in September.

Iranian LPG exports are projected to rise about 26% to 8.6 million mt/year in 2023, according to a report by brokerage Poten & Partners, as new supply from South Pars 14 and Phase 11 becomes available.

All four units of phase 14 came online in first-quarter 2023, which can produce up to 50 million cu m/d of gas, 75,000 b/d of condensate, 1 million mt/year of LPG, 1 million mt/year of ethane and 145,000 mt/year of sulfur, the report showed.

A quarter of phase 11, which has similar LPG production capability, came online in August and is expected to bring additional supply for exports, which are projected to reach 10 million mt/year in 2026, according to the report.

— Ramthan Hussain

Platts Asian LPG Daily Commentary

- CFR North Asia LPG prices hit near 7-month high
- CFR North Asia propane premiums strengthen

CFR North Asia LPG prices rose to a near seven-month high Sept. 19, outperforming a \$6/mt increase in December ICE Brent crude futures from the previous Asian close as buying sentiment strengthened.

Platts assessed front-cycle CFR North Asia second-half October delivery propane at \$709/mt on Sept. 19, up \$19/mt on the day and the highest since \$718/mt on Feb. 21, S&P Global Commodity Insights data showed.

Second-half October CFR North Asia propane's premium against the October contract price was valued Sept. 19 at \$136/mt, \$16/mt higher on the day.

First-half November CFR North Asia propane's premium against the November CP was valued at \$122.5/mt on Sept. 19, \$15.5/mt higher on the day.

October butane's premium to propane strengthened \$4/mt on the day to \$9/mt on Sept. 19, amid concerns over supply from Saudi Arabia and as demand for butane heavy cargoes grows in India ahead of the Diwali festivities in November.

Two bids and no offers were heard in the physical market Sept. 19, with no trade heard.

Axpo and Wellbred each bid for a 23,000 mt propane lot for H2 October delivery at FEI October minus \$1.5/mt, which equated to \$708.59/mt.

The bids remained standing at the close.

Australia's LPG exports fell 1.2% on the month but jumped 89.1% on the year to 2.246 million barrels in July, data from the Australian Department of the Environment and Energy showed. The outflows decreased on the month following a brief rebound in June after two straight months of declines.

October FEI propane's discount to Mean of Platts Japan naphtha narrowed \$11.5/mt on the day to \$7/mt on Sept. 19, negating LPG's viability as an alternate cracker feedstock.

Platts is part of S&P Global.

— Ramthan Hussain

Tankers

Platts East of Suez Clean Tanker Daily Commentary

- LR 1 freight lower
- Tanker supply appears tight

The East of Suez Long Range 1, or LR 1, freight was lower Sept. 19 due to sluggish chartering activity, though some market participants said that tanker supply appeared to be tight in the near term.

More outstanding cargoes were expected in the week starting Sept. 25, a market source said.

The Morning Swan placed on subjects by Total at w160 for Oct. 4 naphtha loading on the Persian Gulf-Japan route.

"Availability of LRs for loading during the rest of the month is tight," said a chartering executive with a global commodity trading company. "There are still cargoes yet to be covered with tonnage during the rest of the month. It will be unfair to compare freight for end-September cargoes with that of early October."

In the LR 2 market, a to-be-nominated Scorpio ship was placed on subjects by Idemitsu for Sept. 30 naphtha loading on the Persian Gulf-Japan route, basis Platts assessments.

The focus was now on an outstanding cargo of Reliance for Oct. 2 diesel loading on the Sikka-UK Continent route. It was expected to provide fresh leads on the direction of freight, market sources said.

"The rates are now lower," said a clean oil tanker broker in Singapore.

"Freight for LR 2s is not as high as is being made out to be," a chartering source said.

Next week both South Korea and Japan will be closed for public holidays and therefore demand was likely to be slow. But there could be a preholiday surge in chartering over the next few days, according to market sources.

The market has peaked for the time being, but the outlook was not too bearish, said an LR broker.

In the Medium Range tanker market, loadings for Australia delivery have been slow in South Korea and North Asia, but few fixtures on the Singapore-Australia route have been done at higher rates.

That has caused the market to flip, with the South Korea-Australia route now enjoying a discount to the Singapore-Australia route.

Number of fixtures have been less but a few more MR inquiries were seen in East Asia, another broker said. Ampol had a cargo for Oct. 1 loading on the South Korea-Australia route.

Platts is part of S&P Global Commodity Insights.

— Sameer Mohindru

Platts West of Suez Dirty Tanker Daily Commentary

- VLCC markets continue recovery
- WAF-UKC Suezmaxes soften after cargoes dry up

The West of Suez VLCC market continued to recover from its recent slump, although no new fixtures were reported to show exactly how far rates had risen.

"Rates are being assessed slightly higher based on activity done privately – they are also being propped up by a clear-out of tonnage and resistance from owners," a UK-based VLCC broker said.

"Sentiment is very positive, with lots of ships fixed out of WAF and a very balanced list – I think there's room for rates to rise by 5-10 points" a Europe-based shipowner said.

The same owner added that he was currently holding back from fixing his vessels to take advantage of this anticipated firming of the market.

Based on the indications, Platts assessed freight on the 260,000 mt WAF-Far East route up w2.5 at w47.

In the Suezmax segment, sentiment cooled from Sept. 18 levels, as sources pointed to a drop in activity levels in the WAF region after most of the spate of cargoes from the previous two days were fixed.

"We had 10 cargoes come out in two working days, but right now there's not that much left to work," a UK-based Suezmax broker said.

The same broker added that he expected rates for the Oct. 1-5 loading window to be higher than those for the Oct. 5-10 window.

A second UK-based shipbroker agreed with this view, adding that "I just don't think there's much going on, from looking at the list."

In the latest reported fixture Total placed the Orpheas on subjects for a 130,000 mt cargo loading in WAF and discharging in UKCM, off an Oct. 2 laycan, at w77.5.

Based on the fixtures and indications, Platts assessed freight on the 130,000 mt WAF-UKC route down w5 at w75.

Aframax owners welcomed an increased level of activity in the Mediterranean Sept.19.

The activity removed some of the early tonnage and rates posted some modest gains on most routes.

There was additional support from an improving Handysize sector in the Mediterranean.



The Pacific Diamond fixed 80,000 mt crude from Es Sider to UKC with a Sept. 27 laycan at w82.5 to CSSA. The cross Mediterranean runs also ticked upwards and Platts assessed the 80,000 mt Ceyhan-Med route at w87.5.

The market remained quiet from the Black Sea and UKC zones, and rates were flat.

Platts is part of S&P Global Commodity Insights.

— Richard Kersey

Platts Americas Clean Tanker Daily Commentary

- 38,000 mt USGC-Caribs run ticks down \$25,000
- MR freight continues to soften amid still ample position list

Freight continued its downward spiral for the Americas clean MR tanker class Sept. 19 as shipowners had yet to gain any ground with muted fixing activity unable to put a dent in the ample list of available tonnage.

Valero set the tone by booking the Pacific Tamerlane for a US Gulf Coast-Caribbean run at \$475,000, set to load Sept. 21-22. With market participants unanimously deeming the traded level as repeatable, Platts assessed freight for the 38,000 mt run dipping \$25,000 to \$475,000.

“Well I honestly think we are at the bottom now but time will tell,” a shipbroker said.

Sol entered the market looking to book an MR for a Sept. 25-27 loading USGC-Caribs run, however the cargo remained uncovered by the end of the Platts Market on Close assessment process.

ATMI placed the Mantaro I on subjects for a US Atlantic Coast-Transatlantic run at w75, set to load Sept. 21. Although the date of the trade could not be confirmed, sources largely believed it to have been done Sept. 15. Market participants confirmed the US Atlantic Coast-TA run typically commands a w5-w10 point discount to the USGC-TA run.

The 38,000 mt USGC-UK Continent run finished the day unmoved at w85, in line with the majority of active indications. The USGC-Brazil route also held steady at w167.5.

Market indications for the routes discharging in West Coast South America began to tick lower as the lack of fixing activity had failed to shrink the position list, leaving shipowners with little leverage.

One shipbroker report listed 19 MRs available to load on the USGC over the next 5 days out from Sept. 19, and 12 available for prompt loading, four more than Sept. 18.

Active indications for the USGC-Chile route were heard between \$2 million-\$2.15 million, trending lower towards the latter stages of the MOC.

The MR USGC-Chile route finished the day falling \$50,000 to \$2.1 million.

The spread between the USGC-West Coast Central America and USGC-Ecuador routes was heard narrowing to \$50,000.

Platts assessed freight for the USGC-WCCAm run sinking \$100,000 to \$1.55 million, and the USGC-Ecuador route slipping

\$75,000 to \$1.5 million.

Platts is part of S&P Global Commodity Insights.

— Catherine Rogers

News

Crude oil futures edge lower as market consolidates ahead of US Fed interest rate decision

- ICE Brent briefly tops \$95/b
- Market eyes growing recession risks
- Tight supply fundamentals hold floor under prices

Crude oil futures finished a volatile session lower Sept. 19 as market jitters ahead of a key US Federal Reserve interest rate decision offset persistent supply anxiety.

NYMEX October WTI settled 28 cents lower at \$91.20/b and ICE November Brent dipped 9 cents to \$94.34/b.

“The tape is starting to smell of recession trades,” TD Securities analysts said in a Sept. 19 note. “Price action in risk markets has been benign, but steepening yield curves, rising oil prices and inflation persistency and are raising the risk of a hard landing.”

Short covering ahead of the expiry of the October WTI contract Sept. 20 helped push futures to fresh highs in early US trading, analysts said, but market positioning ahead of the Sept. 20 Federal Reserve interest rate decision saw prices retreat to negative territory later in the session.

The market is widely expecting the Fed’s Federal Open Market Committee to hold its target interest rate steady at 5.25-5.50%, but persistent high inflation could see the central bank maintain this hawkish stance into next year.

“Brent crude topping the \$95 a barrel is significant, but today is all about the Fed and that will either trigger recession fears or signal rates will be less restrictive and excess liquidity will remain plentiful,” OANDA Senior Market Analyst Ed Moya said in a Sept. 19 note. “If the Fed signals higher for longer is here to stay and that hard landing risks are rising, that could give one last major push for the dollar, which might bring down oil prices.”

ICE Brent topped out at \$95.96/b and NYMEX WTI touched \$93.74/b intraday.

NYMEX October RBOB settled 3.98 cents lower at \$2.6581/gal and October ULSD climbed 8.56 cents to \$3.3739/gal.

Despite recession risks, oil markets remain well supported by tight supply balances.

“Tightening fundamentals have attracted speculators back into the market with both the managed money net position as well as the spreading position seeing meaningful increases over the last reporting week,” ING commodity analysts, Warren Patterson and Ewa Manthey, said in a Sept. 19 note.

Saudi energy minister Prince Abdul-Aziz bin Salman said at an industry conference Sept. 18 that the OPEC and its allies will continue to be “proactive, preemptive and precautionary” in

managing the market — a signal not to expect the producer bloc to ease up on its output cuts any time soon, despite the prices of some crudes eclipsing \$100/b in recent days.

Alongside the voluntary output cuts by OPEC+ mainstays Saudi Arabia and Russia, a projected fall in US unconventional oil and gas production through October could further tighten the global crude landscape.

The US Energy Information Administration forecast total domestic oil output to fall 40,000 b/d on the month to 9.393 million b/d in October, according to the EIA's latest Drilling Productivity Report.

— Christopher Vanmoessner

Equinor signals further capex blowout for flagship Barents Sea crude project

- Project on track for revised startup timeframe in Q4 2024
- Work scope increases, inflation, pandemic controls push cost to \$7.5 billion
- Castberg to contribute to rising Norwegian oil output

Norway's state-controlled Equinor on Sept. 19 signaled the latest in a series of increases in capital expenditure forecasts for its flagship Barents Sea oil project Johan Castberg, up 40% from the original plan, but said startup was on track for Q4 2024, in line with an earlier revised schedule.

Castberg is the second oil field to be developed in the Norwegian Barents Sea after Goliat, a field operated by Var Energi, majority owned by Italy's Eni.

Castberg crude is expected to be of medium gravity, with an API of 31 degrees, heavier than Goliat, and the facilities will be able to handle close to 190,000 b/d. The field lies around 150 km north of Goliat and 240 km north of the mainland.

Together with the impact of the giant Johan Sverdrup field, Castberg is expected to be a major contributor to rising Norwegian oil production in the first half of the current decade.

Equinor said the Castberg development cost was now expected to be NOK80 billion (\$7.5 billion), up from NOK57 billion when the project was first submitted for approval. Equinor had already issued a number of warnings on likely cost increases, while the projected startup was earlier put back to Q4 2024, compared with the original plan for startup in 2022.

The project's remote location and features such as heating to prevent ice formation on the exterior of the facilities are among the cost factors involved, however, Equinor noted issues at the fabrication stages in Singapore and the Stord assembly yard in Norway, as well as the impact of the pandemic.

"Costs are increasing due to a larger than expected scope of work and cost increases in the industry — we take this seriously," Equinor executive vice president for projects, drilling and procurement Geir Tunesvik said.

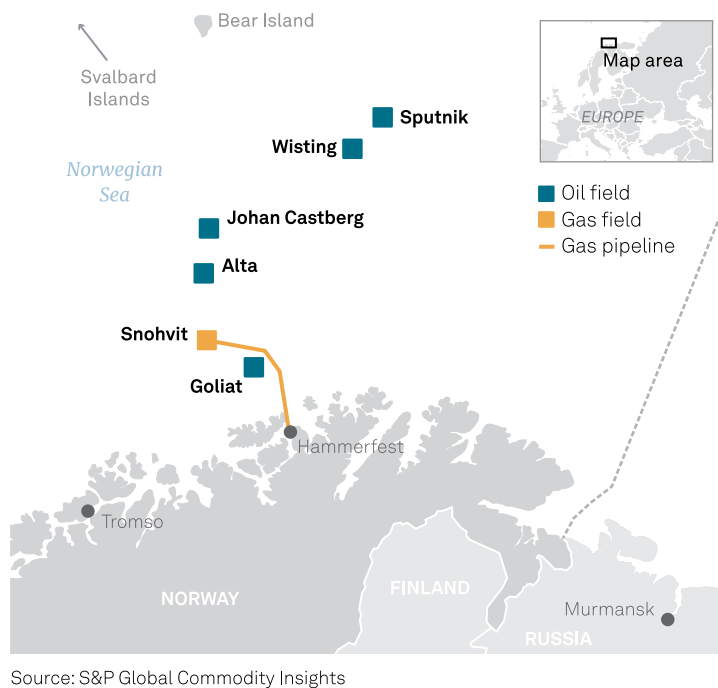
"The main reason for the rise in the investment estimate from last year is that the workload transferred to Stord has been more

comprehensive and complex than estimated. In addition, the project has not progressed as planned. Due to the market cost development, the marine operations, drilling and completion costs have also increased," Equinor added.

Pandemic control measures and reduced access to labor had affected the project in both Singapore and Norway, it added.

"However, Johan Castberg is still a good project with a solid economy," Tunesvik said. "With a breakeven of around \$35/b Johan Castberg will provide substantial revenue and ripple effects to the community from the Barents Sea for 30 years."

Norway's Arctic oil and gas fields



Barents expansion

Norway's expansion of its oil and gas industry into the Barents Sea has proceeded in fits and starts. In 2022, Equinor put on hold plans for an even more remote oil development, Wisting.

The industry is increasingly focused on ways to commercialize anticipated growth in Barents Sea gas output; currently there is just one producing Barents Sea gas field: Snohvit. Alongside the Barents Blue project, intended to convert gas into ammonia for seaborne export, the industry is increased calls for a gas pipeline connection to the Norwegian Sea.

The Goliat field meanwhile has been in significant decline, with 2022 output at 33,000 b/d, around 50% below the annual peak level.

North Sea benchmark Platts Dated Brent was assessed at \$96.24/b on Sept. 18, up \$1.10 on the day, and up from \$88.55/b at the start of the month. Platts is part of S&P Global Commodity Insights.

— Nick Coleman

US unconventional oil, gas production seen falling further in October: EIA

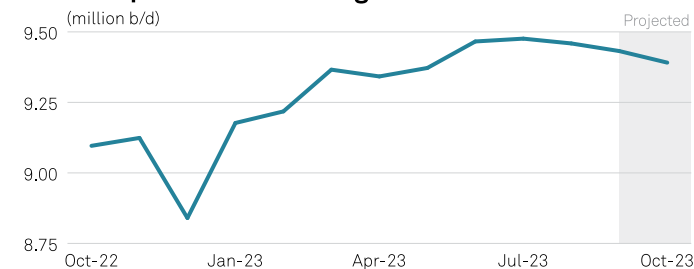
- Oil output projected to drop 40,000 b/d to 9.393 million b/d
- Gas output predicted down 339,000 Mcf/d to 98.366 Bcf/d
- Output forecasts 'difficult' as rig count bottoms

US unconventional oil and gas production may fall further on the month in October 2023 than was initially expected, the US Energy Information Administration said Sept. 18.

Total domestic oil output is forecasted to fall by 40,000 b/d on the month to 9.393 million b/d in October, while natural gas output is pegged to fall by 339,000 Mcf/d to 98.4 Bcf/d, EIA said in its latest Drilling Productivity Report.

The agency in August had projected month-on-month decreases for September of 20,000 b/d for oil (leaving a total of 9.415 million b/d) and 147,000 Mcf/d for natural gas (to a total 98.3 Bcf/d). But the September figures have now been revised upwards to total 9.433 million b/d and 98.7 Bcf/d respectively, the DPR reported.

US oil output to continue slight decline



Basin	May-23	Jun-23	Jul-23	Aug-23	Sep-23*	Oct-23*
Anadarko	0.427	0.423	0.425	0.424	0.422	0.419
Appalachia	0.158	0.149	0.149	0.149	0.148	0.146
Bakken	1.166	1.201	1.214	1.219	1.224	1.227
Eagle Ford	1.156	1.163	1.155	1.142	1.126	1.109
Haynesville	0.035	0.036	0.036	0.036	0.036	0.036
Niobrara	0.657	0.669	0.672	0.674	0.677	0.682
Permian	5.773	5.826	5.825	5.815	5.799	5.773
TOTAL	9.372	9.466	9.476	9.459	9.432	9.391

*Projected

Source: US Energy Information Administration

The Permian Basin should account for more than half the EIA's October projections for unconventional oil output decrease – or 26,000 b/d, leaving a total 5.773 million b/d. However, for natural gas output, Appalachia should register the largest basin decrease of 137,000 Mcf/d to 35.718 Bcf/d.

The DPR is calculated largely on rig counts which have fallen in recent months before apparently bottoming out in September.

US rig counts averaged 782 in May, 742 in June and 733 in July, according to S&P Global Commodity Insights rig data– months during which a large chunk of wells now in production were likely drilled.

DPR is 'rig-implied production'

But now the US rig count – which forms a large part of the DPR output predictions – appears to be bottoming, so predictions

for the next few months may be “difficult,” DPR author Jozef Lieskovsky said, adding DPR is actually “rig-implied production.”

“If you look at some of the regions, when rigs go down, productivity comes back up so it’s hard for me to say how much productivity may be coming back” as the rig count inches up,” Lieskovsky said.

“We got really strong completions [data] last week, a much higher price for oil, contango on the gas side, plus we’ll have a new gas pipeline coming to the Permian Basin,” he said. “All those are signs lining up that we should see a higher rig count going forward,” cautioning that month-forward predictions may not be entirely accurate.

S&P Global's rig data showed the US rig count has inched up in the last two weeks. From 703 during the week ended Aug. 23, the rig count rose to 706 for the week ended Aug. 30 and 707 for the week ended Sept. 6.

Meanwhile, the DPR predicts other oil-prone basins may potentially see lesser crude output declines for October: the Eagle Ford Shale, down 17,000 b/d to 1.109 million b/d, the Anadarko Basin losing 3,000 b/d to a total 420,000 b/d and Appalachia losing 2,000 b/d to 146,000 b/d.

Niobrara, Bakken may see gains

However, two basins – the Niobrara Shale and the Bakken Shale – are projected to show oil production increases, albeit small ones. The Niobrara is targeted to increase 5,000 b/d to 682,000 b/d while the Bakken is seen adding 3,000 b/d for a total 1.227 million b/d.

The largely dry gas Haynesville Shale is estimated to remain at 36,000 b/d of oil output in October, unchanged on the month.

For gas basins, the Bakken, Niobrara and Permian could also see monthly gains in October of 23,000 Mcf/d for the Bakken to 3.390 Bcf/d; plus increases of 17,000 Mcf/d for the Niobrara to 5.165 Bcf/d and 11,000 Mcf/d to 23.745 Bcf/d, EIA said.

But output decreases may occur in the Haynesville of 106,000 Mcf/d to 16.196 Bcf/d, the Anadarko Basin of 77,000 Mcf/d to 6.610 Bcf/d and the Eagle Ford Shale of 70,000 Mcf/d to 7.542 Bcf/d.

In its Short-Term Energy Outlook released in earlier in September, the EIA increased its 2023 outlook for total US oil production by 20,000 b/d from last month's estimate to 12.78 million b/d, and anticipates 2024 output to rise to 13.16 million b/d in 2024, up 70,000 b/d.

— Starr Spencer

INTERVIEW: COP28 director-general says progress on carbon markets needed to accelerate climate action

- Laser-focused on fast-tracking the energy transition
- Restoring credibility key to future of carbon sector
- COP28 needs to be a critical climate milestone

Forging a consensus around a global carbon price or tax will be a key priority at the upcoming Climate Change Conference

in Dubai, COP28 Director-General Majid al-Suwaidi has told S&P Global Commodity Insights.

Suwaidi also said fast-tracking the pace of the energy transition would be a key objective at the conference, scheduled to take place from Nov. 28 to Dec.10.

This comes as global leaders are under pressure to accelerate national plans and align with Paris Agreement climate pledges.

“We are laser focused on achieving the 1.5 Celsius degrees target, as well as on how we address the mitigation, emissions and finance gaps, and make good on promises that were made as part of the Paris Agreement,” Suwaidi told S&P Global in a Sept. 18 interview. “That is why we have ambitious targets when it comes to tripling renewable capacity, doubling hydrogen capacity and doubling energy efficiency. We need to decarbonize the energy system we have today, while we build up the energy system of the future,” he said.

COP-28 President-Designate Sultan al-Jaber has been touring the world in the lead up to the event, urging governments to update their 2030 Nationally Determined Contributions targets. Jaber has called for the tripling of renewable energy output to 11,000 GW, the doubling of energy efficiency measures, and the doubling of hydrogen production to 180 million mt/year by 2030.

On Sept. 9, G20 nations agreed to support the tripling of renewables globally and acknowledged a \$4 trillion/year need to accelerate investment in the energy transition.

Clarity on carbon

Suwaidi, who UAE’s main negotiator at the Paris Agreement, also said a focus on the standardization is needed to help the carbon markets develop faster and further, after the industry has suffered a crisis of confidence in recent months due to growing scrutiny over the quality of carbon offsets.

“We need to get credibility in the market, and we think that it is really important to have progress on carbon markets at COP28,” he said. “We think that all of these solutions [carbon taxes and carbon prices] are useful and helpful. The carbon markets, let’s be frank, have had a few years of lost time in a way.”

Carbon taxes and carbon pricing systems are emerging as key tools for governments in climate and international policy.

On Sept. 6 African leaders adopted the Nairobi Declaration, calling for a global carbon tax on fossil fuels to accelerate action against climate change and the acknowledgement of its impact on the continent.

Similarly, European Commission President Ursula von der Leyen recently called for international leaders to propose a plan for an international carbon price at COP28.

Carbon taxes and pricing systems help provide a source of revenue for the government while helping companies assess the impact of climate change on their operations and investments. But so far, the fraction of countries or regions using such instruments remains quite small.

Carbon-pricing programs like the EU Emissions Trading System are considered an effective and economic way to reduce greenhouse gas emissions.

Platts assessed EU ETS Allowances for December at Eur83.68/mtCO_{2e} (\$89.74/mtCO_{2e}) on Sept. 6. EUAs averaged Eur85.23/mtCO_{2e} in 2022 and Eur53.52/mtCO_{2e} in 2021, according to data from S&P Global Commodity Insights.

Getting clarity around the use of Article 6.2 and Article 6.4 of the Paris Agreement is needed to spur the growth of carbon markets.

Article 6 sets out the rules for global trade in greenhouse gas emissions reductions and as such has a critical role to play in the development of voluntary carbon credits.

Many key decisions and rules around the use of Article 6 have been pushed back to the COP28 in Dubai though a broad architecture of Article 6 was agreed at the COP26 summit in November 2021 after years of political wrangling.

Global ‘stocktake’ of climate actions

Suwaidi said he was hopeful that COP28 “will be a critical milestone” in the climate process.

“As the COP28 Presidency, we want to achieve the climate goals and the commitment that was promised at Paris, such as keeping 1.5 C within reach, the mobilization of capital, adaptation goals, and addressing loss and damage for vulnerable communities,” he added.

Finalizing the world’s first global ‘stocktake,’ or “inventory” of climate actions is another key goal at COP28. The global stocktake, which itemizes what countries and stakeholders are doing or failing to do to meet their Paris Agreement commitments, is considered to be the centerpiece in global climate efforts.

The United Nations Framework Convention on Climate Change published its global stocktake synthesis report Sept. 8 outlining key technical findings, confirming the world is way off track to meet Paris Agreement commitments.

“There is a rapidly narrowing window to raise ambition and implement existing commitments in order to limit warming to 1.5°C above pre-industrial levels,” the report said.

Based on current national commitments, the gap to emissions consistent with limiting warming to 1.5 C in 2030 was estimated to be between 20.3 billion mtCO_{2e} and 23.9 billion mtCO_{2e}, it said.

Global greenhouse gas emissions from energy combustion amounted to 33.75 billion mtCO_{2e}, according to Platts Global Integrated Energy Model. Platts is part of S&P Global.

— Eklavya Gupte

Nagorno-Karabakh hostilities highlight risks to Azerbaijan oil, gas exports

- Azerbaijan launches ‘anti-terrorism’ campaign in region
- Officials claimed pipelines targeted in previous conflict
- Azeri Light crude seeing strong demand in Med market

Hostilities have kicked off again between Azerbaijan and Armenia after a three-year pause, renewing risks to regional oil

and gas infrastructure that provide vital supplies to European markets and beyond.

Azerbaijan on Sept. 19 said it had launched an “anti-terrorism” campaign in the disputed Nagorno-Karabakh region, targeting Armenian military assets.

The two sides had reached a peace deal in November 2020 after 44 days of intense fighting that killed thousands and resulted in Azerbaijan regaining territory lost during the Nagorno-Karabakh war in the early-1990s.

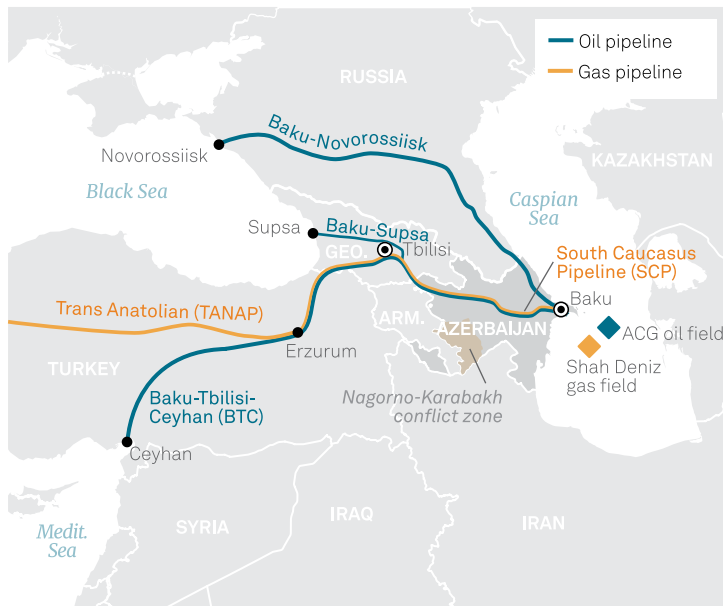
Azeri officials claimed the Baku-Tbilisi-Ceyhan crude oil line and the South Caucasus gas pipeline were nearly struck during the 2020 conflict, though flows were unaffected and Armenia denied any involvement.

Azerbaijan relies on a network of pipelines that skirt around Nagorno-Karabakh and run through Georgia to Turkey, as well as to the Black Sea coast, with an additional route running north into Russia. Rail links provide additional oil transportation.

The pipelines in turn help underpin Turkey’s role as an energy hub, with Azeri gas from the Shah Deniz field sent to Europe and increasingly helping support European energy security.

The BTC oil pipeline carries crude to Turkey’s Mediterranean oil port of Ceyhan; in H1 2023 the route transported 630,000 b/d of high-value Azeri Light crude.

Azerbaijan’s oil and gas export routes



Source: S&P Global Commodity Insights

Azerbaijan has supplemented declining production from its main Caspian deepwater hub — Azeri Chirag Deepwater Gunashli (ACG) — with condensate from the Shah Deniz gas field, and third-party volumes from nearby Kazakhstan and Turkmenistan.

The BTC route is buried below ground along its entire 1,800 km length through the Caucasus Mountains and Turkey. In its 17 years of operation, it has proved largely impervious in the face of armed conflicts in both Georgia and Azerbaijan. Flows were briefly

suspended as a precaution during a 2008 war between Georgia and Russia; an arson attack occurred on the Turkish section of the line just prior to that conflict.

The South Caucasus Pipeline, operated by state-owned Socar, forms the eastern section of the Southern Gas Corridor, extending across Turkey to Italy, with up to 25 Bcm/year of capacity.

Azeri Light in demand

Azerbaijan, a member of the OPEC+ oil exporters alliance, produces Azeri Light crude, a distillate-rich grade particularly sought-after in winter as European gasoil demand for heating increases. The grade, along with other sweet crudes in the Mediterranean market, has seen differentials surge amid robust refining margins, with Platts assessing its premium to Dated Brent at \$6.60/b on a CIF Augusta basis on Sept. 18.

Recent Azeri crude output has stagnated around 500,000 b/d, according to the Platts survey of OPEC+ production by S&P Global Commodity Insights.

Azerbaijan’s gas production amounted to 46.7 Bcm in 2022, according to official figures, with exports to Turkey, Georgia and Europe totaling 22.3 Bcm, an 18% year-on-year rise.

In a statement announcing the launch of its military campaign, Azerbaijan’s ministry of defense said it would not target civilians nor civilian infrastructure.

The Azerbaijan-Armenia dispute stems from a conflict dating from the early 1990s and the fall of the Soviet Union. During the bloody 2020 fighting, Azerbaijan retook territory in the Nagorno-Karabakh region, which is called Artaskh by Armenians, before a deal signed by the two sides and Russia ended hostilities. Russian forces have been tasked with enforcing the ceasefire.

— Herman Wang

South Korea crude imports tumble to 30-month low amid lackluster economic activity [...from page 1](#)

improve to around 2.61 million-2.65 million b/d from 2.6 million b/d in 2022 and 2.57 million b/d in 2021. However, oil consumption averaged just 2.51 million b/d in the first seven months of 2023, while S&P Global forecast South Korea’s crude runs in 2023 to slip to 2.974 million b/d from 3.011 million b/d in 2022.

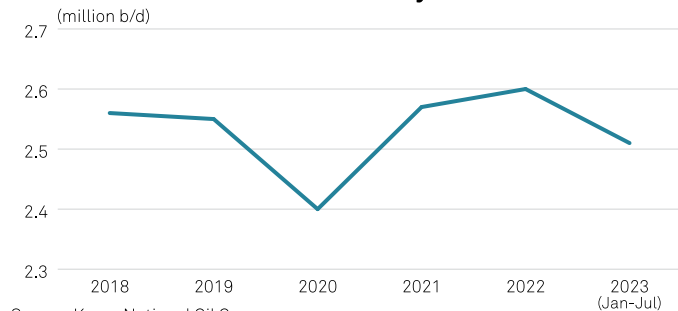
“Generally, there were too much optimism that China’s economic recovery would support [South Korea’s] manufacturing and trade activity in the beginning of the year, and we never knew record-high mortgage debt level would batter consumer and business sentiment this badly,” said a naphtha and diesel distribution manager at a major South Korean refiner based in Ulsan.

South Korea’s retail sales dropped 3.2% on a seasonally adjusted basis in July from a month earlier, the first monthly fall after gains of 0.9% in June and 0.6% in May, according to Statistics Korea. It was the biggest drop since July 2020.

The S&P Global South Korea Manufacturing PMI eased to

48.9 in August from July's 49.4 and remained below the no-change mark of 50.0, signaling a deterioration in overall business conditions and extending the current downturn to 14 months.

South Korea's oil demand under pressure amid lackluster economic activity



Rising pump prices

South Korea's crude oil imports and throughput could be capped for the rest of the year as consumer sentiment faces its biggest test with retail automotive fuel prices extending the upward momentum, industry sources said.

The government had extended its fuel tax cut scheme until October, but taking into account the sharp uptrend in retail and benchmark oil prices, fourth quarter domestic wholesale and distribution volumes, as well as the overall refining margin outlook, will need to be revised, middle distillate marketers at major South Korean refiners said.

The retail pump price of gasoline averaged Won 1,750/liter (\$1.12/liter) in the first week of September, on course to set the highest monthly average since Won 1,984/liter (\$1.50/liter) in June 2022, according to state-run Korea National Oil Corp.

Platts, part of S&P Global, assessed benchmark FOB Singapore 92 RON gasoline outright price at \$111.75/b on Sept.15, the highest level since \$111.94/b on Aug. 24, 2022.

Major crude suppliers

South Korea's crude imports from the US in August, mostly light sweet grades, dropped 28.5% from a year earlier to 7.72 million barrels, marking the first year-on-year decline in three months, customs data showed.

Shipments from top crude supplier Saudi Arabia fell 23.3% year on year to 28.49 million barrels in August.

Despite OPEC and its alliance members' firm stance to control and limit the group's crude production levels, refiners across Northeast Asia have little trouble securing adequate Middle Eastern sour crude supplies, especially from Saudi Arabia, as the OPEC Kingpin respects and prioritize its key customers in the Far East, feedstock management sources at two major South Korean refiners said.

"[Middle Eastern suppliers] are broadly keen to provide full monthly term contractual volumes to top Asian customers ... though time to time we would nominate and ask to lift only the minimum contractual amount in case of any lengthy [refinery]

maintenance works or shift in refining economics," said a feedstock and logistics manager at a major South Korean refiner.

— Staff

Refinery updates

REFINERY NEWS: South Korea's SK Energy to shut RHDS unit for 35-day turnaround in Oct

Refinery: Ulsan, South Korea

Owner: SK Energy Company Limited

Overall capacity: 840,000 b/d

Units affected: 86,000 b/d Residual Hydrotreater 2

Notes: SK Energy will shut its 86,000 b/d Residual Hydrotreater (RHDS) 2 at its 840,000 b/d Ulsan refinery starting Oct. 18 for a 35-day planned turnaround, with completion expected to be around Nov. 21, industry sources said.

SK Energy operates the Ulsan complex that runs five CDUs with a combined capacity of 840,000 b/d on the country's southeast coast — with the 60,000 b/d No. 1 CDU; 110,000 b/d No. 2 CDU; 170,000 b/d No. 3 CDU; 240,000 b/d No. 4 CDU; and 260,000 b/d No. 5 CDU.

The company was not immediately available for comment.

Source: Industry sources

— Amy Tan, Clarice Chiam, Ernest Puey

REFINERY NEWS: Phillips 66 reports flaring at Wood River refinery in Illinois

Refinery: Wood River in Roxana, Illinois

Owner: 50% Cenovus and 50% Phillips 66

Capacity: 356,000 b/d

Duration: Started Sept. 19

Notes: Phillips 66 reported flaring as a result of a process unit upset at the 356,000 b/d Wood River refinery in Roxana, Illinois on Sept. 18, according to a filing with local regulators Sept. 19.

The refinery — which is operated by Phillips 66 and holds a 50% stake along with Cenovus — said that greater than 500 pounds of sulfur dioxide were released as a result of a process unit upset, according to a filing made by the company with the Illinois Emergency Management Agency.

The unit where the upset occurred was not identified in the filing and a company spokesperson was not available for comment.

— Janet McGurty

REFINERY NEWS: Portugal's Sines to start 50-day maintenance in Oct

Refinery: Sines, Portugal

Owner: Galp Energia

Overall capacity: 226,000 b/d

Units affected: atmospheric distillation unit, fluid

catalytic cracker

Unit capacity: ADU 225,000 b/d, FCC 35,000 b/d

Duration: October, November for approx. 50 days

Notes: Galp's Sines refinery will carry out a major maintenance in October and November, the company said, without providing specific dates.

The duration is likely to be in excess of 50 days and will include work on the atmospheric distillation unit and FCC in the fourth quarter, both of which were previously offline in Q4 2022.

The maintenance will be carried out in staggered phases throughout the period, Galp said.

According to previous estimates, the cost of the turnaround will be Eur87 million.

The halt follows on from a 48-day halt in January that involved different units, including the hydrocracker, leading to a 10% reduction in refinery throughput in the first quarter, at a cost of Eur41 million.

Galp previously said that the impact including the Q4 maintenance would reduce annual throughput by 15% year on year to 75 million barrels of output, or around 91% of nameplate capacity.

The company is planning to hold its next major turnaround in 2025.

Galp said in July that it expects to produce a full-year 2023 refining margin of \$9/b with refining costs of between \$3/b and \$4/b.

This would mean a narrowing of its average refining margin to around \$7/b for the second half of the year, following an average \$11/b across the first half.

In terms of decarbonization, Galp's new HVO unit (260,000 mt/year capacity and 193,000 mt/year sustainable aviation fuel capacity) and a 100 MW hydrogen electrolyzer are still awaiting final investment decisions.

Portugal's environment agency APA cleared the HVO plant project on July 17 and the electrolyzer plans on June 16.

— *Gianluca Baratti*

REFINERY NEWS: Uzbekistan's GTL to export 100,000 mt synthetic diesel this year

Refinery: Uzbekistan GTL, Qashqadaryo Region, Uzbekistan

Owner: Uzbekneftegaz

Overall capacity: 1.5 million mt/year

Notes: Uzbekistan's gas-to-liquids plant is planning to export 100,000 mt of synthetic diesel to Europe and other countries by the end of this year.

It already loaded the first cargo Sept. 11, heading to Europe via Georgia.

The facility started producing synthetic diesel, jet and naphtha last summer.

This year it plans to produce more than 1 million mt of synthetic liquid fuel meeting Euro 6 specifications.

It can process 3.6 Bcm of gas at full capacity and produce over 1.5 million mt/year of synthetic liquid fuel. Gas is supplied

from the nearby Shurtan Gas Chemical Complex.

Source: Company

— *Elza Turner*

REFINERY NEWS: Motiva reports FCC-related snag at Port Arthur, Texas, plant

Refinery: Port Arthur, Texas

Owner: Motiva Enterprises

Capacity: 626,000 b/d

Duration: Began Sept. 18

Notes: Motiva Enterprises reported a process upset at its Port Arthur, Texas, refinery in gasoline-making associated units, a company filing made with local regulators Sept. 19.

The process unit upset at the refinery – the largest in the United States – was “due to loss of boiler feedwater pump at the Fluid Catalytic Cracking Unit (FCCU) ...”

The filing said Motiva's operations group “took immediate actions to stabilize the unit and stop the release.”

A company spokesperson was not immediately available to comment.

— *Janet McGurty*

Subscriber Notes

Platts proposes to launch USGC-Tampa/Port Everglades Medium Range clean tanker Jones Act freight assessments Nov. 1

Platts, part of S&P Global Commodity Insights, proposes to launch two daily spot-equivalent 38,000 mt Medium Range clean tanker Jones Act freight assessments on the US Gulf Coast-to-Tampa/Port Everglades routes, effective Nov. 1, to provide transparency into domestic maritime shipping markets.

Since Jones Act freight trading is almost exclusively transacted on a term charter basis, the freight assessments will reflect spot-equivalent lump sum and \$/mt freight values based on transactional term charter rates adding roundtrip bunker and port costs from the USGC to Tampa, West Coast Florida, and Port Everglades, East Coast Florida.

The load port basket and discharge ports, average port charges, vessel speed, and bunker consumption to be utilized in the spot-equivalent freight assessments are arrived at by extensive market survey and reflect market practice.

On the 38,000 mt USGC-Tampa and USGC-Port Everglades routes, the spot-equivalent freight assessments will factor in

- Term charter rates on a \$/day basis multiplied by the number of roundtrip voyage days
- Voyage distance on a roundtrip basis
- Average load port costs at Houston, Lake Charles, New Orleans and Pascagoula
- Discharge port costs at Tampa and Port Everglades, respectively
- Average delivered 0.1% sulfur marine gas oil bunker costs at

the main bunkering ports of Houston and New Orleans as assessed by Platts on a daily basis under the codes AAWWX00 and AAWYA00, respectively

- Voyage speed of 14 knots for both laden and ballast legs at a bunker consumption of 32 mt/d and 30 mt/d, respectively
- Bunker consumption of 5 mt/d for two loading days and one idle day per roundtrip, and 18 mt/d during two days of discharge

Please send all comments or questions by Sep. 29, 2023 to shipping@spglobal.com and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available to the public upon request.

Platts launches Northwest European bionaphtha assessments Sept. 1

Platts, part of S&P Global Commodity Insights, has launched bionaphtha assessments in Northwest Europe, effective Sept. 1, 2023.

Platts has observed growing supply and consumption of bionaphtha in Northwest Europe on the back of a rapid expansion in European biorefining capacity.

The growth in demand for bionaphtha is driven in part by the transition to lower carbon fuels where bionaphtha is used as a gasoline blending component, as well as increasing usage from chemical crackers that in turn supply bio-based feedstocks for consumer plastics production.

The launch of Platts Northwest European bionaphtha assessments follows a decision published Aug. 2 which can be found here:

<https://www.spglobal.com/commodityinsights/en/our-methodology/subscriber-notes/080223-platts-to-launch-northwest-european-bionaphtha-assessments-sept-1>

The assessments reflect parcels of 1,000-2,000 mt of bionaphtha, loading five to 15 days forward on an FOB ARA (Amsterdam-Rotterdam-Antwerp) basis. Other locations within Northwest Europe may be considered for the assessment but may be normalized to reflect loadings basis ARA.

Platts will publish the bionaphtha assessment on an outright basis and also as a differential to the benchmark Platts CIF NWE naphtha cargo assessment (PAAAL00), reflecting typical trading practices. The assessments will be published in both \$/mt and Eur/mt, time-stamped at 1630 London time.

The bionaphtha assessments exclude material produced from palm-based feedstock and mirror applicable specifications set out in the Platts CIF NWE naphtha methodology, reflecting open specification material with a minimum 65% paraffin content and a typical density of 0.69 kg/l to 0.735 kg/l.

Certification Requirements:

The new assessments reflect material accompanied with International Sustainability & Carbon Certification Plus (ISCC+)

issued by a European Commission-approved auditing body. The ISCC+ is a voluntary sustainability certification for circular and bio-based products, renewables, food, feed & biofuels, for non-regulated markets outside of the European Union Renewable Energy Directive (RED II) framework. Market feedback received suggest requests for ISCC+ certification for bionaphtha used as chemical feedstock to be prevailing market practice and typical. Where applicable, material accompanied with ISCC EU compliant certification and sustainability documentation showing a minimum greenhouse gas saving of 50% under RED II framework may be considered for the assessments, subject to normalization.

Platts understands while it is typical for buyers to request for additional Kosher or Halal certifications for bionaphtha used as chemical feedstock, especially for consumer plastics or food packaging production, material adhering to these additional certification may command a premium and may be normalized for the purpose of these assessments.

The new bionaphtha assessments are published on Platts LPGaswire, Oilgram Price Report, APAGscan, EUMarketscan and USMarketWire, Platts alerts fixed pages PGA0034, PGA1110, PGA1111, PGA1310, PGA1311, PGA1775 and Platts Dimensions Pro.

Description	Daily Assessment	Monthly Assessment
Platts Bio-Naphtha FOB NWE USD/mt	PAAAU00	PAAAU03
Platts Bio-Naphtha FOB NWE Eur/mt	PAABU00	PAABU03
Platts Bio-Naphtha FOB NWE Premium USD/mt	PAADU00	PAADU03
Platts Bio-Naphtha FOB NWE Premium Eur/mt	PAAEU00	PAAEU03

Please send any comments or feedback to europa_products@spglobal.com, MRTS_biofuelsandfeedstocks@spglobal.com, petchems@spglobal.com and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts to discontinue Mesa 30 and Santa Barbara crude price assessments

Platts, a part of S&P Global Commodity Insights, will discontinue publishing price assessments for Venezuela's Mesa 30 and Santa Barbara crudes effective Nov. 1 due to declining production and a lack of spot market activity.

Platts understands there is no spot-market activity for the Venezuelan grades Santa Barbara and Mesa 30. US sanctions have curtailed Venezuela production and trading activity, and market participants do not anticipate normal activity to resume. Market sources indicate there has been no spot trade of these grades in nearly a decade.

The discontinuation will affect the following codes:

	Outright	Diff to Dated Brent	Diff to Brent Strip	Diff to WTI Strip
Mesa 30	AAITB00	AAXB000	AAXCC00	AAITH00
Santa Barbara	AAITD00	AAXAZ00	AAXBU00	AAITJ00

The prices appear on Platts Global Alert page 280 and in Latin Wire, Crude Oil Marketwire and Oilgram Price Report.

Please send any feedback or questions to

Americas_crude@spglobal.com and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing.

Platts will consider all comments received and will make comments not marked as confidential available to the public upon request.

Platts proposes including Afton's AvGuard SDA in Singapore gasoil

Following a review of recognized additives contained in the FOB Singapore gasoil assessment process, Platts, part of S&P Global Commodity Insights, proposes to begin reflecting AvGuard Static Dissipating Additive by Afton Chemical.

The list of Platts gasoil recognized additives is intended to provide clarity to market participants regarding which additives are generally considered to be merchantable and accepted for cargoes delivered through the Platts Market on Close assessment process in Singapore.

Platts does not align its FOB Singapore additives acceptance to any particular importing country.

For the full list of previously identified additives, please see <http://plts.co/V0Ax30ru2Yi>

Please send all feedback, comments or questions by Oct. 31, 2023, to asia_oilproducts@spglobal.com and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available to the public upon request.

EIA weekly summary, Sep 13 (PGA page 95)

		08Sep23	Change on week	09Sep22
PADD 1 stocks (million barrels)				
Crude	EIAWB00	7.174	+0.026	8.372
Total mogas	EIAIC00	57.781	+1.495	55.966
Conventional mogas	EIAJK00	2.796	-0.289	3.105
Blending components	EIAKC00	54.981	+1.784	52.855
Kero Jet	EIALS00	11.076	-0.797	9.467
Dist \<15 ppm	EIAMH00	27.769	+0.716	25.811
Dist \>15\<500 ppm	EIAMQ00	0.547	-0.063	0.643
Dist \>500 ppm	EIAMZ00	1.040	-0.194	1.614
Dist \>500 ppm New England	EIANA00	0.000		0.001
Distillate	EIALY00	29.356	+0.459	28.068
Resid	EIANI00	6.063	+0.951	4.123
PADD 2 stocks (million barrels)				
Crude	EIAWC00	104.662	-4.207	107.846
Crude Cushing, Oklahoma	EIAHW00	24.965	-2.450	24.648
Total mogas	EIAIG00	45.538	-0.146	42.550
Conventional mogas	EIAJL00	3.552	+0.026	4.310
Blending components	EIAKD00	41.986	-0.172	38.239
Kero Jet	EIALT00	7.588	+0.090	7.313
Dist \<15 ppm	EIAML00	33.342	+0.857	27.115
Dist \>15\<500 ppm	EIAMU00	0.324	-0.020	0.206
Dist \>500 pp	EIAND00	0.377	+0.048	0.220
Distillate	EIAMC00	34.042	+0.884	27.541
Resid	EIANM00	1.400	+0.040	0.832
PADD 3 stocks (million barrels)				
Crude	EIAWE00	238.699	+7.276	242.488
Total mogas	EIAIH00	82.050	+2.500	82.670
Conventional mogas	EIAJM00	6.214	+1.296	7.989
Blending components	EIAKE00	75.836	+1.203	74.681
Kero Jet	EIALU00	12.816	+0.116	12.518
Dist \<15 ppm	EIAMM00	37.614	+2.146	37.871
Dist \>15\<500 ppm	EIAMV00	0.991	-0.085	1.285
Dist \>500 pp	EIANE00	5.887	+0.364	5.027
Distillate	EIAMD00	44.492	+2.424	44.183
Resid	EIANN00	15.311	-0.126	17.539

		08Sep23	Change on week	09Sep22
PADD 4 stocks (million barrels)				
Crude	EIAWF00	23.954	+0.284	22.775
Total mogas	EIAII00	6.743	-0.187	6.195
Conventional mogas	EIAJN00	1.024	+0.087	0.886
Blending components	EIAKF00	5.718	-0.274	5.309
Kero Jet	EIALV00	0.872	-0.031	0.756
Dist \<15 ppm	EIAMN00	3.703	+0.334	3.421
Dist \>15\<500 ppm	EIAMW00	0.159	+0.029	0.142
Dist \>500 pp	EIANF00	0.043	-0.010	0.028
Distillate	EIAME00	3.906	+0.354	3.591
Resid	EIANO00	0.188	+0.007	0.201
PADD 5 stocks (million barrels)				
Crude	EIAWI00	46.102	+0.574	48.151
Total Mogas	EIAIJ00	28.194	+1.898	25.660
Conventional mogas	EIAJO00	1.861	-0.110	1.845
Blending components	EIAKG00	26.316	+2.002	23.793
Kero Jet	EIALW00	8.938	-0.095	9.147
Dist \<15 ppm	EIAMO00	9.989	-0.092	11.767
Dist \>15\<500 ppm	EIAMX00	0.231	-0.004	0.303
Dist \>500 pp	EIANG00	0.517	-0.094	0.566
Distillate	EIAMF00	10.737	-0.190	12.637
Resid	EIANP00	4.232	+0.040	5.628
Total US stocks (million barrels)				
Crude	EIAWA00	420.592	+3.955	429.633
Total mogas	EIAIB00	220.307	+5.561	213.040
Conventional mogas	EIAJJ00	15.448	+1.011	18.135
Blending components	EIAKB00	204.838	+4.545	194.877
Kero Jet	EIALR00	41.290	-0.717	39.201
Dist \<15 ppm	EIAMG00	112.417	+3.961	105.986
Dist \>15\<500 ppm	EIAMP00	2.253	-0.143	2.579
Dist \>500 ppm	EIAMY00	7.863	+0.112	7.455
Distillate	EIALX00	122.533	+3.931	116.020
Resid	EIANH00	27.194	+0.912	28.323
Total US inputs, imports, production (million b/d) (PGA page 88)				
Crude inputs	EIABT00	16.800	+0.177	16.022
Crude imports	EIAOE00	7.582	+0.812	5.792
Mogas imports	EIAOL00	0.899	-0.083	0.522
Distillate imports	EIASD00	0.185	+0.055	0.125
Mogas production	EIADX00	9.212	-0.576	9.453
Distillate production	EIAGL00	5.011	-0.006	5.019

Product price assessments

Asia, Sep 19

			Mid	Change
Singapore (PGA page 2002)				
(\$/barrel)				
Naphtha	PAAAP00	75.63-75.67	75.650	+0.610
Jet kerosene	PJABF00	122.17-122.21	122.190	-2.320
Gasoil	POABC00	124.33-124.37	124.350	-2.870
Gasoil 10 ppm	AAOV000	124.33-124.37	124.350	-2.870
Gasoil 50 ppm	AAPPF00	123.85-123.89	123.870	-2.860
Gasoil 0.05% S	AAFEX00	121.16-121.20	121.180	-2.930
Gasoil 0.25% S	AACUE00	120.41-120.45	120.430	-2.910
Gasoil 50 ppm disc/prem	AAPPH00	2.02-2.06	2.040	-0.020
Mogas 92 unl	PGAAY00	108.66-108.70	108.680	-1.740
Mogas 95 unl	PGAZ000	114.14-114.18	114.160	-2.780
Mogas 97 unl	PGAMS00	115.74-115.78	115.760	-2.990
CFR Naphtha	AAOVF00		78.890	+0.570
Naphtha pap. (bal month)	AAPLD00	NA-NA	NA	NANA
Naphtha pap. (Oct)	PAAAQ00	75.13-75.17	75.150	+0.650
Naphtha pap. (Nov)	PAAAR00	74.83-74.87	74.850	+0.500
Kerosene pap. (bal month)	AAPLE00	121.58-121.62	121.600	-2.610
Kerosene pap. (Oct)	PJABS00	119.03-119.07	119.050	-2.420
Kerosene pap. (Nov)	PJABT00	116.51-116.55	116.530	-1.910
Gasol pap. (bal month)	AAPLF00	124.28-124.32	124.300	-2.900
Gasol pap. (Oct)	POAFC00	121.38-121.42	121.400	-2.600
Gasol pap. (Nov)	POAFG00	118.12-118.16	118.140	-1.780
(\$/mt)				
FO 180 CST 2%	PUAXS00	535.27-535.31	535.290	-13.190
HSFO 180 CST	PUADV00	523.49-523.53	523.510	-12.900
180 CST disc/premium	AAGZF00	6.73-6.77	6.750	-1.000

China, Sep 19 (PGA page 2010)

			Mid	Change
(\$/mt)				
South China FOB				
Unl 92 RON	AAICW00	961.00-965.00	963.000	-14.750
South China, C&F				
Jet kerosene	PJABQ00	973.25-977.25	975.250	-21.750
Gasoil	POAFA00	929.75-933.75	931.750	-21.250
Hong Kong				
Fuel oil 380 CST	PUAER00	544.50-545.50	545.000	-15.000

Fujairah, FOB, Sep 19 (PGA page 2018)

			Mid	Change
(\$/mt)				
Naphtha	NFJSA00		688.650	+5.560
HSFO 380 CST	AFUJQ00		497.680	-1.810
(\$/barrel)				
Gasoline 95 unleaded	AFUJA00		117.120	-0.500
Gasoline 92 unleaded	RFJFS00		108.790	-0.480
Kerosene	AFUJF00		120.100	-2.160
Gasoil 10 ppm	AFUJP00		121.900	-2.590
Gasoil	AFUJK00		121.900	-2.590

			Mid	Change
Singapore (continued)(PGA pages 2002 & 2655)				
(\$/mt)				
HSFO 380 CST	PPXDK00	510.11-510.15	510.130	-13.060
HSFO 180 CST pap. (bal month)	AAPML00	521.98-522.02	522.000	-16.250
HSFO 180 CST pap. (Oct)	PUAXZ00	515.98-516.02	516.000	-11.550
HSFO 180 CST pap. (Nov)	PUAYF00	510.18-510.22	510.200	-10.550
MTBE	PHALF00	1082.60-1084.60	1083.600	+6.920
C&F Japan (PGA page 2006)				
(\$/barrel)				
Jet kerosene	PJAAN00	123.02-123.06	123.040	-2.730
Mogas unl	PGACW00	113.33-113.37	113.350	-1.740
(\$/mt)				
Naphtha	PAAAD00	717.25-718.75	718.000	+6.000
Nph 1st 1/2 Nov	PAAAE00	719.75-720.25	720.000	+6.000
Nph 2nd 1/2 Nov	PAAAF00	718.25-718.75	718.500	+6.000
Nph 1st 1/2 Dec	PAAAG00	717.25-717.75	717.500	+6.000
FOB Japan				
(\$/barrel)				
Gasoil	POJAP00		122.380	-2.790
C+F Australia (PGA page 2004)				
(\$/barrel)				
Mogas 92 unl	AACZF00	115.59-115.63	115.610	-1.740
Mogas 95 unl	AACZH00	121.07-121.11	121.090	-2.780
Jet kerosene	AAFY000	129.62-129.66	129.640	-2.320
Gasoil 10 ppm	AAQUD00	132.23-132.27	132.250	-2.870

Arab Gulf, FOB, Sep 19 (PGA page 2004)

			Mid	Change
(\$/mt)				
Naphtha	PAAAA00	666.85-668.35	667.600	+7.570
Naphtha LR2	AAIDA00	676.62-678.12	677.370	+6.000
HSFO 180 CST	PUABE00	504.04-504.08	504.060	-12.900
HSFO 380 CST	AAIDC00	490.66-490.70	490.680	-13.060
(\$/barrel)				
95 RON unleaded	AAICY00	109.68-109.72	109.700	-2.690
92 RON unleaded	AAGJA00		104.220	-1.650
Kerosene	PJAAA00	118.53-118.57	118.550	-2.220
Gasoil 10 ppm	AAIDT00	120.47-120.51	120.490	-2.760
Gasoil 0.05% S	AAFEZ00	118.27-118.31	118.290	-2.810
Gasoil 0.25% S	AACUA00	116.57-116.61	116.590	-2.810
Gasoil	POAAT00	120.47-120.51	120.490	-2.760

Asia product premium/discount assessments

Sep 19		Mid	Change	
MOP* Singapore (PGA page 2002)				
(\$/barrel)				
Jet	PJACU00	2.79/2.83	2.810	+0.270
Gasoil 0.25% S	AACQI00	-1.42/-1.38	-1.400	-0.070
Gasoil	POAIC00	2.50/2.54	2.520	-0.030
CFR Naphtha	AAOVG00		3.700	-0.100
(\$/mt)				
380 CST	PPXDL00	3.73/3.77	3.750	-0.750
MOP* Arab Gulf (PGA page 2004)				
(\$/barrel)				
Jet	PJACV00	4.88/4.92	4.900	+0.300
Gasoil 10 ppm	AAIDU00	4.63/4.67	4.650	+0.050
Gasoil 0.25% S	AACUC00	0.73/0.77	0.750	0.000
Gasoil	POAID00	4.63/4.67	4.650	+0.050
380 CST**	PPXDM00	-13.40/-13.36	-13.380	-0.160
(\$/mt)				
HSFO 180 CST	AAXJA00	13.98/14.02	14.000	-2.000
HSFO 380 CST	AAXJB00	12.98/13.02	13.000	-2.000
MOP* Japan (PGA page 2006)				
(\$/barrel)				
Naphtha	PAADI00	2.50/3.00	2.750	0.000
MOP* West India (PGA page 2012)				
(\$/mt)				
Gasoline (92 RON)	AARBQ00		894.210	-14.180
Gasoline (95 RON)	AAQWI00		940.790	-23.020
Naphtha	AAQWK00		671.540	+7.160
Jet kero	AAQWM00		935.730	-17.720
Gasoil (10 ppm)	AAQWO00		896.840	-20.770
Gasoil (500 ppm)	AAQWQ00		873.220	-21.220
Gasoil (2500 ppm)	AAQWS00		867.630	-21.070
(\$/barrel)				
Gasoline (92 RON)	AARBP00		105.200	-1.670
Gasoline (95 RON)	AAQWH00		110.680	-2.710
Naphtha	AAQWJ00		74.620	+0.800
Jet kero	AAQWL00		118.450	-2.240
Gasoil (10 ppm)	AAQWN00		120.380	-2.790
Gasoil (500 ppm)	AAQWP00		117.210	-2.850
Gasoil (2500 ppm)	AAQWR00		116.460	-2.830

*Mean of Platts. **=Differential to FOB Arab Gulf HSFO 180 CST.

Platts Index, Sep 19 (PGA page 115)

			Change
Platts Jet Fuel Index	PJGL000	360.90	+4.150

The Platts Jet Fuel Index is calculated using daily assessments of Jet fuel spot prices in relevant regional centers. These values are compared with average spot prices in the base period (Index value of year 2000 = 100%) to generate a percentage figure reflecting the overall rise or fall in markets compared to the base period.

Product price assessments

European bulk, Sep 19

(\$/mt)		Mid	Change		Mid	Change		
(PGA page 1114)								
Cargoes FOB Med basis Italy			Cargoes CIF Med basis Genoa/Lavera					
Prem unl 10 ppm	AAWZA00	982.50-983.00	982.750	-13.250	AAWZB00	1006.75-1007.25	1007.000	-11.500
Naphtha physical	PAAA100	664.00-664.50	664.250	-1.000	PAAAH00	695.75-696.25	696.000	+1.000
Jet av. fuel	AAIDL00	1000.50-1001.00	1000.750	+9.500	AAZBN00	1043.75-1044.25	1044.000	+12.250
ULSD 10 ppm	AAWY00	958.00-958.50	958.250	+5.000	AAWYZ00	981.75-982.25	982.000	+6.750
Gasoil 0.1%	AAVJ100	957.50-958.00	957.750	+8.000	AAVJJ00	979.50-980.00	979.750	+9.500
1% fuel oil	PUAAK00	573.75-574.25	574.000	-7.250	PUAAJ00	589.50-590.00	589.750	-6.250
3.5% fuel oil	PUAAZ00	551.75-552.25	552.000	-9.000	PUAAY00	567.25-567.75	567.500	-8.000
(PGA page 1110)								
Cargoes FOB NWE			Cargoes CIF NWE basis ARA					
Gasoline 10 ppm					AAXF000	1002.75-1003.25	1003.000	-12.000
Naphtha swaps					PAAAJ00	713.25-713.75	713.500	+1.250
Naphtha physical					PAAAL00	718.50-719.00	718.750	+2.500
Jet kerosene	PJAAV00	1028.50-1029.00	1028.750	+12.250	PJAAU00	1045.25-1045.75	1045.500	+12.250
ULSD 10 ppm	AAVBF00	991.00-991.50	991.250	+5.000	AAVB000	1002.00-1002.50	1002.250	+5.000
Diesel 10 ppm NWE	AAWZD00	991.00-991.50	991.250	+5.000	AAWZC00	1004.25-1004.75	1004.500	+5.000
Diesel 10 ppm UK					AAVBH00	1005.50-1006.00	1005.750	+5.000
Diesel 10 ppm UK cargoes					AUKDA00		1007.500	+5.000
CIF NWE - original (French) spec								
Gasoil 0.1%	AAYWR00	948.00-948.50	948.250	+9.500	AAYWS00	969.00-969.50	969.250	+9.500
1% fuel oil	PUAAM00	564.00-564.50	564.250	-6.250	PUAAL00	578.00-578.50	578.250	-6.250
3.5% fuel oil	PUABB00	543.75-544.25	544.000	-13.000	PUABA00	556.50-557.00	556.750	-13.000

(PGA pages 1112 & 1380)

Barges FOB Rotterdam				
98 RON unl	AAKOD00	1049.25-1049.75	1049.500	-12.750
Prem unl	PGABM00	984.50-985.00	984.750	-12.750
Reformate	AAAXP00		1090.500	-0.500
Eurobob	AAQZV00	983.75-984.25	984.000	-12.750
E10 Eurobob	AGEFA00		980.000	-13.500
Naphtha physical	PAAAM00	714.50-715.00	714.750	+2.500
Jet kerosene	PJABA00	1040.25-1040.75	1040.500	+13.500
Diesel 10 ppm*	AAJUS00	984.00-984.50	984.250	+4.000
Gasoil 50 ppm	AAUQC00	972.25-972.75	972.500	+12.000
Gasoil 0.1%*	AAYWT00	965.00-965.50	965.250	+7.250
DMA MGO 0.1%*	LGARD00		950.000	-10.000
1% fuel oil	PUAAP00	576.00-576.50	576.250	-8.250
3.5% fuel oil	PUABC00	558.50-559.00	558.750	-17.000
3.5% 500 CST fuel oil	PUAGN00	555.50-556.00	555.750	-18.000
380 CST	PUAYW00	598.50-599.50	599.000	-10.000

*FOB Amsterdam-Rotterdam-Antwerp.

West Africa products (\$/mt), Sep 19

		Mid	Change
West Africa cargoes (PGA page 1122)			
FOB NWE			
Gasoline	AAKUV00	914.750	-12.750
CIF West Africa			
Gasoline	AGNWC00	950.250	-13.750
FOB STS West Africa			
Gasoil 0.3%	AGNWD00	1003.750	+9.500

Renewable fuels (\$/mt), Sep 19 (PGA pages 1414, 483 and 2414)

			Change
Northwest Europe			
SAF Cost of Production	BJNWA00	1927.904	+6.894
HVO	HVNWA00	1779.979	+5.628
USWC			
SAF Cost of Production w/ credits	ASAF000	1898.353	-4.001
SAF Cost of Production w/o credits	ASAFB00	652.494	+27.251
RD w/ credits	ARDF000	1847.055	-3.024
RD w/o credits	ARDFB00	699.665	+31.286
Southeast Asia			
SAF Cost of Production (PFAD)	ASFAA00	1498.890	-13.780
HVO (PFAD)	HVSAB00	1387.140	-12.140
North Asia			
SAF Cost of Production (UCO)	ASFAC00	1825.150	+10.830
HVO (UCO)	HVNA000	1682.800	+8.510

Platts Euro denominated product assessments

Sep 19		Mid	Change	
Cargoes CIF NWE/basis ARA (€/mt) (PGA page 1116)				
Nap phy	AAQCE00	672.56-673.03	672.798	+2.466
Jet	AAQCF00	978.42-978.89	978.658	+11.648
Cargoes FOB NWE (PGA page 1116)				
1%	AAQCG00	527.94-528.41	528.176	-5.750
Barges FOB Rotterdam (€/mt) (PGA page 1118)				
Prem unl	AAQCH00	921.56-922.03	921.792	-11.760
10 ppm*	AAQCI00	921.09-921.56	921.324	+3.916
Gasoil 0.1%*	AAYWY00	903.30-903.77	903.538	+6.954
DMA MGO*	LGARE00		889.263	-9.193
3.50%	AAQCK00	522.79-523.26	523.027	-15.812
3.50% 500 CST	PUAG000	519.99-520.45	520.219	-16.749
		Mid	Change	
Cargoes CIF West Africa (€/mt) (PGA page 1116)				
Gasoline	AANWC00		889.497	-12.702
Cargoes FOB NWE West Africa (€/mt) (PGA page 1116)				
Gasoline	AGNWA00		856.267	-11.772
Cargoes FOB STS West Africa (€/mt) (PGA page 1116)				
Gasoil 0.3%	AGNWE00		939.577	+9.067

Euro/US\$ forex rate: 1.0683. Platts Euro denominated European and US product assessments are based on market values and a Euro/US\$ forex rate at 4:30 PM local London time. *FOB Amsterdam-Rotterdam-Antwerp.

European feedstocks and blendstocks

			Change	
CIF Northwest Europe cargo (\$/mt) (PGF page 1760)				
VGO 0.5-0.6%	AAHMZ00	730.00-731.00	730.500	+4.750
VGO 2%	AAHND00	717.00-718.00	717.500	+4.750
FOB Northwest Europe cargo (\$/mt)				
VGO 0.5-0.6%	AAHMX00	710.00-711.00	710.500	+4.500
VGO 2%	AAHNB00	697.00-698.00	697.500	+4.500
Straight Run 0.5-0.7%	PKABA00	603.00-604.00	603.500	-2.000
FOB Black Sea cargo (\$/mt)				
VGO 0.8%	ABBAD00		725.750	+3.750
VGO 2%	ABBAC00		715.750	+3.500
CIF Mediterranean cargo (\$/mt)				
Straight Run 0.5-0.7%	AAJNT00		609.750	-5.000
VGO 0.8%	ABBAB00		745.500	+4.500
VGO 2%	ABBAA00		735.500	+4.500
FOB Rotterdam barge (\$/mt)				
MTBE*	PHALA00	1541.25-1541.75	1541.500	-9.750
VGO 0.5-0.6%	AAHNF00	705.25-706.25	705.750	+4.500
VGO 2%	AAHNI00	692.25-693.25	692.750	+4.500

*FOB Amsterdam-Rotterdam-Antwerp.

Product price assessments

New York, Sep 19 (PGA page 152)

		Cargo (¢/gal)	Mid	Change	RVP	Barge (¢/gal)	Mid	Change	RVP	Differentials to NYMEX	Mid	Change	
Unl 87	AAMHG00	285.91-286.01	285.960	+3.020	AAMHGRV 13.5								
CBOB						AAWBL00	265.76-265.86	265.810	-4.730	AAWBLRV 13.5	AANYX14	0.000	NANA
Prem CBOB						AAWLC00	326.76-326.86	326.810	-4.730	AAWLCRV 13.5	AANYX16	61.000	-0.750
Unl RBOB	AAVKS00	266.76-266.86	266.810	-4.730	AAVKSrv 13.5	AAMGV00	265.76-265.86	265.810	-4.730	AAMGVRV 13.5	AANYX15	0.000	NANA
Prem RBOB						AAMGY00	326.76-326.86	326.810	-4.730	AAMGYRV 13.5	AANYX17	61.000	-0.750
Jet fuel						PJAAW00	327.34-327.44	327.390	+8.560		ADIGA00	-10.000	0.000
LS jet kero						PJABJ00	328.34-328.44	328.390	+8.560		ADIHA00	-9.000	0.000
ULS kero						AAVTI00	373.34-373.44	373.390	+8.560		ADJKH00	36.000	0.000
No. 2						POAEG00	301.59-301.69	301.640	+8.560		ADIAO00	-35.750	0.000
ULSD						AATGX00	337.44-337.54	337.490	+8.560		ADIZA00	0.100	0.000
ULS heating oil						AAXPX00		322.390	+8.560		ADIAQ00	-15.000	0.000
		Cargo ex-duty (¢/gal)*			RVP								
Unl 87	AASAA00	268.97-269.07	269.020	+3.570	AASAARV 13.5								
Unl RBOB	AASAF00	249.85-249.95	249.900	-4.170	AASAFRV 13.5								
		(\$/barrel)								Differential vs 1s strip(\$/barrel)			
No. 6 1% S max	PUAAO00	90.59-90.61	90.600	-1.350		AAUGD00	1.30-1.32	1.310					
No. 6 1% S max 1s strip	AAUGG00	89.28-89.30	89.290	-0.850									
USAC HSFO	PUAAX00	86.68-86.70	86.690	-1.800		AAUGF00	-2.61--2.59	-2.600					
No. 6.1 S max pap bal M	AFOAB00		NA	NANA									
No. 6 1.0% S pap 1st M	AFOAM01		88.650	-0.800									
No. 6 1.0% S pap 2nd M	AFOAM02		87.150	-0.800									

*These assessments reflect gasoline cargoes sold on a delivered, ex-duty basis New York, excluding import duty and import taxes/fees.

USAC CPL Linden*, Sep 19 (PGA page 410)

(¢/gal)		Mid	Change	Differentials to NYMEX	Change	Cycle	RVP	
Unl 87	ACXPW00	291.560	-3.980	AANYX40	25.750	0.000	ACRQWCV 51	ACRQWRV 11.5
CBOB	ABXPW00	270.310	-3.980	AANYX41	4.500	0.000	ABRQWCV 51	ABRQWRV 12.5
RBOB	ADXPW00	269.810	-3.980	AANYX42	4.000	0.000	ADRQWCV 51	ADRQWRV 13.5
Jet kero 54	AAXPV00	327.390	+8.560	ADIJA00	-10.000	0.000	AAXPVCY 51	
ULS heating oil	AAXPU00	322.740	+8.660	ADIAR00	-14.650	+0.100	AAXPUCY 50	
ULSD	AAXPW00	337.640	+8.660	ADLAA00	0.250	+0.100	AAXPWCY 50	

*Assessments reflect shipments on the next full pipeline cycle after the prompt cycle

Product price assessments

U.S. Buckeye pipeline, Sep 19 (PGA page 310)

(¢/gal)		Mid	Change	RVP	Differentials to NYMEX	Change	
Unl RBOB	AAMHB00	265.76-265.86	265.810	-4.730	AAMHBRV 13.5	AANYX35 0.000	NANA
Prem RBOB	AAMHZ00	326.76-326.86	326.810	-4.730	AAMHZRV 13.5	AANYX36 61.000	-0.750
CBOB	AAPSY00	265.76-265.86	265.810	-4.730	AAPSYRV 13.5	AANYX33 0.000	NANA
CBOB prem	AAPSZ00	326.76-326.86	326.810	-4.730	AAPSZRV 13.5	AANYX34 61.000	-0.750
ULSD	AATHF00	337.44-337.54	337.490	+8.560	ADIYA00	0.100	0.000
Jet fuel	AAJNL00	327.34-327.44	327.390	+8.560	ADIEA00	-10.000	0.000
LS jet/kero	AAJNN00	328.34-328.44	328.390	+8.560	ADIFA00	-9.000	0.000
RVP							
Laurel							
Unl CBOB	AAUAS00	268.26-268.36	268.310	-2.230	AAUASRV 13.5	AANYX29 2.500	+1.750
Prem CBOB	AAUAT00	329.26-329.36	329.310	-2.230	AAUATRV 13.5	AANYX30 63.500	+1.750

All RVP references are after ethanol

Chicago pipeline, Sep 19 (PGA page 160)

(¢/gal)		Mid	Change	RVP	Differentials to NYMEX	Change	
Prem. unl 91	PPASQ00	354.26-354.36	354.310	-0.480	PPASQRV 11.5	AANY100 88.500	+3.500
CBOB	AAREL00	257.76-257.86	257.810	-0.480	AARELRV 11.5	AANY101 -8.000	+3.500
PBOB	AAUEU00	358.26-358.36	358.310	-0.480	AAUEURV 11.5	AANY103 92.500	+3.500
RBOB	PPARH00	261.76-261.86	261.810	-0.480	PPARHRV 11.5	AANY102 -4.000	+3.500
Jet fuel	PJAAF00	299.34-299.44	299.390	+8.560	ADILA00	-38.000	0.000
ULSD	AATHA00	291.84-291.94	291.890	+8.560	ADLAI00	-45.500	0.000

Chicago Buckeye Complex, Sep 19 (PGA page 160)

(¢/gal)		Mid	Change	RVP	Differentials to NYMEX	Change
CBOB	ACBAA00	257.810	-0.980	ACBAARV 11.5	ACBAB00 -8.000	+3.000
RBOB	ACBAC00	261.810	-0.980	ACBACRV 11.5	ACBAD00 -4.000	+3.000
ULSD	ACBAE00	299.390	+8.560	ACBAF00	-38.000	0.000

Chicago Wolverine Pipeline, Sep 19 (PGA page 160)

(¢/gal)		Mid	Change	RVP	Differentials to NYMEX	Change
CBOB	AGCWA00	257.810	-0.480	AGCWERV 11.5	AGCWB00 -8.000	+3.500
ULSD	AGCWC00	296.140	+8.560	AGCWD00	-41.250	0.000

Group Three, Sep 19 (PGA page 160)

(¢/gal)		Mid	Change	RVP	Differentials to NYMEX	Change	
Sub-octane	AAXIX00	262.76-262.86	262.810	-10.730	AAXIXRV 10.0	AANYX01 -3.000	-6.750
Prem. unleaded	PGABD00	325.51-325.61	325.560	-3.980	PGABDRV 10.0	AANYX02 59.750	0.000
ULSD	AATHB00	336.74-336.84	336.790	+8.560	ADLAB00	-0.600	0.000
Jet fuel	PJAAI00	329.09-329.19	329.140	+9.310	ADIKA00	-8.250	+0.750

Atlantic resid/contract cargoes posted prices, Sep 19 (PGA page 564)

(\$/barrel)		No. 4 Fuel
Global		
Boston 0.5%	PRALB00	140.20
Boston 1.0%	PRALD00	136.90
No. 6 Fuel		
Boston 0.5%	PRAMN00	119.50
Boston 1.0%	PRAMD00	106.80

Source: Global Montello Group Corp.

Marine Fuel (PGA page 30)

		\$/mt	Change
0.5% FOB Singapore cargo	AMFSA00	654.120	-1.940
0.5% FOB Fujairah cargo	AMFFA00	643.220	-1.060
0.5% FOB Rotterdam barge	PUMFD00	607.750	-2.750
0.5% FOB US Gulf Coast barge	AUGMB00	627.750	-2.250
0.5% Dlvd US Atlantic Coast barge	AUAMB00	637.000	-3.250
0.5% FOB Mediterranean cargo	MFFMM00	608.000	-6.000
0.5% CIF Mediterranean cargo	MFCMM00	622.000	-5.000
\$/barrel			
0.5% FOB US Gulf Coast barge	AUGMA00	98.860	-0.350
0.5% Dlvd US Atlantic Coast barge	AUAMA00	100.310	-0.520
vs FO 380 MOPS strip (\$/mt)			
0.5% FOB Singapore cargo	AMOPA00	147.740	+10.370
vs MF 0.5% MOPS strip (\$/mt)			
0.5% FOB Singapore cargo	FOFSB00	8.060	+2.870
0.5% FOB Singapore Bal mo	FOFS000	652.300	-3.550
0.5% FOB Singapore M1	FOFS001	645.000	-4.550
0.5% FOB Singapore M2	FOFS002	636.950	-4.550
0.5% FOB Singapore MOPS Strip	FOFSA00	646.060	-4.810

Product price assessments

U.S. Gulf Coast, Sep 19

Houston (PGA page 156)				Mid	Change	Mid	Change	Mid	Change								
Unl 87	PGACT00	281.76-281.86	281.810	-4.480	AANY105	16.000	-0.500	PGACTCY	54	PGACTRV	11.5	PGACU00	284.51-284.61	284.560	-7.730	PGACURV	11.5
Unl 89	PGAAY00	292.56-292.66	292.610	-4.480				PGAAYCY	54	PGAAYRV	11.5	PGAAZ00	295.51-295.61	295.556	-6.438	PGAAZRV	11.5
Prem unl 93	PGAJB00	308.75-308.85	308.800	-4.500	AANYX76	48.300	-0.850	PGAJBCY	55	PGAJBRV	11.5	PGAIK00	312.00-312.10	312.050	-4.500	PGAIKRV	11.5
CBOB 87	AARQU00	255.51-255.61	255.560	-4.230	AANYX77	-10.250	-0.250	AARQUCY	54	AARQURV	12.5	AAWES00	258.01-258.11	258.060	-3.730	AAWESRV	12.5
CBOB 93	AARQV00	294.01-294.11	294.060	-2.230	AANYX78	48.300	-0.850	AARQVCY	54	AARQVRV	12.5						
RBOB 83.7	AAMFB00	253.51-253.61	253.560	-4.230	AANYX79	-12.250	-0.250	AAMFBCY	54	AAMFBRV	13.5						
RBOB 91.4	AAMNG00	298.51-298.61	298.560	-4.230	AANYX80	32.750	-0.250	AAMNGCY	54	AAMNGRV	13.5						
Jet/kero 54	PJAB000	314.70-314.80	314.750	+9.920	ADIAS00	-14.500	+9.500	PJABOCY	55			PJABM00	319.70-319.80	319.750	+9.920		
Jet/kero 55	PJABP00	315.70-315.80	315.750	+9.920	ADIAZ00	-13.500	+9.500	PJABPCY	55			PJABN00	320.70-320.80	320.750	+9.920		
ULS Kero	AAVTL00	325.70-325.80	325.750	+9.920	ADICA00	-3.500	+9.500	AAVTLCY	55			AAVTK00	330.70-330.80	330.750	+9.920		
ULSD	AATGY00	328.84-328.94	328.890	+8.010	ADIQAO0	-8.500	-0.550	AATGYCY	54			AATGZ00	330.34-330.44	330.390	+8.010		
No. 2	POAED00	309.09-309.19	309.140	+3.560	ADIAA00	-28.250	-5.000	POAEDCY	54			POAEE00	310.09-310.19	310.140	+3.560		
ULS Heating Oil	AAXFD00	314.49-314.59	314.540	+8.560	ADIAI00	-22.850	0.000	AAXFDCY	54								
Waterborne vs prompt pipeline (¢/gal)																	
Jet Spread	AUSGL00		5.000	0.000													
ULSD Spread	AUSGN00		1.500	0.000													
No. 2 Spread	AUSGM00		1.000	0.000													
FOB Cargo (¢/gal)																	
Export ULSD	AAXRV00		319.110	+7.030	AAXRW00		998.500	+22.000									
FOB Cargo vs forward pipe strip (¢/gal)																	
ULSD Mexico	AUSGH00		2.500	0.000													
ULSD Brazil	AUSGA00		5.000	0.000													
ULSD EN590	AUSGB00		5.000	0.000													
Jet A	AUSGC00		5.000	0.000													
Jet A-1	AUSGD00		6.500	0.000													
Colonial Pipeline Gasoline Line Space (¢/gal)																	
Line 1	AAXTA00		4.000	0.000				AAXTACY	54								
Line 3	AAXTB00		0.000	0.000				AAXTBCY	54								
Line 1+3	AAXTC00		4.000	0.000				AAXTCCY	54								
Colonial Pipeline Distillates Line Space (¢/gal)																	
Line 2	AAXTD00		-0.750	0.000				AAXTDCY	54								
Line 3	AAXTE00		0.000	0.000				AAXTECY	54								
Line 2+3	AAXTG00		-0.750	0.000				AAXTGCY	54								
USGC HSFO Strip (\$/barrel)																	
Slurry Oil	PPAPW00	111.39-111.41	111.400	-0.180	AAUGS00	29.34-29.36	29.350	+1.130									
No. 6 1.0% S 6 API	PUAAI00	91.17-91.19	91.180	+0.120	AAUGT00	9.12-9.14	9.130	+1.430									
USGC HSFO	PUAFZ00	82.39-82.41	82.400	-0.180	AAUGU00	0.34-0.36	0.350	+1.130				AAUGW00	82.04-82.060	82.050	-1.310		
RMG 380	PUBDM00	82.39-82.41	82.400	-0.180	AAUGV00	0.34-0.36	0.350	+1.130									
USGC HSFO swap BalMo(Sep)	AWATB00		NA	NANA													
USGC HSFO swap M1(Oct)	AWATM01		80.750	-1.100													
USGC HSFO swap M2(Nov)	AWATM02		78.200	-0.850													
(PGA page 330)																	
USGC RVP Adjustments (¢/gal)																	
CBOB -1 psi	AGLOB00		6.500	-0.150													
Prem CBOB -1 psi	AGLOC00		6.500	-0.150													
CBOB +1 psi	AGLOA00		-2.000	0.000													
Prem CBOB +1 psi	AGHOA00		-2.000	0.000													

Product price assessments

U.S. Gulf Coast

		Mid	Change		Mid	Change		Mid	Change
(PGF page 760)									
	Waterborne (¢/gal)			Diff vs NYMEX (¢/gal)			Diff vs USGC waterborne 87 (¢/gal)		Diff vs USGC pipeline 87 (¢/gal)
FOB Naphtha Cargo	AAXJP00	174.83-174.93	174.880	-2.120					
FOB Naphtha Cargo (\$/mt)	AAXJU00	660.98-661.08	661.030	-8.030					
Naphtha USGC vs Naphtha MOPJ (\$/mt)	ANAPD00		-45.500	-3.750					
DAP LSR Naphtha Parcel	AAXQK00		176.130	-2.120					
DAP LSR Naphtha Parcel (\$/mt)	AAXQM00		706.260	-8.520					
DAP LSR Naphtha Parcel diff**	AAXQN00		3.250	0.000					
Naphtha barge	AALPG00	182.76-182.86	182.810	-1.980	AREFD00	-83.000 +2.000	AASGZ00	-101.750	
Heavy naphtha barge	AALPI00	190.76-190.86	190.810	-1.980	AREFC00	-75.000 +2.000	AASHD00	-93.750	
MTBE	PHAKX00	450.76-450.86	450.810	-3.980					
Alkylate*	AAXBA00		331.310	-3.980	AREFA00	65.500 0.000	AAFIE00	46.750 +3.750	AAXBD00 52.760 +0.530
Raffinate*	AAXBB00		187.810	-3.980	AREFB00	-78.000 0.000	AAJMU00	-96.750 +3.750	AAXBE00 -90.740 +0.530
Reformate*	AAXBC00		371.810	-3.980	AREFE00	106.000 0.000	AAJMV00	87.250 +3.750	AAXBF00 93.260 +0.530

LSR = Light Straight Run. *=DAP barge. **= Diff to Mont Belvieu Enterprise natural gasoline.

Note: Platts line space assessments reflect the physical trade of gasoline or distillates at two locations agreed upon by the parties along the Colonial Pipeline between Pasadena, Texas, and Linden, New Jersey. The assessments represent the premium or discount paid by a buyer while taking refined product off the line at one location while giving product to the seller at another.

U.S. Gulf Coast pipeline cycles, Sep 19 (PGA page 156)

(¢/gal)		Pipeline	Mid		Cycle	RVP		Pipeline	Mid	Cycle	RVP		
Gasoline													
Unl-87	AAELC00	281.76-281.86	281.810	AAELCCY	54	AAELCRV	11.5	ULSD	AAUJW00	326.84-326.94	326.890	AAUJWCY	55
Unl-87	AAELD00	280.26-280.36	280.310	AAELDCY	55	AAELDRV	11.5	ULSD	AAUJX00	325.09-325.19	325.140	AAUJXCY	56
Unl-87	AAELE00	278.26-278.36	278.310	AAELECY	56	AAELERV	11.5	ULSD	AAUJY00	323.34-323.44	323.390	AAUJYCY	57
Unl-87	AAELF00	276.26-276.36	276.310	AAELFCY	57	AAELFRV	11.5	ULSD	AAUJZ00	321.84-321.94	321.890	AAUJZCY	58
Unl-87	AAELG00	274.26-274.36	274.310	AAELGCY	58	AAELGRV	11.5	ULSD	AAUKD00	320.34-320.44	320.390	AAUKDCY	59
Unl-87	AAELH00	272.26-272.36	272.310	AAELHCY	59	AAELHRV	11.5	No. 2	AAELW00	309.09-309.19	309.140	AAELWCY	54
CBOB 87	AARQW00		255.910	AARQWCY	55	AARQWRV	12.5	ULS heating oil	AAXFJ00	314.49-314.59	314.540	AAXFJCY	54
CBOB 87	AARQX00		256.010	AARQXCY	56	AARQXRV	12.5	ULS heating oil	AAXFK00	312.49-312.59	312.540	AAXFKCY	55
CBOB 87	AARQY00		255.760	AARQYCY	57	AARQYRV	12.5	ULS heating oil	AAXFL00	310.74-310.84	310.790	AAXFLCY	56
CBOB 87	AARQZ00		255.260	AARQZCY	58	AARQZRV	12.5	ULS heating oil	AAXFM00	308.99-309.09	309.040	AAXFMCY	57
CBOB 87	AARQA00		254.760	AARQACY	59	AARQARV	12.5	ULS heating oil	AAXFN00	307.49-307.59	307.540	AAXFNCY	58
								ULS heating oil	AAXFP00	305.99-306.09	306.040	AAXFPCY	59
Distillates													
Jet kero	AAELQ00	314.70-314.80	314.750	AAELQCY	55			Forward pipeline strip					
Jet kero	AAELR00	314.20-314.30	314.250	AAELRCY	56			ULSD 15-30 Day	AUSGI00		324.360		
Jet kero	AAELS00	313.50-313.60	313.550	AAELSCY	57			ULSD 21-35 Day	AUSGJ00		321.230		
Jet kero	AAELT00	312.80-312.90	312.850	AAELTCY	58			ULSD 7-21 Day	AUSGK00		328.860		
Jet kero	AAELU00	312.10-312.20	312.150	AAELUCY	59			Jet Fuel 15-30 Day	AUSGE00		313.730		
Jet kero	AAELV00	311.40-311.50	311.450	AAELVCY	60			Jet Fuel 21-35 Day	AUSGF00		310.730		
ULSD	AAUJV00	328.84-328.94	328.890	AAUJVCY	54			Jet Fuel 7-21 Day	AUSGG00		318.360		

Product price assessments

West Coast pipeline, Sep 19 (PGA page 158)

		Mid	Change			RVP			Mid	Change	
California											
(¢/gal)		Los Angeles						Differential to NYMEX			
Unl 84	AAUHA00	394.76-394.86	394.810	+4.020	AAUHARV	9.0	AANYX84	129.000	+8.000		
Prem unl 90	PGABG00	423.76-423.86	423.810	+3.020	PGABGRV	9.0	AANYX85	158.000	+7.000		
CARBOB	AAKYJ00	394.76-394.86	394.810	+4.020	AAKYJRV	6.0	AANVX00	128.95/129.05	129.000	+8.000	
CARBOB prem	AAKYL00	423.76-423.86	423.810	+3.020	AAKYLRV	6.0	AANYX86	158.000	+7.000		
Jet fuel	PJAAP00	356.34-356.44	356.390	+8.560			AANVY00	18.95/19.05	19.000	0.000	
ULS (EPA) diesel	POAET00	367.20-367.30	367.250	-11.580			AANVZ00	37.95/38.05	38.000	-12.000	
CARB diesel	POAAK00	373.95-374.05	374.000	-12.830			AANWA00	44.70/44.80	44.750	-13.250	
(¢/gal)		San Francisco						Differential to NYMEX			
Unl 84	PGADG00	340.76-340.86	340.810	-30.980	PGADGRV	11.5	AANYX87	75.000	-27.000		
Prem unl 90	PGABO00	367.76-367.86	367.810	-33.980	PGABORV	11.5	AANYX88	102.000	-30.000		
CARBOB unl	AAKYN00	354.76-354.86	354.810	-27.980	AAKYNRV	6.0	AANYX89	89.000	-24.000		
CARBOB prem	AAKYP00	381.76-381.86	381.810	-30.980	AAKYPRV	6.0	AANYX90	116.000	-27.000		
Jet Fuel	PJABC00	356.34-356.44	356.390	+8.560			ADINA00	19.000	0.000		
ULS (EPA) diesel	POAEY00	402.34-402.44	402.390	+8.560			ADLAE00	65.000	0.000		
CARB diesel	POAAL00	402.34-402.44	402.390	+8.560			ADLAF00	65.000	0.000		
Other West											
(¢/gal)		Phoenix						Differential to NYMEX			
CBG/RBOB unl	AADDP00	418.76-418.86(a)	418.810	+4.020	AADDP00	8.0	AANYX91	153.000	8.000		
CBG/RBOB prem	PPXDJ00	447.76-447.86(b)	447.810	+3.020	PPXDJRV	8.0	AANYX92	182.000	+7.000		
Northwest											
(¢/gal)		Seattle						Differential to NYMEX			
Unl 84	AAXJE00	296.76-296.86	296.810	-11.480	AAXJERV	11.5	AANYX93	31.000	-7.500		
Prem unl 90	AAXJF00	326.76-326.86	326.810	-11.480	AAXJFRV	11.5	AANYX94	61.000	-7.500		
Jet fuel	PJABB00	356.34-356.44	356.390	+8.560			ADIOA00	19.000	0.000		
ULS (EPA) diesel	AAUEX00	365.69-365.79	365.740	+8.560			ADLAH00	-1.150	0.000		
(¢/gal)		Portland						Differential to NYMEX			
Unl 84	AAXJC00	298.26-298.36	298.310	-11.480	AAXJCRV	11.5	AANYX95	32.500	-7.500		
Prem unl 90	AAXJD00	328.26-328.36	328.310	-11.480	AAXJDRV	11.5	AANYX96	62.500	-7.500		
ULS (EPA) diesel	AAUEY00	366.84-366.94	366.890	+8.560			ADLAG00	29.500	0.000		

(a)=84 octane; (b)=90 octane

West Coast waterborne, Sep 19 (PGA page 158)

(¢/gal)		Mid	Change
Unl 87	PGADI00	394.76-394.86	+4.020
Jet fuel	PJABI00	355.34-355.44	+8.560

Product price assessments

Latin America, FOB, Sep 19 (PGA page 164)

		\$/barrel	Mid	Change			
Argentina							
ULSD CIF	AAXWZ00		137.710	+3.590			
Colombia							
FO 1.75% S FOB	PPAR000	85.86-85.88	85.870	-1.240			
Diluent Naptha Ex-Ship	AAXYB00		72.920	-1.100			
Ecuador							
FO 2.2% S FOB	PPASL00	80.86-80.88	80.870	-1.240			
RON 93 CIF	AAXYC00		115.830	-1.780			
ULSD CIF	AAXWF00		136.290	+3.330			
Peru							
ULSD CIF	AAXWY00		137.290	+3.330			
					Peso/liter	Change	
Mexico cargo							
Gasoline CIF Eastern Mexico	AAXWA00		110.460	-3.110	AATFH00	11.870	-0.370
Gasoline CIF Rosarito	AATFA00		113.990	-3.000	AATFK00	12.250	-0.360
Gasoline CIF Lazaro Cardenas	AATFD00		113.520	-3.000	AATFN00	12.200	-0.360
ULSD CIF Eastern Mexico	AAXWE00		133.950	+2.870	AATFI00	14.390	+0.260
ULSD CIF Rosarito	AATFB00		137.190	+2.560	AATFL00	14.740	+0.230
ULSD CIF Lazaro Cardenas	AATFE00		136.660	+2.560	AATF000	14.680	+0.230
Jet CIF Eastern Mexico	AATFG00		136.730	+3.660	AATFJ00	14.690	+0.350
Jet CIF Rosarito	AATFC00		139.620	+3.070	AATFM00	15.000	+0.290
Jet CIF Lazaro Cardenas	AATFF00		139.120	+3.070	AATFP00	14.950	+0.290

Trinidad product postings (PGA page 466)

Effective date	18Sep23		¢/gal
Mogas 92 RON Unleaded	PPRAE00		320.00
Mogas 95 RON Unleaded	PPRAF00		325.00
Dual Purpose Kerosene	PPRAB00		346.00
Gasoil 45 Cetane 0.1%S	PPRAC00		340.00
			\$/b
Bunker C Fuel Oil	PPRAA00		95.00

Source: Paria

Gas liquids (¢/gal), Sep 19 (PGA page 780)

			Mid	Change
Enterprise Mt Belvieu				
Ethane/propane	PMUDA05	26.450-26.550	26.500	-0.625
Ethane purity	PMUDB05	30.700-30.800	30.750	-0.625
Ethane mo. 2	AAWUC00	29.950-30.050	30.000	0.000
Propane	PMAAY00	73.450-73.550	73.500	-2.250
Propane mo. 2	AAWUD00	74.325-74.425	74.375	-2.125
N-Butane	PMAAI00	89.450-89.550	89.500	-3.000
N-Butane mo. 2	AAWUF00	89.450-89.550	89.500	-3.000
Isobutane	PMAAB00	99.450-99.550	99.500	-1.500
Natural gasoline	PMABY05	172.825-172.925	172.875	-2.125
Natural gasoline mo. 2	AAWUG00	173.325-173.425	173.375	-1.125
Energy Transfer Mt Belvieu				
Propane	PMABQ00	73.700-73.800	73.750	-2.625
Propane mo. 2	AAWUE00	74.075-74.175	74.125	-2.625
N-Butane	PMABR00	73.575-73.675	73.625	-3.000
Natural gasoline	AAIVF00	171.075-171.175	171.125	-2.125
Targa Mt Belvieu				
Natural gasoline	PMABW05	171.075-171.175	171.125	-2.125
Conway				
Ethane/propane	PMAA000	20.200-20.300	20.250	+0.500
Propane	PMAAT00	73.200-73.300	73.250	-2.000
N-Butane	PMAAD00	89.950-90.050	90.000	-1.000
Isobutane	PMAAA00	116.950-117.050	117.000	+5.750
Natural gasoline	PMAAQ00	187.950-188.050	188.000	+5.000
Other hubs				
Hattiesburg propane	AALBC00	75.700-75.800	75.750	-1.500
(\$/mt)				
Waterborne FOB USGC propane	AAXIM00	453.260-453.280	453.270	-14.010
FOB USGC propane vs. Mt Belvieu	AAXIO00	66.420-66.440	66.430	0.000
Waterborne FOB USGC butane	ABTNB00		457.300	-9.380
FOB USGC butane vs. Mt Belvieu	ABTND00		48.700	0.000
VLGC freight rates Houston to NWE	AAXIQ00	124.990-125.010	125.000	-1.000
VLGC freight rates Houston to Japan	AAXIS00	224.990-225.010	225.000	+2.000
(¢/gal)				
Waterborne FOB USGC propane	AAXIN00	86.990-87.010	87.000	-2.690
FOB USGC propane vs. Mt Belvieu	AAXIP00	12.700-12.800	12.750	0.000
Waterborne FOB USGC butane	ABTNA00		100.950	-2.070
FOB USGC butane vs. Mt Belvieu	ABTNC00		10.750	0.000
VLGC freight rates Houston to NWE	AAXIR00	23.940-24.040	23.990	-0.195
VLGC freight rates Houston to Japan	AAXIT00	43.180-43.200	43.190	+0.390

Crude price assessments

Asia Pacific/Middle East spot crude assessments (\$/barrel), Sep 19

		Assessment (Asian MOC)			Diffs (Asian MOC)			Diff to Dated Brent (Asian MOC)			Assessment (London MOC)			
		Mid	Change		Mid	Change	Mid	Change	Mid	Change	Mid	Change		
								(PGA page 2212)			(PGA page 2213)			
Condensate														
Diff to Dubai														
NW Shelf	PCAGX00	87.13-87.17	87.150	+1.260			AAPAI00	-6.400	+0.800	AAPAH00	87.520	+1.200		
Ichthys FC	ICFCA00		96.300	+0.560			ICFCB00	2.750	+0.100					
DFC	ADFCB00	90.86-90.90	90.880	-0.180	ADFCB00	-1.65/-1.55	-1.600	+0.200	ADFCB00	-2.670	-0.640	ADFCD00	91.250	-0.240
Qatar LSC	AARBB00	90.26-90.30	90.280	-0.180	AARBD00	-2.25/-2.15	-2.200	+0.200	AARBC00	-3.270	-0.640	AARBA00	90.650	-0.240
South Pars	AARAV00	85.81-85.85	85.830	-0.180	AARAX00	-6.70/-6.60	-6.650	+0.200	AARAW00	-7.720	-0.640	AARAU00	86.200	-0.240
Diff to ICP														
Senipah	AAEOE00	83.68-83.72	83.700	+1.260	AAEOK00	-5.55/-5.45	-5.500	+0.400	AAPBE00	-9.850	+0.800	AAPBD00	84.070	+1.200
Light														
Diff to ICP														
Cossack	PCAGZ00	91.93-91.97	91.950	+0.560			AAPAC00	-1.600	+0.100	AAPAB00	92.320	+0.500		
Tapis	PCACB00	99.43-99.47	99.450	+0.360			AAOZW00	5.900	-0.100	AAOZV00	99.820	+0.300		
Belida	PCAFJ00	86.53-86.57	86.550	+0.560	PCAFM00	-2.90/-2.80	-2.850	+0.050	AAPBQ00	-7.000	+0.100	AAPBP00	86.920	+0.500
Kutubu	PCAFJ00	92.18-92.22	92.200	+0.560			AAPAE00	-1.350	+0.100	AAPAD00	92.570	+0.500		
Attaka	PCAJ00	86.43-86.47	86.450	+0.560	PCAAK00	-3.60/-3.50	-3.550	+0.050	AAPBC00	-7.100	+0.100	AAPBD00	86.820	+0.500
Ardjuna	PCACQ00	89.98-90.02	90.000	+0.360	PCACR00	-1.15/-1.05	-1.100	-0.050	AAPBG00	-3.550	-0.100	AAPBF00	90.370	+0.300
Banyu Urip	PCAFQ00		100.000	+0.360	PCAQQ00		3.200	-0.050	AAPBU00	6.450	-0.100	AAPBR00	100.370	+0.300
Diff to Dubai														
Sakhalin Blend	AARB00	83.26-83.30	83.280	+0.020	AARCN00	-9.25/-9.15	-9.200	+0.400	AARDN00	-10.270	-0.440	AAREN00	83.650	-0.040
Sokol	AASCJ00	88.46-88.50	88.480	-0.480	AASCK00	-4.05/-3.95	-4.000	-0.100	AAPAO00	-5.070	-0.940	AAPAN00	88.850	-0.540
Kikeh	AAUHU00	102.53-102.57	102.550	+0.360			AAOZY00	9.000	-0.100	AAOZX00	102.920	+0.300		
Miri Light	PCAB00	102.23-102.27	102.250	+0.360			AAPAS00	8.700	-0.100	AAPAR00	102.620	+0.300		
Labuan	PCABL00	105.48-105.52	105.500	+0.360			AAPAQ00	11.950	-0.100	AAPAP00	105.870	+0.300		
Kimanis	AASCL00		104.400	+0.360			AASCM00	10.850	-0.100	AASCN00	104.770	+0.300		
Medium														
(PGA page 2216)														
Nanhai	PCAFR00	91.23-91.27	91.250	+0.360			AAPAG00	-2.300	-0.100	AAPAF00	91.620	+0.300		
Minas*	PCAB00		89.695	+0.305					AAPAZ00	90.065	+0.245			
Nile Blend	AAPLC00	91.33-91.37	91.350	+0.410			AAPAM00	-2.200	-0.050	AAPAL00	91.720	+0.350		
Widuri*	PCAFE00		75.410	+0.570					AAPBN00	75.780	+0.510			
Daqing	PCAAZ00	93.58-93.62	93.600	+0.410			AAPAW00	0.050	-0.050	AAPAV00	93.970	+0.350		
Cinta*	PCAAJ00		78.340	+0.665					AAPBJ00	78.710	+0.605			
Su Tu Den	AARAR00	100.53-100.57	100.550	+0.460			AARAS00	7.000	0.000	AARAQ00	100.920	+0.400		
Bach Ho	PCAHY00	103.48-103.52	103.500	+0.460			AAPAK00	9.950	0.000	AAPAJ00	103.870	+0.400		
Heavy														
(PGA page 2218)														
Diff to ICP														
Dar Blend	AARAB00	90.88-90.92	90.900	+0.360			AARAC00	-2.650	-0.100	AARAA00	91.270	+0.300		
Shengli	PCABY00	95.88-95.92	95.900	+0.360			AAPAY00	2.350	-0.100	AAPAX00	96.270	+0.300		
Duri	PCABA00	99.23-99.27	99.250	+0.360	PCABB00	3.60/3.70	3.650	-0.050	AAPBM00	5.700	-0.100	AAPBL00	99.620	+0.300
Vincent	AARAK00		103.050	-0.040			AARAL00	9.500	-0.500	AARAJ00	103.420	-0.100		
*Market Parity Price.														
(PGA page 2220)														
Diff to Dubai														
Murban M1	AAKNL00	96.31-96.35	96.330	-0.070	AARBZ00		3.850	+0.310						
Murban M2	MBNSA00		95.030	-0.230					Dubai CFR North Asia	PCAQA00	96.580	+0.030		
Murban M3	MBNSB00		93.610	-0.440					LOOP Sour CFR North Asia	PCAQI00	96.070	+1.470		
Al Shaheen	AAPEV00	95.29-95.33	95.310	-0.010	AAPEW00	2.78/2.88	2.830	+0.370		PCAQJ00	96.570	+0.020		
Upper Zakum	AAOUQ00	95.18-95.22	95.200	-0.010	DBDUZ00		2.720	+0.370		PCAQB00	96.550	+0.020		
Umm Lulu	AUFAA00		96.430	-0.070	DBDUL00		3.950	+0.310		PCAQC00	95.910	+0.040		
Das Blend	AAOXF00	95.56-95.60	95.580	-0.070	DBDDS00		3.100	+0.310		PCAQE00	97.630	-0.040		
Spread vs OSP														
Basrah Medium M1	BSMAM01	-	96.300	+0.200	BSMBM01		0.550	+0.350		Basrah Medium CFR North Asia	BASNA00	96.090	+0.030	
Basrah Medium M2	BSMAM02	-	94.700	0.000	BSMBM02		0.400	+0.350		ESPO CFR North Asia	PCAQD00	91.020	+0.020	
Basrah Heavy M1	AALZC00	-	93.300	+0.200	AALZJ00		0.950	+0.350		Forties CFR North Asia	PCAQF00	99.840	+1.190	
Basrah Heavy M2	AALZD00	-	91.640	-0.010	AALZK00		0.800	+0.300		Dalia CFR North Asia	PCAQG00	98.040	+0.935	
										WTI MEH CFR North Asia	PCAQH00	99.640	+1.810	
Banoco Arab Medium	AAKNT00	95.23-95.27	95.250	0.000	AAKUD00	-0.65/-0.55	-0.600	+0.250						
Diff to Dubai														
Qatar Land	AAKNP00	94.93-94.97	94.950	0.000	AAKUJ00	0.55/0.65	0.600	+0.200	QALDA00	2.470	+0.380			
Qatar Marine	AAKNR00	94.53-94.57	94.550	0.000	AAKUH00	0.50/0.60	0.550	+0.200	QAMDA00	2.070	+0.380			

Crude price assessments

International, Sep 19

(\$/barrel)			Mid	Change
(PGA page 2210)				
Dubai (Nov)	PCAAAT00	95.19–95.21	95.200	-0.010
Dubai (Dec)	PCAAU00	93.89–93.91	93.900	-0.170
Dubai (Jan)	PCAAV00	92.47–92.49	92.480	-0.380
MEC (Nov)	AAWSA00	95.19–95.21	95.200	-0.010
MEC (Dec)	AAWSB00	93.89–93.91	93.900	-0.170
MEC (Jan)	AAWSC00	92.47–92.49	92.480	-0.380
Oman (Nov)	PCABS00	95.19–95.21	95.200	-0.010
Oman (Dec)	AAHZF00	93.89–93.91	93.900	-0.170
Oman (Jan)	AAHZH00	92.47–92.49	92.480	-0.380
Dubai cash/Futures	DBDDC00		2.720	+0.370
Oman cash/Futures	DBDOC00		2.720	+0.370
(PGA page 1212)				
Brent (DTD)	PCAS00	96.86–96.87	96.865	+0.625
DTD NSL	AAOFD00	96.86–96.87	96.865	+0.625
Dated Brent (CIF)	PCAKM00		97.800	+0.590
Brent (Nov)	PCAAQ00	95.38–95.40	95.390	+0.600
Brent (Dec)	PCAA00	93.98–94.00	93.990	+0.190
Brent (Jan)	PCARR00		92.590	-0.040
North Sea Basket	AAGIZ00	98.06–98.08	98.070	+0.560
(PGA page 218)				
Brent/WTI 1st	AALAU00	3.66/3.68	3.670	-0.010
Brent/WTI 2nd	AALAV00	3.86/3.88	3.870	-0.180
Brent/WTI 3rd	AALAY00		3.960	-0.220
Brent EFP (Nov)	AAGVX00	0.04/0.06	0.050	-0.070
Brent EFP (Dec)	AAGVY00	0.05/0.07	0.060	-0.120
Brent EFP (Jan)	AAMVY00		0.060	-0.120
Swaps (PGA page 2658)				
Dubai (Oct)	AAHBM00	93.88–93.92	93.900	-0.170
Dubai (Nov)	AAHBN00	92.46–92.50	92.480	-0.380
Dubai (Dec)	AAHBO00	91.16–91.20	91.180	-0.480
MOG (Oct)	AAHZP00	93.88–93.92	93.900	-0.170
MOG (Nov)	AAHZR00	92.46–92.50	92.480	-0.380
MOG (Dec)	AAHZT00	91.16–91.20	91.180	-0.480
Oman/Dubai Swap (Oct)	AAIHJ00	-0.02/0.02	0.000	0.000
Oman/Dubai Swap (Nov)	AAIHL00	-0.02/0.02	0.000	0.000
Oman/Dubai Swap (Dec)	AAIHN00	-0.02/0.02	0.000	0.000

Asia (\$/barrel), Sep 19 (PGA page 2210)

			Mid	Change
Brent (Nov)	PCAJG00	95.30–95.34	95.320	+1.040
Brent (Dec)	PCAJI00	93.99–94.03	94.010	+0.680
Brent (Jan)	PCAJ000		92.610	+0.340
Brent (DTD)	AAXP000		96.770	+1.220
Brent/Dubai	AAJMS00	0.11/0.13	0.120	+1.050
WTI (Oct)	AAFFU00	92.88–92.92	92.900	+1.790
WTI (Nov)	AAFFV00	91.62–91.66	91.640	+1.350
WTI (Dec)	AAFFY00	89.92–89.96	89.940	+0.770

North Sea, Sep 19 (PGA page 1212)

(\$/barrel)			Mid	Change	Spread vs fwd Dated Brent	Mid	Change	
Dated Brent Diff					AAXEZ00	1.22/1.23	1.225	+0.110
BNB	AAVJA00	97.19–97.20	97.195	+0.575	AAVJB00	1.55/1.56	1.555	+0.060
Forties	PCADJ00	96.86–96.88	96.870	+0.620	AAGWZ00	1.22/1.24	1.230	+0.105
Oseberg	PCAEU00	99.14–99.16	99.150	+0.525	AAGXF00	3.50/3.52	3.510	+0.010
Ekofisk	PCADI00	99.06–99.08	99.070	+0.525	AAGXB00	3.42/3.44	3.430	+0.010
Troll	AAWEX00	99.56–99.58	99.570	+0.525	AAWEY00	3.92/3.94	3.930	+0.010
FOB N Sea WTI Midland	ALNDA00		97.060	+0.535	ALNDB00		1.420	+0.020
Statfjord	PCAE000	98.93–98.95	98.940	+0.615	AAGXD00	3.29/3.31	3.300	+0.100
Flotta Gold	PCACZ00	96.73–96.75	96.740	+0.565	AAGXH00	1.09/1.11	1.100	+0.050
Duc	AAWEZ00	98.18–98.20	98.190	+0.615	AAWFL00	2.54/2.56	2.550	+0.100
Grane Blend	PCALA00		97.390	+0.515	PCALB00		1.750	0.000
Johan Sverdrup	AJSVA00		97.300	+0.525	AJSVB00		1.660	+0.010
Statfjord (CIF)	AASAS00	99.98–100.00	99.990	+0.610	AASAT00	4.39/4.41	4.400	+0.100
Gullfaks (CIF)	AASAU00	100.68–100.70	100.690	+0.610	AASAV00	5.09/5.11	5.100	+0.100
Alvheim (CIF)	ALVHA00		100.540	+0.610	ALVHB00		4.950	+0.100
Asgard (CIF)	ASGCA00		98.440	+0.610	ASGCB00		2.850	+0.100
North Sea Dated Strip	AAKWH00	95.63–95.65	95.640	+0.515				
European Sour Crude Index	CSBEA00		97.299	+0.524	CSBEB00		1.659	+0.009
(\$/barrel)					Spread vs fwd CIF Dated Brent			
Dated Brent (CIF)	AAVJG00		97.800	+0.590	AAVJF00		2.210	+0.080
BNB (CIF)	PCAKP00		98.680	+0.565	AAVJC00		3.090	+0.055
Forties (CIF)	PCAKR00		97.915	+0.625	AAHXC00		2.325	+0.115
Oseberg (CIF)	PCAKT00		100.080	+0.520	AAHXD00		4.490	+0.010
Ekofisk (CIF)	PCAKV00		99.900	+0.520	AAHXB00		4.310	+0.010
Troll (CIF)	AAXJO00		100.505	+0.520	AAXJN00		4.915	+0.010
WTI Midland (CIF)	WMCRD00		97.820	+0.530	WMCRB00		2.230	+0.020
North Sea CIF Dated Strip	AAHXE00		95.590	+0.510				

West Africa, Sep 19 (PGA pages 1230 and 1232)

(\$/barrel)			Mid	Change	Spread vs fwd DTD Brent	Mid	Change	
Nigeria								
Bonny Light	PCAIC00	96.95–96.99	96.970	+0.460	AAGXL00	2.49/2.51	2.500	0.000
Qua Iboe	PCAI000	98.20–98.24	98.220	+0.460	AAGXN00	3.74/3.76	3.750	0.000
Forcados	PCABC00	98.85–98.89	98.870	+0.460	AAGXP00	4.39/4.41	4.400	0.000
Agbami	AAQZB00	93.70–93.74	93.720	+0.460	AAQZC00	-0.76/-0.74	-0.750	0.000
Escravos	AAEIZ00	99.95–99.99	99.970	+0.460	AAGXR00	5.49/5.51	5.500	0.000
Brass River	AAEJB00	96.55–96.59	96.570	+0.460	AAGXV00	2.09/2.11	2.100	0.000
Akpo	PCNGA00	93.70–93.74	93.720	+0.460	PCNGB00	-0.76/-0.74	-0.750	0.000
Bonga	PCNGC00	99.70–99.74	99.720	+0.460	PCNGD00	5.24/5.26	5.250	0.000
Usan	AAXUQ00		93.320	+0.460	AAXUR00		-1.150	0.000
Erha	AAXU000		99.220	+0.460	AAXUP00		4.750	0.000
Egina	AFONA00		100.770	+0.460	AFONB00		6.300	0.000
Angola								
Cabinda	PCAFD00	96.95–96.99	96.970	+0.410	AAGXT00	2.49/2.51	2.500	-0.050
Nemba	AAQYZ00	94.65–94.69	94.670	+0.460	AAQZA00	0.19/0.21	0.200	0.000
Dalia	AAQYX00	95.40–95.44	95.420	+0.460	AAQY000	0.94/0.96	0.950	0.000
Girassol	AASNL00	98.10–98.14	98.120	+0.460	AASJD00	3.64/3.66	3.650	0.000
Hungo	AASLJ00	95.05–95.09	95.070	+0.460	AASJF00	0.59/0.61	0.600	0.000
Kissanje	AASLK00	95.95–95.99	95.970	+0.460	AASJE00	1.49/1.51	1.500	0.000
Pazflor	PCNGG00	95.40–95.44	95.420	+0.460	PCNGH00	0.94/0.96	0.950	0.000
Plutonio	PCNGI00	95.45–95.49	95.470	+0.460	PCNGJ00	0.99/1.01	1.000	0.000
Ghana								
Jubilee	AAXUS00		96.720	+0.460	AAXUT00		2.250	0.000
Republic of Congo								
Djeno	PCNGE00	94.20–94.24	94.220	+0.460	PCNGF00	-0.26/-0.24	-0.250	0.000
Chad								
Doba	AAXUU00		93.370	+0.460	AAXUV00		-1.100	0.000
30-60 Day Dtd strip	AAXRK00	94.46–94.48	94.470	+0.460				

Crude price assessments

London, Sep 19 (PGA page 1214)

(\$/barrel)		Brent CFD	Mid	Change		Dated Swap	Mid	Change
1wk (Dec)	PCAKA00	2.67/2.69	2.680	+0.380	AAJNV00	96.66/96.68	96.670	+0.570
2wk (Dec)	PCAKC00	2.25/2.27	2.260	+0.410	AAJOS00	96.24/96.26	96.250	+0.600
3wk (Dec)	PCAKE00	1.87/1.89	1.880	+0.440	AAJOU00	95.86/95.88	95.870	+0.630
4wk (Dec)	PCAKG00	1.55/1.57	1.560	+0.350	AAJOW00	95.54/95.56	95.550	+0.540
5wk (Dec)	AAGLU00	1.20/1.22	1.210	+0.270	AAJPC00	95.19/95.21	95.200	+0.460
6wk (Dec)	AAGLV00	0.88/0.90	0.890	+0.200	AAJPE00	94.87/94.89	94.880	+0.390
7wk (Dec)	AALCZ00	0.55/0.57	0.560	+0.100	AALAW00	94.54/94.56	94.550	+0.290
8wk (Dec)	AALDA00	0.22/0.24	0.230	0.000	AALAX00	94.21/94.23	94.220	+0.190

Mediterranean, Sep 19 (PGA pages 1220, 1222, 1234)

(\$/barrel)			Mid	Change		Spread vs fwd DTD Brent	Mid	Change
Med Dtd Strip	AALDF00	95.61-95.62	95.615	+0.520				
BTC Dtd Strip	AAUFI00	95.49-95.50	95.495	+0.490				
15-45 Day Dtd Strip	AALGM00	95.16-95.17	95.165	+0.415				
Urals (Rdam)	PCAFW00	85.37-85.40	85.385	+0.570	AAGXJ00	-10.24/-10.22	-10.230	+0.050
Urals (Med)	PCACE00	86.22-86.24	86.230	+0.575	AAGXX00	-9.39/-9.38	-9.385	+0.055
Urals (Ex-Baltic)	AAGZT00	82.90-82.93	82.915	+0.570	AAHPI00	-12.71/-12.69	-12.700	+0.050
Urals FOB Novo Suez	AAGZS00	83.10-83.13	83.115	+0.570	AAHPH00	-12.51/-12.49	-12.500	+0.050
Urals FOB Novo Afra	AAOTH00	82.80-82.83	82.815	+0.570	AAOTI00	-12.81/-12.79	-12.800	+0.050
Urals (Primorsk)	AAWVH00	82.90-82.93	82.915	+0.570	AAWVI00	-12.71/-12.69	-12.700	+0.050
Urals (RCMB)	AALIN00	87.47-87.49	87.480	+0.680				
KEBCO (CIF Augusta)	KBCOA00		95.965	+0.520	KBCOB00		0.350	0.000
KEBCO (CIF Rotterdam)	KBCOC00		95.965	+0.520	KBCOD00		0.350	0.000
KEBCO (FOB Novo)	KBCOE00		92.550	+0.515	KBCOF00		-3.065	-0.005
KEBCO (FOB Ust-Luga)	KBCOG00		93.400	+0.520	KBCOH00		-2.215	0.000
Iranian Light FOB Kharg Island (Med)	AILKA00		96.895	+0.380	AILKB00		1.280	-0.140
Iranian Heavy FOB Kharg Island (Med)	AIHKA00		94.445	+0.380	AIHKB00		-1.170	-0.140
Es Sider	PCACO00	96.98-97.01	96.995	+0.590	AAGYH00	1.49/1.51	1.500	+0.100
Siberian Lt	AAGZW00	88.22-88.24	88.230	+0.575	AAHPK00	-7.39/-7.38	-7.385	+0.055
Saharan Bld	AAGZY00	96.18-96.21	96.195	+0.490	AAHPN00	0.69/0.71	0.700	0.000
Azeri Lt	AAGZX00	102.23-102.26	102.245	+0.640	AAHPM00	6.74/6.76	6.750	+0.150
Azeri Lt FOB Ceyhan Suez	AAUFM00	101.37-101.40	101.385	+0.640	AAUFN00	5.88/5.90	5.890	+0.150
Azeri Lt FOB Ceyhan Afra	AAUFK00	101.23-101.26	101.245	+0.610	AAUFL00	5.74/5.76	5.750	+0.120
Azeri Lt FOB Supsa	AATHM00	100.62-100.65	100.635	+0.635	AATHN00	5.13/5.15	5.140	+0.145
BTC FOB Ceyhan	AAUFH00	101.30-101.33	101.315	+0.625	AAUFJ00	5.81/5.83	5.820	+0.135
Suez Blend	PCACA00	94.85-94.88	94.865	+0.520	AAGYD00	-0.76/-0.74	-0.750	0.000
Kirkuk	AAEJD00	93.85-93.88	93.865	+0.520	AAGYF00	-1.76/-1.74	-1.750	0.000
CPC Blend CIF	AAGZU00	94.68-94.71	94.695	+0.490	AAHPL00	-0.81/-0.79	-0.800	0.000
CPC Blend FOB Suez	AALVX00	91.86-91.89	91.875	+0.490	AALVZ00	-3.63/-3.61	-3.620	0.000
CPC Blend FOB Afra	AAOFV00	91.45-91.48	91.465	+0.485	AAOFW00	-4.04/-4.02	-4.030	-0.005
Additional War Risk Premium	AWARA00		1.700	0.000				
(PPE page 1617)								
Urals Med CFD (Oct)	AAMDU00	-9.41/-9.40	-9.405	0.000	CPC Blend CFD (Oct)	AAOFX00	-0.780	+0.020
Urals Med CFD (Nov)	AAMEA00	-9.41/-9.40	-9.405	0.000	CPC Blend CFD (Nov)	AAOFY00	-0.830	+0.020
Urals Med CFD (Dec)	UMCM003	-9.41/-9.40	-9.405	0.000	CPC Blend CFD (Dec)	AAOFZ00	-0.880	+0.020
Urals NWE CFD (Oct)	UNCM001	-10.29/-10.27	-10.280	0.000				
Urals NWE CFD (Nov)	UNCM002	-10.29/-10.27	-10.280	0.000				
Urals NWE CFD (Dec)	UNCM003	-10.29/-10.27	-10.280	0.000				

Canada, Sep 19 (PGA page 230)

(\$/barrel)			Mid	Change
33-63 Day Dated Strip	AALEJ00	94.32-94.34	94.330	+0.435
Hebron	AHEBA00		93.630	+0.435
Terra Nova	AAJUH00	96.16-96.20	96.180	+0.435
Hibernia	AAJJK00	96.41-96.45	96.430	+0.435
White Rose	AAVJX00	97.16-97.20	97.180	+0.435
		Spread vs fwd DTD Brent	Mid	Change
Hebron	AHEBC00		-0.700	0.000
Terra Nova	AAJUJ00	1.84/1.86	1.850	0.000
Hibernia	AAJKM00	2.09/2.11	2.100	0.000
White Rose	AAVJY00	2.84/2.86	2.850	0.000

Platts Euro denominated crude oil assessments (€/barrel) (PGA page 1252)

Sep 19			Mid	Change
Dated Brent	AAPYR00	90.67-90.68	90.672	+0.602
Dated Brent (CIF)	PCAKN00		91.547	+0.569
Urals (Mediterranean)	AAPYS00	80.71-80.73	80.717	+0.553
WTI (Oct)	AAPYT00	86.79-86.81	86.801	+0.643
WTI MEH (Oct)	AAYSA00		88.674	+0.644
Mars (Oct)	AAPYU00	86.32-86.34	86.333	+0.596

Euro/US\$ forex rate: 1.068. Platts Euro denominated crude oil assessments are based on market values and a Euro/US\$ forex rate at 4:30 PM local London time.

Crude price assessments

United States (\$/barrel), Sep 19 (PGA pages 210, 214 & 230)

		Mid	Change	
Platts AGS	AGSAA00	93.230	-0.720	
WTI FOB USGC Decades Avg	ADECA00	93.300	-0.730	
WTI (Oct)	PCACG00	91.19-91.21	91.200	-0.280
WTI (Nov)	PCACH00	90.47-90.49	90.480	-0.100
WTI (Dec)	AAGIT00	89.16-89.18	89.170	-0.090
WTI EFP (Oct)	AAGVT00	-0.01/0.01	0.000	0.000
WTI EFP (Nov)	AAGVU00	-0.01/0.01	0.000	0.000
WTI EFP (Dec)	AAGV000	-0.01/0.01	0.000	0.000
Light Houston Sweet	AAXE000	92.750	-0.730	
Light Houston Sweet M2	AAYRY00	91.980	-0.200	
LOOP Sour (Oct)	AALSM01	89.200	-1.680	
LOOP Sour (Nov)	AALSM02	89.530	-0.800	
LOOP Sour (Dec)	AALSM03	88.470	-0.490	
Eagle Ford Marker	AAYA000	NANA0.000		
Mars (Oct)	AAMBR00	89.29-89.31	89.300	-1.680
Mars (Nov)	AAMBU00	89.62-89.64	89.630	-0.800
Mars (Dec)	AAMBX00	88.56-88.58	88.570	-0.490
Mars/WTI (Oct)	AAGWH00	-1.91/-1.89	-1.900	-1.400
Mars/WTI (Nov)	AAKTH00	-0.86/-0.84	-0.850	-0.700
Mars/WTI (Dec)	AAMB000	-0.61/-0.59	-0.600	-0.400
LOOP/WTI (Oct)	AALOM01	-2.000	-1.400	
LOOP/WTI (Nov)	AALOM02	-0.950	-0.700	
LOOP/WTI (Dec)	AALOM03	-0.700	-0.400	
LOOP/Mars (Oct)	AALPM01	-0.100	0.000	
LOOP/Mars (Nov)	AALPM02	-0.100	0.000	
LOOP/Mars (Dec)	AALPM03	-0.100	0.000	
Dated Brent	AAQBF00	95.90-95.92	95.910	-0.070
P-Plus WTI	PCACI00	4.51/4.53	4.520	-0.180
P-5 WTI*	AAFEN00		87.760	-0.270
WTI-Delta	AAEJK00	1.13/1.15	1.140	-0.180

US domestic crude assessments London close

(PGA page 1240)		\$/barrel	Mid	Change
WTI (Oct)	AAQAR00	92.72-92.74	92.730	+0.670
WTI (Nov)	AAQAT00	91.71-91.73	91.720	+0.610
WTI (Dec)	AAQAV00	90.11-90.13	90.120	+0.370
WTI MEH (Oct)	AAYRZ00		94.730	+0.670
WTI MEH (Nov)	AAXYD00		93.170	+0.460
LLS (Oct)	AAQBB00	94.87-94.89	94.880	+0.670
LLS (Nov)	AAQBD00	93.86-93.88	93.870	+0.260
Mars (Oct)	AAQAX00	92.22-92.24	92.230	+0.620
Mars (Nov)	AAQAZ00	90.81-90.83	90.820	-0.140
		Spread	Mid	Change
WTI (Oct)	AAQAS00	-0.01/0.01	0.000	0.000
WTI (Nov)	AAQAU00	-0.01/0.01	0.000	0.000
WTI (Dec)	AAQAW00	-0.01/0.01	0.000	0.000
WTI MEH (Oct)	AAYTA00		2.000	0.000
WTI MEH (Nov)	AAYWA00		1.450	-0.150
LLS (Oct)	AAQBC00	2.14/2.16	2.150	0.000
LLS (Nov)	AAQBE00	2.14/2.16	2.150	2.150
Mars (Oct)	AAQAY00	-0.51/-0.49	-0.500	-0.050
Mars (Nov)	AAQBA00	-0.91/-0.89	-0.900	-0.750

		Mid	Change	Spread vs WTI	Mid	Change		
WTI Midland	PCACJ00	92.49-92.51	92.500	-0.730	AAGVZ00	1.29/1.31	1.300	-0.450
WTI Midland (2nd month)	AAYZA00		91.680	-0.350	AAXXF00		1.200	-0.250
LLS (1st month)	PCABN00	92.69-92.71	92.700	-0.930	AAGWN00	1.49/1.51	1.500	-0.650
LLS (2nd month)	AAURC00	92.67-92.69	92.680	-0.400	AAURD00	2.19/2.21	2.200	-0.300
HLS (1st month)	PCABD00	91.34-91.36	91.350	-0.930	AAGWP00	0.14/0.16	0.150	-0.650
HLS (2nd month)	AAURE00	91.32-91.34	91.330	-0.400	AAURF00	0.84/0.86	0.850	-0.300
WTS (1st month)	PCACK00	91.79-91.81	91.800	-0.730	AAGWB00	0.59/0.61	0.600	-0.450
WTS (2nd month)	AAURG00	90.97-90.99	90.980	-0.550	AAURH00	0.49/0.51	0.500	-0.450
WTI MEH	AAYRG00		92.750	-0.730	AAYRH00		1.550	-0.450
WTI MEH (2nd month)	AAXXE00		91.980	-0.200	AAYYA00		1.500	-0.100
Poseidon	AABHK00	88.29-88.31	88.300	-1.680	AAGWL00	-2.91/-2.89	-2.900	-1.400
Thunder Horse Blend	AAWZK00	92.09-92.11	92.100	-1.130	AAWZL00	0.89/0.91	0.900	-0.850
Wyoming Sweet	PCACM00	88.69-88.71	88.700	-0.080	AAGWR00	-2.51/-2.49	-2.500	+0.200
Bonito	PCAI000	89.14-89.16	89.150	-1.680	AAGWP00	-2.06/-2.04	-2.050	-1.400
SGC	AASO000	89.84-89.86	89.850	-1.130	AASOJ00	-1.36/-1.34	-1.350	-0.850

Spread vs NYMEX WTI CMA								
ANS (Cal)	PCAAD00	95.73-95.77	95.750	-0.180	AAGWX00	7.00/7.02	7.010	-0.080
WCS ex-Cushing	AAWTY00	81.18-81.20	81.190	+0.050	AAWTZ00	-7.56/-7.54	-7.550	+0.150
WCS ex-Nederland	AAYAY00		81.990	+0.050	AAYAX00		-6.750	+0.150
Bakken Williston	AAXPP00		88.240	+0.400	AASRX00		-0.500	+0.500
Bakken Guernsey	AASRR00	88.68-88.70	88.690	-0.100	AASRV00	-0.06/-0.04	-0.050	0.000
Bakken Clearbrook	AASRU00	90.63-90.65	90.640	-0.100	AASRW00	1.89/1.91	1.900	0.000
Bakken USGC Pipe	ABAKA00		92.240	-0.150	ABAKB00		3.500	-0.050
Americas Crude Marker (Oct)	AAQHN00	88.29-88.31	88.300	-1.680				
Americas Crude Marker (Nov)	AAQHO00	88.62-88.64	88.630	-0.800				
Americas Crude Marker (Dec)	AAQHP00	87.56-87.58	87.570	-0.490				

Spread vs ICE BRENT CMA							
ANS (Cal)	AAUSA00		3.903	0.000			
FOB USGC							
Platts AGS	AGSAA00		93.230	-0.720	AGSAC00	3.300	-0.580
Bakken	ABAKC00		93.230	-0.720	ABAKD00	3.300	-0.580
Eagle Ford Crude	AAYAT00		92.330	-0.720	AAYAU00	2.400	-0.580
Eagle Ford Condensate	AAYAR00		90.830	-0.720	AAYAS00	0.900	-0.580
WTI	AAYBA00		93.230	-0.720	AAYAZ00	3.300	-0.580
WTI FOB USGC vs WTI MEH (by decade)							
WTI FOB USGC First Decade	ADECB00		93.300	-0.730	ADECD00	0.550	0.000
WTI FOB USGC Second Decade	ADECE00		93.300	-0.730	ADECG00	0.550	0.000
WTI FOB USGC Third Decade	ADECH00		93.300	-0.730	ADECH00	0.550	0.000
WTI FOB USGC Decades Average	ADECA00		93.300	-0.730			
FOB USGC Spread vs Dated Brent Strip							
Platts AGS	AGSAB00		-0.970	-0.430	ADECC00	-1.340	-0.980
Bakken	ABAKE00		-0.970	-0.430	ADECF00	-1.340	-0.980
Eagle Ford Crude	AEFCA00		-1.870	-0.430	ADECT00	-1.340	-0.980
Eagle Ford Condensate	AEFCE00		-3.370	-0.430			
WTI	AWTUA00		-0.970	-0.430			
WTI FOB USGC vs ICE Brent Basis (by decade)							
	ADECK00		0.130	-0.630			
	ADECL00		0.130	-0.630			
	ADECM00		0.130	-0.630			

*P-5 WTI Average is a crude oil postings-based index. Posted prices by the following companies are used in the index: ConocoPhillips, Plains, Energy Transfer, Shell, and Valero. The index will not be calculated until all postings are submitted each day. If a posting is submitted the following day the P-5 WTI Average will update in the database.

Crude price assessments

Canadian spot crude assessments, Sep 19

(PGA pages 230 & 232)		C\$/cu m	Mid	Change
Lloyd Blend	AALRM00	603.184-603.354	603.269	-7.974
Mixed Sweet	AALRT00	719.881-720.050	719.965	-4.125
Light Sour Blend	AALRZ00	721.995-722.164	722.079	-3.708
Midale	AAUCD00	707.196-707.365	707.281	-3.658
Condensates	AALSH00	748.209-748.378	748.294	-3.372
Syncrude Sweet Prem.	AASOL00	780.766-780.935	780.850	-3.482
WCS	AAPP000	597.265-597.434	597.350	-7.953
Cold Lake	AASZY00	595.997-596.166	596.081	-7.950

		\$/barrel		
Lloyd Blend	AALRK00	71.330-71.350	71.340	-0.700
Mixed Sweet	AALRR00	85.130-85.150	85.140	-0.200
Light Sour Blend	AALRX00	85.380-85.400	85.390	-0.150
Midale	AAUCC00	83.630-83.650	83.640	-0.150
Condensates	AALSF00	88.480-88.500	88.490	-0.100
Syncrude Sweet Prem.	AASOK00	92.330-92.350	92.340	-0.100
WCS	AAPPN00	70.630-70.650	70.640	-0.700
Cold Lake	AASZX00	70.480-70.500	70.490	-0.700

		Spread vs Canada Basis		
Lloyd Blend	AALRP00	-17.410/-17.390	-17.400	-0.600
Mixed Sweet	AALRV00	-3.610/-3.590	-3.600	-0.100
Light Sour Blend	AALSD00	-3.360/-3.340	-3.350	-0.050
Midale	AAUCE00	-5.110/-5.090	-5.100	-0.050
Condensates	AALSJ00	-0.260/-0.240	-0.250	0.000
Syncrude Sweet Prem.	AASOM00	3.590/3.610	3.600	0.000
WCS	AAPPP00	-18.110/-18.090	-18.100	-0.600
Cold Lake	AASZZ00	-18.260/-18.240	-18.250	-0.600

*Canada Basis: See explanation at <http://www.platts.com/>

US crude assessments Singapore close

(\$/barrel)		Mid	Change
(PGA page 2208)			
LOOP Sour (Oct)	AAZDA00	92.300	+1.440
LOOP Sour (Nov)	AAZDB00	91.390	+1.150
LLS (Oct)	AAZDC00	95.050	+1.540
LLS (Nov)	AAZDD00	94.140	+1.550
Southern Green Canyon	AAZDE00	92.400	+2.040
WTI MEH (Oct)	AAZDF00	94.900	+1.790
WTI MEH (Nov)	AAZDG00	93.240	+1.250

Delivered-Asia spot crude assessments (\$/barrel) (PGA page 2238)

		Mid	Change		Diff to Dubai Mid	Change		Diff to Asian Dated Brent Mid	Change
US Delivered-Asia Spot Crudes									
WTI Midland (DES Singapore)	WTMSA00	96.680	+1.020	WTMSD00	5.500	+1.500	WTMSB00	4.350	+0.820
WTI Midland (DES Yeosu)	WTMYA00	97.180	+1.020	WTMYD00	6.000	+1.500	WTMYB00	4.850	+0.820
Brazil Delivered-Asia Spot Crudes									
Tupi (DES Qingdao)	LUQDA00	95.580	-0.480	LUQDD00	4.400	0.000	LUQDB00	3.250	-0.680

Latin America crude (\$/barrel), Sep 19 (PGA page 280)

		FOB Crude	Mid	Change		Diff to WTI strip	Diff to Futures Brent strip	Diff to Dated Brent strip
Oriente	PCADE00	85.71-85.75	85.730	-0.185	PCAGU00	-3.750	AAXBW00 -6.650	AAXBH00 -8.105
Vasconia	PCAGI00	88.51-88.55	88.530	-0.635	PCAGR00	-0.950	AAXCB00 -3.850	AAXBN00 -5.305
Escalante	PCAGC00	90.26-90.30	90.280	-0.185	PCAGO00	0.800	AAXBS00 -2.100	AAXAX00 -3.555
Medanito	AMTOA00		87.880	-0.185	AMTOC00	-1.600	AMTOB00 -4.500	AMTOD00 -5.955
Loreto	PCAGH00	84.81-84.85	84.830	-0.185	PCAGQ00	-4.650	AAXBV00 -7.550	AAXBG00 -9.005
Mesa 30	AAITB00	89.66-89.70	89.680	-1.185	AAITH00	0.200	AAXCC00 -2.700	AAXB000 -4.155
Santa Barbara	AAITD00	92.66-92.70	92.680	-0.635	AAITJ00	3.200	AAXBU00 0.300	AAXAZ00 -1.155
Tupi	ATUPA00		94.030	+0.115	ATUPC00	4.550	ATUPB00 1.650	ATUPD00 0.195
Marlim	AAITF00	87.86-87.90	87.880	-0.635	AAITL00	-1.600	AAXBY00 -4.500	AAXBJ00 -5.955
Napo	AAMCA00	83.56-83.60	83.580	-0.185	AAMCD00	-5.900	AAXBX00 -8.800	AAXBI00 -10.255
Castilla Blend	AAVEQ00	85.01-85.05	85.030	-0.635	AAVEQ01	-4.450	AAXBZ00 -7.350	AAXBK00 -8.805
Liza	ALIZA00		94.835	+0.150	ALIZD00	5.355	ALIZC00 2.455	ALIZB00 1.000
Unity Gold	AUNIA00		95.035	+0.150	AUNIC00	5.555	AUNIB00 2.655	AUNID00 1.200
Latin America WTI strip	AAXBP00		89.480	-0.135				
Latin America Futures Brent strip	AAXBQ00		92.380	-0.185				
Latin America Dated Brent strip	AAXBR00		93.835	+0.150				

Daily OPEC basket price (\$/barrel) (PGA page 207)

		Mid	Change
18Sep	AAEUQ00	96.930	+0.060

The daily OPEC basket price represents an index of the following 11 grades: Algeria's Saharan Blend, Indonesia's Minas, Iranian Heavy, Iraq's Basra Light, Kuwait's Export, Libya's Es Sider, Nigeria's Bonny Light, Qatar's Marine, Saudi Arabia's Arab Light, Murban of the UAE and Venezuela's BCF 17.

Crude price assessments

Crude oil postings

		Effective date		Effective date		Effective date		Effective date				
US (\$/barrel) (PGA page 250)												
		Plains			Shell		Energy Transfer		Valero			
WTI	PSADF09	87.68*	19SEP23	PSADI09	87.80*	19SEP23	PSADG09	87.75*	19SEP23	PSACS09	87.75*	19SEP23
WTS	PSAED09	87.08	19SEP23	PSAEG09	88.14	19SEP23	PSAEE09	82.75	19SEP23			
LLS	PSAM009	86.18	19SEP23	PSAMQ09	86.18	19SEP23	PSAMP09	86.25	19SEP23	PSATF09	90.35	19SEP23
Ok. Swt.	PSUS191	87.68	19SEP23	PSANX09	87.55	19SEP23	PSANW09	87.75	19SEP23			
Kansas	PSAPL09	78.03	19SEP23	PSUS112	80.28	19SEP23				PSAPE09	86.75	19SEP23
Wyo. Swt.	PSAQZ09	84.78	19SEP23									
Eugene Island	AALBB00	83.18	19SEP23									
Eagle Ford							PSUS100	87.75	19SEP23			
Eagle Fd Cond							PSUS110	66.00	30JUN23			
		Phillips66			FlintHls					Coffey		
WTI	PSACP09	87.82*	19SEP23	AAUQN00	87.75	19SEP23				PSUS066	0.00	19SEP23
WTS	PSAD009	88.03	19SEP23									
LLS	PSAMC09	86.57	19SEP23									
Ok. Swt.	PSASL09	87.62	19SEP23							PSUS064	87.50	19SEP23
Kansas										PSUS060	81.50	19SEP23
Wyo. Swt.				PSUS264	87.50	19SEP23						
Wyo. Sr.				PSUS261	75.25	19SEP23						

*P-5 WTI Average is a crude oil postings-based index. Posted prices by the following companies are used in the index: ConocoPhillips, Plains, Energy Transfer, Shell, and Valero. The index will not be calculated until all postings are submitted each day. If a posting is submitted the following day the P-5 WTI Average will update in the database.

Spot tanker rates, Sep 19

From	Route		To	Size (mt)	WS	Rate (\$/mt)
Clean						
<u>(PGT page 1910)</u>						
Med	UKC	PFADCSZ	30k	PFADC10	310.00	TCABA00 44.30
Med	USAC	PFACWSZ	37k	PFACW10	185.00	TCABC00 37.63
Med	Med	PFADBSZ	30k	PFADB10	300.00	TCAAY00 22.32
UKC	UKC	PFALYSZ	22k	PFALY00	259.00	TCABV00 16.96
UKC	USAC	PFAMASZ	37k	PFAMA00	170.00	TCABX00 29.00
UKC	USGC	PFAMBSZ	37k	PFAMB00	165.00	TCACA00 39.27
BSea	Med	PFABXSZ	30k	PFABX00	350.00	TCAAP00 30.52
<u>(PGT page 2920)</u>						
AG	West Coast India	PFABMSZ	35k	PFABM10	255.00	TCAAF00 23.56
AG	Japan	PFABNSZ	35k	PFABN10	200.00	TCAAH00 55.20
Sing	Japan	PFAEBSZ	30k	PFAEB10	249.00	TCABP00 33.86
Sing	HK	PFAKWSZ	30k	PFAKW10	695.00*	TCADI00 23.17
<u>(PGT page 2922)</u>						
AG	Japan	PFAEYSZ	55k	PFAEY10	160.00	TCAAI00 43.10
AG	Japan	PFAMTSZ	75k	PFAMT00	135.00	TCAAJ00 37.26
Dirty						
<u>(PGT page 1962)</u>						
Carib	USGC	PFANZSZ	50k	PFANZ00	130.00	TDABA00 14.46
Carib	USAC	PFALTSZ	70k	PFALT10	77.50	TDAAY00 8.55
<u>(PGT page 1960)</u>						
Med	Med	PFAJPSZ	80k	PFAJP10	87.50	TDABL00 9.12
Med	USGC	PFAJOSZ	80k	PFAJO10	62.50	TDABU00 17.84
UKC	UKC	PFAKDSZ	80k	PFAKD10	95.00	TDACD00 8.86
UKC	USAC	PFAKESZ	80k	PFAKE10	70.00	TDACG00 12.77
<u>(PGT page 1970)</u>						
WAF	USGC	PFAIASZ	130k	PFAIA10	70.00	TDACV00 18.97
UKC	USGC	PFAHNSZ	135k	PFAHN10	57.50	TDACH00 13.97
Med	USGC	PFAHGSZ	135k	PFAHG10	55.00	TDABS00 15.70
<u>(PGT page 2970)</u>						
AG	Asia	PFAJDSZ	80k	PFAJD10	116.00	TDAAC00 26.71
<u>(PGT page 2980)</u>						
AG	Asia	PFAOCSZ	270k	PFAOC00	38.00	TDAAB00 9.93
AG	USGC	PFAOGSZ	280k	PFAOG00	24.00	TDAAN00 11.83

*values are in lumpsum

Platts futures assessments Singapore MOC, Sep 19 (PGA page 703)

NYMEX RBOB (¢/gal)			NYMEX NY ULSD (¢/gal)		
Oct	XNRBA01	269.940	Oct	XNH0A01	329.340
Nov	XNRBA02	264.300	Nov	XNH0A02	323.150
Dec	XNRBA03	256.560	Dec	XNH0A03	310.840

Platts futures assessments, Sep 19

NYMEX light sweet crude (\$/barrel) (PGA page 701)		
CME 2:30 PM ET settlement		
Oct	AAWS001	91.200
Nov	AAWS002	90.480
Dec	AAWS003	89.170
Jan	AAWS004	87.890
Platts 2:30 PM ET futures assessment		
Oct	NYCRM01	91.150
Nov	NYCRM02	90.490
Dec	NYCRM03	89.200
Jan	NYCRM04	87.910
CME 2:30 PM vs Platts 2:30 PM spread		
Oct	AAWD001	0.050
Nov	AAWD002	-0.010
Dec	AAWD003	-0.030
Jan	AAWD004	-0.020
NYMEX RBOB (¢/gal) (PGA page 701)		
CME 2:30 PM ET settlement		
Oct	AARS001	265.810
Nov	AARS002	260.500
Dec	AARS003	253.570
Platts 2:30 PM ET futures assessment		
Oct	NYRBM01	265.820
Nov	NYRBM02	260.520
Dec	NYRBM03	253.560
CME 2:30 PM vs Platts 2:30 PM spread		
Oct	AARD001	-0.010
Nov	AARD002	-0.020
Dec	AARD003	0.010
NYMEX NY ULSD (¢/gal) (PGA page 701)		
CME 2:30 PM ET settlement		
Oct	AAHS001	337.390
Nov	AAHS002	329.250
Dec	AAHS003	315.890
Platts 2:30 PM ET futures assessment		
Oct	NYHOM01	337.310
Nov	NYHOM02	329.160
Dec	NYHOM03	315.790
CME 2:30 PM vs Platts 2:30 PM spread		
Oct	AAHD001	0.080
Nov	AAHD002	0.090
Dec	AAHD003	0.100
ICE Brent crude (\$/barrel) (PGA page 703)		
Platts 2:30 PM ET futures assessment		
Nov	AAQBG00	94.380
Dec	AAQBH00	93.170
Jan	AAXZZ00	91.900
Feb	AAYAL00	90.750

Futures settlements, Sep 19

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
NYMEX Light sweet crude (\$/barrel) (PGA page 705)								
Oct 23	NMCL001	91.20	-0.28	91.07	93.74	62886	61991	
Nov 23	NMCL002	90.48	-0.10	90.31	92.43	504143	333508	
Dec 23	NMCL003	89.17	-0.09	89.08	90.75	302408	248028	
Jan 24	NMCL004	87.89	-0.12	87.81	89.24	118705	129045	
Total	NMCL000					1299916		XNCLP00 10790

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
NYMEX NY ULSD (\$/gal) (PGA page 705)								
Oct 23	NMH0001	3.3739	+0.0856	3.2750	3.4110	33235	51516	
Nov 23	NMH0002	3.2925	+0.0678	3.2148	3.3269	60215	80603	
Dec 23	NMH0003	3.1589	+0.0558	3.0959	3.1892	34823	52311	
Jan 24	NMH0004	3.0926	+0.0440	3.0412	3.1170	16940	41874	
Total	NMH0000					173470		XNHOP00 5099

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
NYMEX RBOB unleaded gasoline (\$/gal) (PGA page 705)								
Oct 23	NMRB001	2.6581	-0.0398	2.6515	2.7261	30233	63088	
Nov 23	NMRB002	2.6050	-0.0365	2.6010	2.6679	64043	126501	
Dec 23	NMRB003	2.5357	-0.0282	2.5314	2.5886	42057	73471	
Jan 24	NMRB004	2.5012	-0.0220	2.4971	2.5439	16467	42388	
Total	NMRB000					180190		XNRBP00 7720

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
ICE Midland WTI American Gulf Coast (\$/barrel) (PGA page 704)								
Oct 23	IHO0001	92.99	-0.36	92.99	94.34	695	4797	
Nov 23	IHO0002	91.97	-0.18	91.93	93.79	7103	5934	
Dec 23	IHO0003	90.62	-0.15	90.59	92.12	1373	5047	
Jan 24	IHO0004	89.30	-0.20	89.30	89.30	536	3909	

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
NYMEX Natural Gas (\$/MMBtu) (PGA page 705)								
Oct 23	NMNG001	2.848	+0.12	2.710	2.872	144003	93288	
Nov 23	NMNG002	3.026	+0.03	2.975	3.072	118439	271613	
Dec 23	NMNG003	3.384	-0.02	3.377	3.437	39391	76347	
Jan 24	NMNG004	3.616	-0.02	3.605	3.665	39961	108735	
Total	NMNG000					429729		XNNGP00 11107

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
DME Oman crude (\$/barrel)** (PGA pages 702 & 2710)								
Nov 23 Asia	XDOA001	95.09	-0.11			943		
Nov 23	DMOQ001	94.48	-1.05	94.48	95.84	944	13884	
Dec 23	DMOQ002	93.28	-1.11	93.28	94.24	813	18	
Jan 24	DMOQ003	92.08	-1.36	92.08	92.08	810	8	
Feb 24	DMOQ004	91.04	-1.55	91.04	91.04	0	0	
Total	DMOQ000					4104		XDOQP00 0

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
IFAD Murban crude (\$/barrel) (PGA page 703)								
Nov 23	AMIFA00	96.340						
Murban vs Dubai***	AMIFB00	3.860						

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
ICE Brent (\$/barrel) (PGA page 704)								
Nov 23	ICLL001	94.34	-0.09	94.16	95.96	430941	362132	
Dec 23	ICLL002	93.14	-0.15	92.97	94.57	505641	492983	
Jan 24	ICLL003	91.88	-0.22	91.74	93.15	233620	265351	
Feb 24	ICLL004	90.73	-0.27	90.61	91.89	136414	142419	
Total	ICLL000					1713373		XILLP00 40284

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
ICE BWAWE (Brent weighted futures average)(\$/barrel) (PGA page 704)								
Nov 23	XIBW001	94.45						
Dec 23	XIBW002	93.44						

BWAWE data refer to previous day.

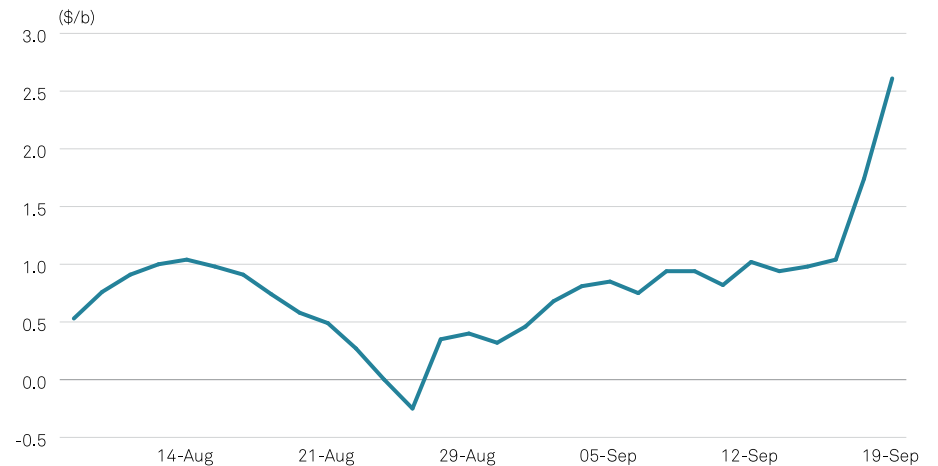
		Settlement	Change	Low	High	Volume*	Open interest	PNT****
ICE WTI (\$/barrel) (PGA page 704)								
Oct 23	ICIC001	91.20	-0.28	91.04	93.70	9560	19732	
Nov 23	ICIC002	90.48	-0.10	90.34	92.42	110391	98919	
Dec 23	ICIC003	89.17	-0.09	89.09	90.73	119946	116607	
Jan 24	ICIC004	87.89	-0.12	87.86	89.21	57387	49310	
Total	ICIC000					394319		XIICP00 6945

		Settlement	Change	Low	High	Volume*	Open interest	PNT****
ICE low sulfur Gasoil (\$/mt) (PGA page 704)								
Oct 23	ICLO001	976.50	+8.50	953.00	994.00	112756	142548	
Nov 23	ICLO002	947.25	+11.75	924.25	959.50	85981	114489	
Dec 23	ICLO003	917.00	+13.75	895.00	924.25	80180	128181	
Jan 24	ICLO004	901.25	+13.75	881.00	906.25	22301	49283	
Total	ICLO000					358490		XILOP00 6405

*Volume, open interest and PNT reflect prior trading day. PNT reflect volume for Privately Negotiated Trades or off-exchange. **Oman settlements are Post Close settlements. ***IFAD Murban spread to 1st Line (Nov 23) Platts Dubai crude futures. ****Privately Negotiated Trade values found on PGA page 710

Source: CQG

Brent-Dubai EFS



Source: S&P Global Commodity Insights

Five-Day Rolling Averages, five days ending September 19

		Conversion		
Naphtha (PGA page 34)				
		\$/barrel		¢/gal
Singapore	PAAAP00	75.37-75.41	(/.42)	179.46-179.56
		\$/mt		¢/gal
Japan C/F	PAAAD00	713.00-714.95	(/3.78)	188.62-189.14
Arab Gulf	PAAAA00	660.97-662.92	(/3.78)	174.86-175.38
CIF NWE physical	PAAAL00	714.80-715.30	(/3.78)	189.10-189.23
Rotterdam barge	PAAAM00	710.80-711.30	(/3.78)	188.04-188.17
FOB Med	PAAAI00	665.95-666.45	(/3.78)	176.18-176.31
CIF Genoa	PAAAH00	694.40-694.90	(/3.78)	183.70-183.84
		¢/gal		\$/mt
US Gulf FOB cargo	AAXJP00	176.88-176.98	(*3.54669)	668.73-668.83
US Gulf DAP LSR parcel	AAXQK00	178.18	(*4.0083)	714.18

Jet Kerosene (PGA page 35)

		\$/mt		¢/gal
CIF NWE cargo	PJAAU00	1053.15-1053.65	(/7.89)	317.81-317.96
Rotterdam barge	PJABA00	1047.15-1047.65	(/7.89)	316.00-316.15
FOB Med	AAIDL00	1012.90-1013.40	(/7.89)	305.66-305.81
CIF Genoa	AAZBN00	1051.65-1052.15	(/7.89)	317.35-317.51
		¢/gal		\$/mt
US Gulf water	PJABM00	320.44-320.54	(*42)	1061.88-1062.21
US Gulf pipe	PJABO00	315.44-315.54	(*42)	1045.31-1045.64
NY barge	PJAW00	328.65-328.75	(*42)	1084.55-1084.88
LA pipeline	PJAAP00	381.20-381.30	(*42)	1216.03-1216.35
Group 3	PJAAI00	330.35-330.45	(*42)	1094.71-1095.05
Chicago	PJAAP00	301.20-301.30	(*42)	998.12-998.45

Crude Oil, FOB Source

		\$/barrel		
West Texas Int	PCACG00	90.42-90.44		
NYMEX Crude	XNCL001	89.95		
Mars	AAMBR00	90.01-90.03		
Brent (DTD)	PCAS00	95.34-95.35		
Brent (First month)	PCAAQ00	93.96-93.98		
Dubai (First Month)	PCAAT00	94.73-94.75		
Oman (First Month)	PCABS00	94.74-94.76		
Urals CIF med	PCACE00	84.78-84.80		
WTI Posting Plus	PCACI00	4.41-4.43		

Gasoline, U.S. Market (PGA page 36)

(¢/gal)		Unleaded		Premium
US Gulf water	PGACU00	292.60-292.70	PGAIX00	318.10-318.20
US Gulf pipe	PGACT00	287.25-287.35	PGAJB00	314.85-314.95
Group 3			PGABD00	337.45-337.55
LA Pipeline			PGABG00	413.25-413.35
SF Pipeline	PGADG00	357.45-357.55	PGABO00	386.85-386.95
Chicago			PPASQ00	347.05-347.15
NYMEX Unt	XNRB001	272.30		

Gasoline, Intl. Market		Conversion		
		Prem (\$/mt)		¢/gal
R'dam Barge Prem unl	PGABM00	998.30-998.80	(/3.51)	284.42-284.56

Gasoi/Heating Oil (PGA page 32)

		\$/barrel		¢/gal
Singapore	POABC00	127.51-127.55	(/.42)	303.60-303.69
Arab Gulf	POAAT00	123.54-123.58	(/.42)	294.13-294.23
		\$/mt		¢/gal
0.1 CIF ARA	AAYWS00	987.30-987.80	(/3.133)	315.43-315.59
50 ppm Rotterdam barge	AAUCQ00	986.40-986.90	(/3.133)	315.14-315.30
0.1 Rotterdam barge	AAYWT00	981.35-981.85	(/3.133)	313.53-313.69
0.1 FOB NWE	AAYWR00	966.30-966.80	(/3.133)	308.72-308.88
0.1 CIF Med	AAVJJ00	987.60-988.10	(/3.133)	315.53-315.69

(PGA page 33)

		¢/gal		\$/barrel
L.A. LS diesel	POAET00	385.17-385.27	(*3.07)	1182.48-1182.79
S.F. LS diesel	POAEY00	404.20-404.30	(*3.07)	1240.89-1241.20
		¢/gal		\$/mt
NY barge	POAEG00	303.45-303.55	(*3.15)	955.87-956.18
US Gulf water	POAEE00	312.75-312.85	(*3.08)	963.27-963.58
US Gulf pipe	POAED00	311.75-311.85	(*3.08)	960.19-960.50
NYMEX NY ULSD	XNH0001	338.34	(*3.08)	1065.76

Low Sulfur Resid Fuel Oil (PGA page 38)

		\$/mt		\$/barrel
CIF ARA 1%	PUAAL00	580.60-581.10	(/6.35)	91.43-91.51
Rot bar 1%	PUAAP00	584.05-584.55	(/6.35)	91.98-92.06
NWE FOB 1%	PUAAM00	566.45-566.95	(/6.35)	89.20-89.28
Med FOB 1%	PUAAK00	577.90-578.40	(/6.35)	91.01-91.09
		\$/barrel		\$/mt
NY Cargo 1% Max	PUAA000	91.35-91.37	(*6.5)	593.78-593.91
US Gulf 1%	PUAAI00	90.60-90.62	(*6.11)	572.57-572.69

Hi Sulfur Resid Fuel Oil (PGA page 39)

		\$/mt		\$/barrel
Singapore 180	PUADV00	543.36-543.40	(/6.35)	85.57-85.57
Singapore 380	PPXDK00	530.68-530.72	(/6.35)	83.57-83.58
Arab Gulf 180	PUABE00	523.97-524.01	(/6.35)	82.52-82.52
CIF ARA 3.5%	PUABA00	569.85-570.35	(/6.35)	89.74-89.82
NWE FOB 3.5%	PUABB00	556.95-557.45	(/6.35)	87.71-87.79
Med FOB 3.5%	PUAAZ00	562.50-563.00	(/6.35)	88.58-88.66
CIF Med 3.5%	PUAAY00	576.60-577.10	(/6.35)	90.80-90.88
		\$/barrel		\$/mt
USAC HSFO	PUAAX00	88.41-88.43	(*6.35)	561.42-561.54
USGC HSFO	PUAFZ00	82.74-82.76	(*6.35)	525.37-525.50

US wholesale posted prices effective Sep 19

PADD 1	Unleaded	Midgrade	Premium	Kerosene	Diesel No.2	ULSD
Albany, NY	DR198ZY 259.15-275.22	DM198ZY 278.48-302.94	DP198ZY 317.15-332.64	DK198ZY 389.38-404.28		DU198ZY 336.30-351.50
Allentown	DR235ZY 257.30-284.67	DM235ZY 278.97-309.19	DP235ZY 322.30-360.32		DH235ZY -	DU235ZY 334.97-357.31
Atlanta	DR048ZY 252.78-262.57	DM048ZY 277.30-296.54	DP048ZY 312.43-337.62			DU048ZY 325.28-334.94
Baltimore (a)	DR123ZY 260.36-272.82	DM123ZY 284.37-302.82	DP123ZY 326.65-348.27	DK123ZY 409.74-410.00	DH123ZY -	DU123ZY 326.95-346.00
Binghamton	DR200ZY 270.00-278.50	DM200ZY 291.67-308.50	DP200ZY 334.00-335.00			DU200ZY 335.23-349.53
Boston (a)	DR121ZY 265.05-267.45	DM121ZY 285.05-289.33	DP121ZY 325.05-329.00	DK121ZY 434.01-434.01		DU121ZY 336.36-347.00
Charleston	DR250ZY 262.90-276.61	DM250ZY 285.55-286.93	DP250ZY 333.50-364.19			DU250ZY 340.83-347.83
Charlotte	DR169ZY 251.60-261.94	DM169ZY 272.94-290.22	DP169ZY 312.15-338.47			DU169ZY 325.91-339.36
Fairfax (a)	DR299ZY 256.40-272.10	DM299ZY 278.07-302.10	DP299ZY 316.30-338.50			DU299ZY 327.55-339.89
Greensboro				DK171ZY 504.90-504.90		DU171ZY 326.18-344.40
Miami					DU039ZY 333.20-340.89	
New Haven (a)	DR034ZY 260.20-270.21	DM034ZY 280.36-295.60	DP034ZY 317.04-343.36	DK034ZY 396.50-421.71	DH034ZY -	DU034ZY 332.90-347.00
New York City (a)	DR204ZY 274.21-274.21	DM204ZY 299.27-299.27	DP204ZY 344.36-344.36			DU204ZY 259.69-344.72
Newark (a)	DR189ZY 255.68-261.55	DM189ZY 276.90-289.70	DP189ZY 312.75-331.82	DK189ZY -		DU189ZY 329.43-346.00
Norfolk (a)	DR300ZY 255.57-274.23	DM300ZY 278.05-304.23	DP300ZY 323.55-344.23			DU300ZY 327.87-342.58
Orlando	DR041ZY 261.84-270.00	DM041ZY 284.95-304.00	DP041ZY 315.33-339.00			DU041ZY 337.70-351.94
Philadelphia (a)	DR242ZY 257.35-285.12	DM242ZY 278.02-307.40	DP242ZY 319.35-344.03		DH242ZY -	DU242ZY 327.69-339.77
Pittsburgh	DR243ZY 255.60-284.79	DM243ZY 284.75-318.25	DP243ZY 330.60-379.55	DK243ZY -	DH243ZY -	DU243ZY 313.11-361.65
Providence (a)	DR248ZY 259.40-263.95	DM248ZY 279.07-289.10	DP248ZY 318.40-327.10			DU248ZY 341.92-343.18
Portland	DR126ZY 264.40-268.34	DM126ZY 287.44-308.00	DP126ZY 324.10-325.84		DH126ZY -	DU126ZY 336.50-347.55
Raleigh						DU168ZY 329.20-329.20
Richmond	DR301ZY 250.49-271.39	DM301ZY 281.02-301.39	DP301ZY 324.35-334.20	DK301ZY 475.00-475.00		DU301ZY 326.30-339.62
Savannah	DR054ZY 277.10-277.14	DM054ZY 307.10-307.14	DP054ZY 372.10-372.14			DU054ZY 354.30-357.88
Spartanburg	DR252ZY 253.50-273.90	DM252ZY 275.70-303.80	DP252ZY 316.15-338.40			DU252ZY 325.22-339.18
Tampa					DU045ZY 334.30-350.99	
PADD 2						
Aberdeen	DR253ZY 267.25-285.40	DM253ZY 286.94-307.10	DP253ZY 302.28-322.35			DU253ZY 345.30-358.30
Cape Girardeau	DR144ZY 252.72-275.88		DP144ZY 349.10-356.00			DU144ZY 327.41-339.90
Chattanooga	DR260ZY 252.65-263.97	DM260ZY 271.03-308.72	DP260ZY 303.70-341.10			DU260ZY 325.87-339.11
Chicago (a)	DR075ZY 254.15-273.90	DM075ZY 287.48-290.50	DP075ZY 333.50-388.00	DK075ZY 313.35-339.55		DU075ZY 290.05-313.11
Cleveland	DR212ZY 261.00-273.93	DM212ZY 294.33-317.10	DP212ZY 361.00-395.81	DK212ZY 356.00-356.00		DU212ZY 306.45-321.12
Columbus	DR213ZY 256.85-271.90	DM213ZY 290.18-316.21	DP213ZY 356.85-389.43	DK213ZY 355.10-355.10		DU213ZY 313.60-339.81
Duluth	DR138ZY 282.50-291.75	DM138ZY 302.18-311.68	DP138ZY 325.23-349.16			DU138ZY 337.20-353.55
Des Moines	DR059ZY 263.16-275.38	DM059ZY 282.25-315.77	DP059ZY 300.85-331.25			DU059ZY 334.92-347.50
Detroit	DR130ZY 257.35-276.90	DM130ZY 290.68-329.73	DP130ZY 357.35-395.25	DK130ZY 345.85-345.85		DU130ZY 288.87-310.12
Fargo	DR174ZY 275.12-289.63	DM174ZY 299.33-303.34	DP174ZY 315.16-328.60			DU174ZY 347.40-355.00
Green Bay	DR313ZY 280.25-280.25	DM313ZY -	DP313ZY 374.25-374.25	DK313ZY -		DU313ZY 313.00-313.00
Indianapolis	DR088ZY 242.33-255.00	DM088ZY 272.33-313.18	DP088ZY 334.58-372.25	DK088ZY 351.62-353.25		DU088ZY 297.70-309.86
Kansas City	DR099ZY 264.72-272.65	DM099ZY 280.31-297.25	DP099ZY 331.26-364.75			DU099ZY 336.34-348.43
Knoxville	DR261ZY 253.82-268.83	DM261ZY 278.43-293.69	DP261ZY 313.45-340.53	DK261ZY -		DU261ZY 326.49-341.50
Milwaukee	DR316ZY 254.10-265.75	DM316ZY 287.44-291.48	DP316ZY 343.60-358.15	DK316ZY 354.25-354.25		DU316ZY 294.93-303.00
Minneapolis/St.Paul	DR141ZY 267.71-276.75	DM141ZY 286.52-293.99	DP141ZY 311.52-324.31	DK141ZY 406.00-406.00		DU141ZY 338.80-346.84
Oklahoma City	DR226ZY 263.52-274.00	DM226ZY 280.86-299.00	DP226ZY 295.93-321.25			DU226ZY 335.50-344.93
Omaha	DR185ZY 261.89-275.00	DM185ZY 278.85-305.00	DP185ZY 293.76-330.65			DU185ZY 334.91-346.80
Sioux Falls	DR256ZY 261.23-280.60	DM256ZY 281.17-313.85	DP256ZY 292.64-326.40			DU256ZY 336.32-352.50
St. Louis (a)	DR154ZY 259.50-259.50	DM154ZY 282.00-282.00	DP154ZY 323.00-323.00			DU154ZY 320.00-328.64
PADD 3						
Albuquerque	DR192ZY 300.00-311.50	DM192ZY 320.00-333.00	DP192ZY 341.00-354.50			DU192ZY 361.50-381.50
Amarillo	DR265ZY 298.75-299.99	DM265ZY 314.75-315.99	DP265ZY 343.75-344.99			DU265ZY 358.00-358.00
Baton Rouge	DR115ZY 253.16-265.97	DM115ZY 275.82-288.24	DP115ZY 307.50-332.74			DU115ZY 326.40-333.63
Birmingham	DR003ZY 251.36-266.08	DM003ZY 266.40-304.49	DP003ZY 305.51-331.72	DK003ZY 459.42-459.42		DU003ZY 326.70-336.05
Corpus Christi	DR275ZY 269.39-273.76	DM275ZY 287.39-291.76	DP275ZY 330.89-336.76			DU275ZY 324.70-325.06
Dallas/Ft.Worth (a)	DR276ZY 272.64-282.25	DM276ZY 302.25-313.43	DP276ZY 331.83-347.60			DU276ZY 329.30-335.61
Houston (a)	DR416ZY 262.15-273.68	DM416ZY 288.68-309.46	DP416ZY 321.87-341.30	DK416ZY 382.26-382.26		DU416ZY 327.19-333.84
Little Rock	DR009ZY 255.89-284.53	DM009ZY 270.35-319.36	DP009ZY 285.89-354.67			DU009ZY 329.93-351.12
New Orleans	DR119ZY 251.95-265.80	DM119ZY 283.45-290.80	DP119ZY 305.20-350.12			DU119ZY 324.40-335.96
San Antonio	DR289ZY 272.40-280.25	DM289ZY 296.65-312.82	DP289ZY 330.25-350.20			DU289ZY 326.85-335.63
PADD 4						
Billings (b)	DR162ZY -		DP162ZY 362.62-369.97			DU162ZY 387.52-394.12
Casper (b)	DR321ZY 275.55-285.71		DP321ZY 310.90-321.85		DU321ZY* 375.15-378.00	
Denver	DR028ZY 290.00-299.50	DM028ZY 307.00-316.55	DP028ZY 340.00-351.50			DU028ZY 347.14-363.07
Salt Lake City	DR298ZY 310.52-318.00	DM298ZY 328.43-333.00	DP298ZY 344.52-353.00			DU298ZY 372.25-399.00
PADD 5						
Anacortes	DR305ZY 348.80-349.10	DM305ZY 376.10-379.80	DP305ZY 381.85-389.80			DU305ZY 413.50-419.55
Las Vegas (e)	DR196ZY 366.57-394.25	DM196ZY 388.84-418.25	DP196ZY 403.84-442.25			DU196ZY 385.00-415.02
Los Angeles (e)	DR022ZY 443.10-465.35	DM022ZY 463.35-493.00	DP022ZY 479.25-508.00			DU022ZY 449.00-452.50
Phoenix	DR012ZY 455.00-476.96	DM012ZY 490.00-496.96	DP012ZY 505.50-529.96			DU012ZY 393.38-440.33
Portland	DR233ZY 304.50-322.00	DM233ZY 322.00-352.00	DP233ZY 340.00-363.00			DU233ZY 359.50-387.50
SanFranEBay (e)	DR025ZY 398.20-400.50	DM025ZY 413.20-415.92	DP025ZY 427.95-431.95			DU025ZY 452.05-459.25
Seattle/Tacoma	DR308ZY 351.05-354.65	DM308ZY 378.46-379.05	DP308ZY 387.51-394.05			DU308ZY 414.90-422.05
Spokane	DR309ZY 376.96-376.96	DM309ZY 391.96-391.96	DP309ZY 416.96-416.96			DU309ZY 424.69-424.69

All prices are provided by DTN. Discounts or temporary allowances offered by individual companies are not included in posted prices. Prices are unbranded unless noted. Prices are conventional gasoline unless noted. All prices in cts/gal.

(a)=RFG. (b)=Branded postings (e)=CARB gasoline/No.2 oil *=Low Sulfur Diesel

US wholesale posted prices effective Sep 16

PADD 1	Unleaded		Midgrade		Premium		Kerosene		Diesel No.2		ULSD	
Albany, NY	DR198ZY	273.80-284.04	DM198ZY	298.03-308.70	DP198ZY	335.61-349.25	DK198ZY	395.01-412.36			DU198ZY	344.52-353.75
Allentown	DR235ZY	272.35-294.52	DM235ZY	290.68-321.24	DP235ZY	327.35-374.54			DH235ZY	-	DU235ZY	343.97-365.95
Atlanta	DR048ZY	254.65-265.09	DM048ZY	277.50-299.23	DP048ZY	316.12-341.26					DU048ZY	334.68-340.30
Baltimore (a)	DR123ZY	263.04-268.70	DM123ZY	285.27-304.71	DP123ZY	328.60-346.71	DK123ZY	403.73-408.00	DH123ZY	-	DU123ZY	336.41-344.35
Binghamton	DR200ZY	288.90-297.04	DM200ZY	310.57-327.04	DP200ZY	351.22-354.04					DU200ZY	346.64-350.96
Boston (a)	DR121ZY	283.85-288.00	DM121ZY	303.85-310.00	DP121ZY	343.85-350.00	DK121ZY	436.51-436.51			DU121ZY	343.60-346.20
Charleston	DR250ZY	264.60-279.58	DM250ZY	287.56-289.23	DP250ZY	334.65-365.06					DU250ZY	348.70-352.95
Charlotte	DR169ZY	253.60-267.74	DM169ZY	275.17-297.74	DP169ZY	313.70-342.12					DU169ZY	335.31-339.87
Fairfax (a)	DR299ZY	257.90-288.95	DM299ZY	279.57-313.95	DP299ZY	313.13-339.99					DU299ZY	337.01-340.98
Greensboro							DK171ZY	499.90-499.90			DU171ZY	335.64-343.25
Miami									DU039ZY	342.70-350.47		
New Haven (a)	DR034ZY	275.45-288.86	DM034ZY	295.95-314.45	DP034ZY	334.80-362.66	DK034ZY	388.58-424.21	DH034ZY	-	DU034ZY	341.65-347.00
New York City (a)	DR204ZY	292.86-292.86	DM204ZY	318.12-318.12	DP204ZY	363.66-363.66					DU204ZY	267.19-346.70
Newark (a)	DR189ZY	271.35-301.55	DM189ZY	291.40-309.20	DP189ZY	327.25-352.87	DK189ZY	-			DU189ZY	338.06-344.35
Norfolk (a)	DR300ZY	258.75-274.62	DM300ZY	280.45-304.62	DP300ZY	320.65-344.62					DU300ZY	337.33-343.92
Orlando	DR041ZY	263.00-272.50	DM041ZY	286.95-307.50	DP041ZY	317.86-342.50					DU041ZY	346.95-353.48
Philadelphia (a)	DR242ZY	276.61-300.67	DM242ZY	297.42-324.88	DP242ZY	336.96-361.20			DH242ZY	-	DU242ZY	336.88-345.55
Pittsburgh	DR243ZY	261.79-293.37	DM243ZY	288.25-328.77	DP243ZY	336.79-377.77	DK243ZY	-	DH243ZY	-	DU243ZY	327.12-364.57
Providence (a)	DR248ZY	277.66-283.29	DM248ZY	298.22-308.00	DP248ZY	335.96-346.00					DU248ZY	344.42-346.00
Portland	DR126ZY	283.85-287.18	DM126ZY	306.13-329.25	DP126ZY	345.29-348.75					DH126ZY	-
Raleigh											DU168ZY	339.45-339.45
Richmond	DR301ZY	256.37-279.40	DM301ZY	281.12-303.28	DP301ZY	316.55-335.64	DK301ZY	495.00-495.00			DU301ZY	335.76-344.00
Savannah	DR054ZY	279.20-279.26	DM054ZY	309.20-309.26	DP054ZY	374.20-374.26					DU054ZY	360.30-360.34
Spartanburg	DR252ZY	256.00-267.03	DM252ZY	276.43-305.81	DP252ZY	317.84-340.32					DU252ZY	334.68-340.55
Tampa									DU045ZY	343.80-348.20		
PADD 2												
Aberdeen	DR253ZY	277.65-293.32	DM253ZY	296.24-315.02	DP253ZY	312.67-330.27					DU253ZY	348.71-354.90
Cape Girardeau	DR144ZY	259.18-286.92			DP144ZY	355.56-366.50					DU144ZY	308.75-349.26
Chattanooga	DR260ZY	255.42-266.30	DM260ZY	272.83-310.78	DP260ZY	305.50-342.93					DU260ZY	335.34-364.45
Chicago (a)	DR075ZY	249.80-274.00	DM075ZY	283.13-286.95	DP075ZY	329.95-387.00	DK075ZY	322.85-348.20			DU075ZY	299.55-318.45
Cleveland	DR212ZY	261.85-273.80	DM212ZY	295.18-323.28	DP212ZY	361.85-398.06	DK212ZY	364.65-364.65			DU212ZY	316.10-330.49
Columbus	DR213ZY	257.70-269.50	DM213ZY	291.03-322.90	DP213ZY	357.70-391.44	DK213ZY	363.75-363.75			DU213ZY	323.75-338.92
Duluth	DR138ZY	293.50-305.25	DM138ZY	313.18-326.18	DP138ZY	335.66-360.66					DU138ZY	343.00-351.32
Des Moines	DR059ZY	272.80-284.18	DM059ZY	289.35-325.36	DP059ZY	310.36-338.36					DU059ZY	340.80-348.99
Detroit	DR130ZY	264.21-277.12	DM130ZY	298.18-340.31	DP130ZY	364.85-397.00	DK130ZY	354.50-354.50			DU130ZY	297.12-312.84
Fargo	DR174ZY	290.31-296.93	DM174ZY	309.32-313.65	DP174ZY	326.00-338.60					DU174ZY	350.30-354.65
Green Bay	DR313ZY	277.50-277.50	DM313ZY	-	DP313ZY	371.50-371.50	DK313ZY	-			DU313ZY	327.00-327.00
Indianapolis	DR088ZY	243.10-255.00	DM088ZY	273.10-322.67	DP088ZY	335.35-377.07	DK088ZY	359.62-361.90			DU088ZY	305.85-322.37
Kansas City	DR099ZY	274.47-283.08	DM099ZY	292.29-305.25	DP099ZY	350.11-372.75					DU099ZY	341.56-348.25
Knoxville	DR261ZY	256.99-272.00	DM261ZY	279.98-295.40	DP261ZY	315.30-347.40	DK261ZY	-			DU261ZY	335.89-350.90
Milwaukee	DR316ZY	251.00-279.10	DM316ZY	284.33-309.94	DP316ZY	345.25-368.60	DK316ZY	362.90-362.90			DU316ZY	304.43-313.00
Minneapolis/St.Paul	DR141ZY	279.15-287.75	DM141ZY	295.82-305.28	DP141ZY	320.82-335.31	DK141ZY	406.75-406.75			DU141ZY	340.50-347.39
Oklahoma City	DR226ZY	272.72-282.40	DM226ZY	293.81-307.00	DP226ZY	308.87-329.25					DU226ZY	337.38-348.47
Omaha	DR185ZY	272.54-283.39	DM185ZY	292.58-313.00	DP185ZY	309.29-339.32					DU185ZY	341.33-350.09
Sioux Falls	DR256ZY	272.25-291.60	DM256ZY	294.93-323.44	DP256ZY	310.84-337.40					DU256ZY	342.15-349.00
St. Louis (a)	DR154ZY	260.50-260.50	DM154ZY	283.00-283.00	DP154ZY	324.00-324.00					DU154ZY	329.75-330.00
PADD 3												
Albuquerque	DR192ZY	307.06-316.00	DM192ZY	328.06-337.50	DP192ZY	350.06-362.25					DU192ZY	368.50-386.50
Amarillo	DR265ZY	303.81-306.75	DM265ZY	320.81-322.75	DP265ZY	348.81-351.75					DU265ZY	363.50-363.50
Baton Rouge	DR115ZY	255.35-268.70	DM115ZY	278.17-289.96	DP115ZY	309.00-335.72					DU115ZY	335.86-341.39
Birmingham	DR003ZY	253.36-268.26	DM003ZY	268.44-307.55	DP003ZY	307.51-336.15	DK003ZY	468.82-468.82			DU003ZY	336.29-345.45
Corpus Christi	DR275ZY	272.11-273.30	DM275ZY	290.11-291.30	DP275ZY	334.61-336.30					DU275ZY	333.70-334.51
Dallas/Ft.Worth (a)	DR276ZY	278.02-284.03	DM276ZY	302.25-313.52	DP276ZY	324.03-349.14					DU276ZY	337.30-345.02
Houston (a)	DR416ZY	266.30-275.45	DM416ZY	289.63-310.77	DP416ZY	323.76-342.84	DK416ZY	388.45-388.45			DU416ZY	335.69-337.67
Little Rock	DR009ZY	258.01-290.36	DM009ZY	272.10-328.95	DP009ZY	288.01-353.01					DU009ZY	339.33-358.72
New Orleans	DR119ZY	254.45-267.10	DM119ZY	285.85-292.10	DP119ZY	307.70-351.24					DU119ZY	333.65-339.10
San Antonio	DR289ZY	274.61-281.15	DM289ZY	299.61-312.64	DP289ZY	330.25-351.85					DU289ZY	334.85-338.09
PADD 4												
Billings (b)	DR162ZY	-			DP162ZY	369.62-375.97					DU162ZY	393.52-400.62
Casper (b)	DR321ZY	286.05-291.65			DP321ZY	321.40-327.79			DU321ZY*	380.65-383.23		
Denver	DR028ZY	298.25-308.00	DM028ZY	315.25-324.50	DP028ZY	346.72-357.50					DU028ZY	348.52-364.00
Salt Lake City	DR298ZY	313.49-318.00	DM298ZY	331.49-333.00	DP298ZY	346.50-353.00					DU298ZY	387.86-405.00
PADD 5												
Anacortes	DR305ZY	349.25-349.60	DM305ZY	376.60-380.25	DP305ZY	382.35-390.25					DU305ZY	428.50-436.55
Las Vegas (e)	DR196ZY	375.16-407.50	DM196ZY	395.82-429.50	DP196ZY	410.82-452.50					DU196ZY	398.00-427.62
Los Angeles (e)	DR022ZY	454.50-476.41	DM022ZY	480.85-501.35	DP022ZY	496.75-520.09					DU022ZY	459.00-464.00
Phoenix	DR012ZY	451.00-485.50	DM012ZY	482.00-508.85	DP012ZY	516.00-538.85					DU012ZY	410.19-450.44
Portland	DR233ZY	306.50-354.10	DM233ZY	324.50-378.10	DP233ZY	345.95-390.10					DU233ZY	378.00-397.95
SanFranEBay (e)	DR025ZY	404.11-416.50	DM025ZY	419.20-431.50	DP025ZY	434.20-443.95					DU025ZY	461.30-464.25
Seattle/Tacoma	DR308ZY	351.50-355.15	DM308ZY	378.96-379.50	DP308ZY	388.01-394.50					DU308ZY	436.90-438.55
Spokane	DR309ZY	376.96-376.96	DM309ZY	391.96-391.96	DP309ZY	416.96-416.96					DU309ZY	434.59-434.59

All prices are provided by DTN. Discounts or temporary allowances offered by individual companies are not included in posted prices. Prices are unbranded unless noted. Prices are conventional gasoline unless noted. All prices in cts/gal. (a)=RFG. (b)=Branded postings (e)=CARB gasoline/No.2 oil *=Low Sulfur Diesel

Commodity Insights Analytics Weekly Feeder Crudes: September 11 - September 15, 2023

US Gulf Coast (PGA page 0837)

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGGCY04 116.97	AGGFA04 2.56	AGGCN04 114.41	AAQZB04 91.35	AGGCM04 22.12
Arab Berri	BEGCY04 116.27	TDDAC04 1.32	BEGCN04 114.95	AAIGY00 98.69	BEGCM04 16.26
Arab Heavy	AHGCY04 103.26	TDDAJ04 1.39	AHGCN04 101.88	AAIGV00 96.79	AHGCN04 5.09
Arab Light	LIGCY04 112.02	TDDAR04 1.35	LIGCN04 110.67	AAIGP00 96.54	LIGCM04 14.14
Arab Medium	MEGCY04 106.48	TDDAZ04 1.35	MEGCN04 105.13	AAIGS00 97.24	MEGCM04 7.89
Bakken	BKGCY04 115.66	TDDRP04 7.78	BKGCN04 107.88	AAAPP04 87.08	BKGCN04 20.79
Basrah Medium	BLGCY04 104.01	TDDBS04 1.97	BLGCN04 102.04	BSMAM41 94.22	BLGCM04 12.41
Bonny Light	YLGCY04 118.96	TDDBX04 2.79	YLGCN04 116.17	PCAA000 94.60	YLGCM04 20.64
Brent	BRGCY04 114.87	TDDCB04 2.31	BRGCN04 112.56	AAVJA04 94.05	BRGCM04 17.57
Cabinda	CBGCY04 111.65	TDDCF04 3.00	CBGCN04 108.66	PCAFD10 94.74	CBGCM04 12.98
Eagle Ford	EAGCY04 115.96			AAEF004 90.43	EAGCM04 25.52
Escalante	ECGCY04 103.75	TDDCV04 3.23	ECGCN04 100.52	AAIIN00 89.29	ECGCM04 10.34
Forties	FTGCY04 114.37	FTGFA04 2.13	FTGCN04 112.25	PCADJ10 93.90	FTGCM04 17.41
Isthmus	ISGCY04 112.52	TDDDJ04 1.11	ISGCN04 111.41	PCADY00 87.52	ISGCM04 23.88
LLS	LLGCY04 119.12	TDDQW04 0.55	LLGCN04 118.57	AAIIQ00 91.43	LLGCM04 27.14
Marlim	MLGCY04 108.86	TDDGK04 2.58	MLGCN04 106.28	AAITF04 87.39	MLGCM04 17.99
Mars	MRGCY04 108.62	TDDQY04 0.55	MRGCN04 108.07	AAIIM00 89.29	MRGCM04 18.79
Maya	MYGCY04 93.64	TDDDP04 1.16	MYGCN04 92.48	PCADB10 84.77	MYGCM04 7.71
Mesa	MSGCY04 109.99	TDDDV04 1.66	MSGCN04 108.33	AAIZY00 89.39	MSGCM04 18.94
Olmecca	OLGCY04 115.77	TDDDY04 1.12	OLGCN04 114.66	AAIJS00 87.57	OLGCM04 27.09
Poseidon	PDGCY04 108.59	PDGFA04 0.00	PDGCN04 108.59	AABHK04 88.11	PDGCM04 20.48
Saharan Blend	SHGCY04 116.03	TDDRD04 1.71	SHGCN04 114.32	PCABU00 93.10	SHGCM04 20.28
Syncrude	SYGCY04 119.37	SYGFA04 8.52	SYGCN04 110.85	AASOK04 92.34	SYGCM04 18.51
Urals	URGCY04 110.96	TDDFM04 2.46	URGCN04 108.51	AAWVH04 79.77	URGCM04 27.80
WTI	WTGCY04 115.44			AAAYR04 90.80	WTGCM04 24.64
WTS	WSGCY04 111.83	TDDRJ04 6.89	WSGCN04 104.94	PCACK10 89.94	WSGCM04 15.01

US Atlantic Coast (PGA page 0813)

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGACY04 121.23	AGAF04 2.27	AGACN04 118.96	AAQZB04 91.35	AGACM04 26.68
Arab Light	LIACY04 115.20	TDDAU04 1.35	LIACN04 113.85	AAIGP00 96.54	LIACM04 17.31
Bakken	BKACY04 121.31	TDDRN04 7.20	BKACN04 114.11	AAAPP04 87.08	BKACM04 27.03
Bonny Light	YLACY04 122.71	TDDBZ04 2.47	YLACN04 120.24	PCAA000 94.60	YLACM04 24.71
Brent	BRACY04 119.16	TDDCC04 2.28	BRACN04 116.87	AAVJA04 94.05	BRACM04 22.79
Cabinda	CBACY04 115.35	TDDCH04 2.68	CBACN04 112.67	PCAFD10 94.74	CBACM04 16.99
CPC Blend	CPACY04 120.24	CPAFA04 2.48	CPACN04 117.75	AALVX04 88.93	CPACM04 28.79
Forties	FTACY04 120.00	FTAFA04 2.10	FTACN04 117.89	PCADJ10 93.90	FTACM04 23.95
Saharan Blend	SHACY04 121.07	SHAFA04 1.49	SHACN04 119.57	PCABU00 93.10	SHACM04 25.53
Urals	URACY04 114.45	URAF04 1.93	URACN04 112.52	AAWVH04 79.77	URACM04 31.81

US Gulf Coast (PGA page 0835)

	Coke Yield	Coke Freight	Coke Netback	Crude Price	Coke Margin
Arab Heavy	AHGOY04 112.07	TDDAJ04 1.39	AHGN04 110.69	AAIGV00 96.79	AHGM04 13.90
Arab Light	LIGOY04 115.04	TDDAR04 1.35	LIGN04 113.69	AAIGP00 96.54	LIGM04 17.15
Arab Medium	MEGOY04 111.00	TDDAZ04 1.35	MEGN04 109.65	AAIGS00 97.24	MEGM04 12.42
Basrah Heavy	BHGOY04 108.68	BHGFA04 2.05	BHGN04 106.63	AALZC04 91.25	BHGM04 21.05
Basrah Medium	BLGOY04 110.94	TDDBS04 1.97	BLGN04 108.97	BSMAM41 94.22	BLGM04 19.34
Cabinda	CBGOY04 113.81	TDDCF04 3.00	CBGN04 110.82	PCAFD10 94.74	CBGM04 15.14
Castilla Blend	CSGOY04 106.27	CSGFA04 1.74	CSGN04 104.53	AAVEQ04 84.54	CSGM04 20.00
LLS	LLGOY04 119.59	TDDQW04 0.55	LLGN04 119.04	AAIIQ00 91.43	LLGM04 27.62
Marlim	MLGOY04 114.10	TDDGK04 2.58	MLGN04 111.52	AAITF04 87.39	MLGM04 23.23
Mars	MRGOY04 113.22	TDDQY04 0.55	MRGN04 112.67	AAIIM00 89.29	MRGM04 23.39
Maya	MYGOY04 108.22	TDDDP04 1.16	MYGN04 107.06	PCADB10 84.77	MYGM04 22.29
Napo	NPGOY04 104.38	NPGFA04 3.32	NPGN04 101.06	AAMCA04 82.57	NPGM04 17.62
Oriente	ORGOY04 111.61	ORGFA04 3.15	ORGN04 108.47	PCADE10 84.72	ORMG04 22.93
Urals	URGOY04 114.41	TDDFM04 2.46	URGN04 111.95	AAWVH04 79.77	URGM04 31.25
Vasconia	VCGOY04 116.53	VCGFA04 1.70	VCGN04 114.83	PCAGI04 88.04	VCGM04 26.80
WCS ex-Hardisty	WHGOY04 109.23	TDDRS04 8.50	WHGN04 100.73	AAPPN04 69.58	WHGM04 31.15
WCS ex-Nederland	WNGOY04 109.23	WCGFA04 0.00	WNGN04 109.23	AAAY04 80.54	WNGM04 28.69
WTS	WSGOY04 116.44	TDDRJ04 6.89	WSGN04 109.55	PCACK10 89.94	WSGM04 19.62

Commodity Insights Analytics Weekly Feeder Crudes (continued)

US West Coast (PGA page 0847)

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
ANS	ANWCY04 144.30			PCAAA10 94.74	ANWCM04 49.56
Bakken	BKWCY04 155.15	TDDRT04 11.74	BKWCN04 143.41	AAAXPP04 87.08	BKWCN04 56.33

US Midwest (PGA page 0827)

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Bakken	BKTCY04 108.58	TDDRO04 1.68	BKTCN04 106.90	AASRU04 89.75	BKTCM04 17.15
Syncrude	SYTCY04 110.92	TDDFP04 8.20	SYTCN04 102.72	AASOK04 92.34	SYTCM04 10.38
WTI	WTTYC04 108.61	TDDRG04 2.39	WTTCN04 106.22	PCACG10 89.12	WTTCM04 17.10
WTS	WSTCY04 106.42	TDDRI04 3.08	WSTCN04 103.34	PCACK10 89.94	WSTCM04 13.40

Northwest Europe (PGA page 1812)

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGNCY04 118.40	AGNFA04 2.19	AGNCN04 116.21	AAQZB04 91.35	AGNCM04 24.86
Arab Berri	BENCY04 118.38	BENFA04 1.32	BENCN04 117.06	AAIGZ00 99.84	BENCM04 17.22
Arab Heavy	AHNCY04 107.59	TDDAN04 1.39	AHNCN04 106.20	AAIGW00 94.34	AHNCM04 11.86
Arab Light	LINCY04 115.15	TDDAV04 1.35	LINCN04 113.80	AAIGQ00 98.24	LINCN04 15.56
Arab Medium	MENCY04 110.04	TDDBD04 1.36	MENCN04 108.68	AAIGT00 97.04	MENCN04 11.63
Azeri Light	ZLNCY04 119.72	TDDBI04 2.01	ZLNCN04 117.70	AATHM04 97.39	ZLNCN04 19.54
Basrah Medium	BLNCY04 109.31	TDDBU04 2.69	BLNCN04 106.62	BSMAM41 94.22	BLNCN04 13.93
Bonny Light	YLNCY04 121.13	YLNFA04 2.39	YLNCCN04 118.74	PCAAO00 94.60	YLNCCN04 24.14
Brent	BRNCY04 116.52	TDDCD04 1.99	BRNCN04 114.53	AAVJA04 94.05	BRNCN04 20.48
Cabinda	CBNCY04 112.67	TDDQR04 2.60	CBNCN04 110.07	PCAFD10 94.74	CBNCN04 15.33
CPC Blend	CPNCY04 117.22	CPNFA04 2.39	CPNCN04 114.83	AALVX04 88.93	CPNCN04 25.90
Dubai	DBNCY04 113.93	DBNFA04 2.53	DBNCN04 111.40	PCAA110 93.45	DBNCN04 16.84
Eagle Ford	EANCY04 117.49	EANFA04 3.46	EANCCN04 114.02	AAEFO04 90.43	EANCCN04 23.63
Ekofisk	EKNCY04 118.12	TDDCT04 1.31	EKNCN04 116.81	PCADH00 95.73	EKNCN04 21.08
Forties	FTNCY04 116.88	TDDZ04 1.51	FTNCN04 115.36	PCADJ10 93.90	FTNCN04 21.46
Iran Heavy	BHNCY04 112.92	TDDDG04 2.65	BHNCN04 110.27	AIHKA04 92.03	BHNCN04 17.34
Johan Sverdrup	JSNCY04 114.69	JSNFA04 1.60	JSNCN04 113.09	AJSVA04 94.17	JSNCN04 18.92
Kirkuk	KRNCY04 114.04	TDDGH04 2.37	KRNCN04 111.67	AAIIX00 90.95	KRNCN04 16.97
LLS	LLNCY04 122.35	LLNFA04 3.62	LLNCN04 118.73	AAQBB04 91.50	LLNCN04 27.34
Maya	MYNCY04 101.36	MYNFA04 3.72	MYNCN04 97.65	AAXYE04 84.29	MYNCN04 13.35
Oman	OMNCY04 112.75	OMNFA04 2.49	OMNCN04 110.26	PCABS10 93.46	OMNCN04 15.71
Saharan Blend	SHNCY04 118.50	TDDGI04 1.56	SHNCN04 116.94	PCABU00 93.10	SHNCN04 23.84
Urals*	URNCY04 115.86		URNCN04 115.86	PCAFW04 82.23	URNCN04 33.63
WTI MEH	WTNCY04 117.49	WTNFA04 3.52	WTNCN04 113.97	AAAYR04 90.77	WTNCN04 23.21

*Indicates the crude price is a CIF value

US West Coast (PGA page 0845)

	Coke Yield	Freight	Coke Netback	Crude Price	Coke Margin
ANS	ANWCY04 150.17			PCAAA10 94.74	ANWOM04 55.43
Arab Light	LIWCY04 152.92	TDDAT04 1.35	LIWON04 151.57	AAIGP00 96.54	LIWOM04 55.03
Arab Medium	MEWCY04 146.70	TDDBB04 1.35	MEWON04 145.35	AAIGS00 97.24	MEWOM04 48.11
Basrah Heavy	BHWY04 145.77	BHWFA04 2.52	BHWON04 143.25	AALZC04 91.25	BHWOM04 58.56
Basrah Medium	BLWCY04 147.70	TDDBW04 2.42	BLWON04 145.28	BSMAM41 94.22	BLWOM04 56.54
Castilla Blend	CSWCY04 147.29	CSWFA04 4.61	CSWON04 142.69	AAVEQ04 84.54	CSWOM04 57.28
Maya	MYWCY04 144.51	MYWFA04 2.69	MYWON04 141.82	AAUPK04 84.57	MYWOM04 57.25
Napo	NPWCY04 142.85	NPWFA04 4.04	NPWON04 138.81	AAMCA04 82.57	NPWOM04 55.38
Oriente	ORWCY04 148.48	TDDEC04 3.82	ORWON04 144.66	PCADE10 84.72	ORWOM04 59.13
Vasconia	VCWCY04 159.16	VCWFA04 4.45	VCWON04 154.71	PCAGI04 88.04	VCWOM04 65.84

US Midwest (PGA page 0825)

	Coke Yield	Freight	Coke Netback	Crude Price	Coke Margin
WCS	WCTCY04 102.75	TDDRL04 8.56	WCTON04 94.19	AAPPN04 69.58	WCTOM04 24.61
WTS	WSTCY04 109.19	TDDRI04 3.08	WSTON04 106.11	PCACK10 89.94	WSTOM04 16.18

Mediterranean (PGA page 1822)

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGMCCY04 116.92	AGMFA04 2.10	AGMCN04 114.83	AAQZB04 91.35	AGMCM04 23.47
Arab Heavy	AHMCY04 106.62	TDDAI04 1.39	AHMCN04 105.23	AAIGW00 94.34	AHMCN04 12.24
Arab Light	LIMCY04 113.61	TDDAQ04 1.35	LIMCN04 112.26	AAIGQ00 98.24	LIMCN04 15.26
Arab Medium	MEMCY04 108.79	TDDAY04 1.37	MEMCN04 107.43	AAIGT00 97.04	MEMCN04 11.44
Azeri Light*	ZLMCY04 118.06		ZLMCN04 118.06	AAETX00 99.03	ZLMCN04 19.03
Basrah Medium	BLMCY04 107.83	TDDBR04 2.03	BLMCN04 105.81	BSMAM41 94.22	BLMCN04 13.12
Bonny Light	YLMCY04 119.31	YLMFA04 2.29	YLMCN04 117.02	PCAAO00 94.60	YLMCN04 22.42
Cabinda	CBMCCY04 111.46	CBMFA04 2.50	CBMCN04 108.96	PCAFD10 94.74	CBMCN04 14.22
CPC Blend*	CPMCCY04 115.62		CPMCN04 115.62	AAGZU04 91.73	CPMCN04 23.89
Eagle Ford	EAMCCY04 116.16	TNEIF04 3.70	EAMCN04 112.46	AAEF004 90.43	EAMCN04 22.07
Forties	FTMCCY04 115.37	FTMFA04 1.94	FTMCN04 113.43	PCADJ10 93.90	FTMCN04 19.53
Iran Heavy	BHMCY04 111.69	TDDDF04 1.98	BHMCN04 109.71	AIHKA04 92.03	BHMCN04 16.79
Johan Sverdrup	JSMCY04 113.53	JSMFA04 2.05	JSMCN04 111.48	AJSVA04 94.17	JSMCN04 17.31
Kirkuk	KRMCCY04 112.53	TDDFF04 1.40	KRMCN04 111.13	AAIIX00 90.95	KRMCN04 16.43
LLS	LLMCCY04 120.54	LLMFA04 3.87	LLMCN04 116.67	AAQBB04 91.50	LLMCN04 25.28
Oman	OMMCCY04 111.70	OMMFA04 1.82	OMMCN04 109.88	PCABS10 93.46	OMMCN04 15.32
Saharan Blend	SHMCCY04 116.79	TDDFG04 1.21	SHMCN04 115.58	PCABU00 93.10	SHMCN04 22.48
Urals*	URMCCY04 112.89		URMCN04 112.89	AAIJU00 83.20	URMCN04 29.69

Commodity Insights Analytics Weekly Feeder Crudes (continued)

Singapore (PGA page 2812)

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGSCY04 108.05	AGSFA04 2.04	AGSCN04 106.01	AAQZB04 91.35	AGSCM04 14.87
Arab Berri	BESCY04 106.73	BESFA04 1.22	BESCN04 105.51	AAIHA00 96.01	BESCM04 9.50
Arab Heavy	AHSCY04 96.78	TDDA004 1.26	AHSCN04 95.52	AAIGX00 95.06	AHSCM04 0.46
Arab Light	LISCY04 104.52	TDDAW04 1.24	LISCN04 103.28	AAIGR00 96.96	LISCM04 6.33
Arab Medium	MESCY04 99.16	TDDBE04 1.25	MESCN04 97.91	AAIGU00 96.81	MESCM04 1.10
Basrah Medium	BHSCY04 99.15	BHSFA04 1.31	BHSCN04 97.84	BSMAM41 94.22	BHSCM04 2.99
Bonny Light	YLSCY04 110.74	YLSFA04 2.19	YLSCN04 108.55	PCAA000 94.60	YLSM04 14.16
Cabinda	CBSCY04 106.48	TDDQS04 2.12	CBSCN04 104.37	PCAFD10 94.74	CBSCM04 9.84
Castilla	CSSCY04 88.94	CSSFA04 3.73	CSSCN04 85.21	AAVEQ04 84.54	CSSCM04 0.92
Dalia	DLSCY04 108.95	DLSFA04 2.19	DLSCN04 106.77	AAQYX04 93.02	DLSCM04 13.96
Dubai	DBSCY04 104.20	TDDC004 1.18	DBSCN04 103.02	PCAA110 93.45	DBSCM04 9.57
Duri	DRSCY04 104.17	TDDCR04 1.56	DRSCN04 102.61	PCABA10 97.30	DRSCM04 5.32
Eagle Ford	EASCY04 107.15	EASFA04 3.25	EASCN04 103.90	AAEF004 90.43	EASCM04 13.71
ESPO	ESSCY04 106.74	ESSFA04 1.42	ESSCN04 105.32	AARWF04 86.78	ESSCM04 18.55

*Indicates the crude price is a CIF value

Singapore (PGA page 2812)

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Forties	FTSCY04 105.41	TNEFD04 2.89	FTSCN04 102.52	PCADJ10 93.90	FTSCM04 8.83
Kimanis	KISCY04 118.78	KISFA04 1.41	KISCN04 117.37	AASCL04 102.32	KISCM04 15.05
LLS	LLSCY04 110.47	LLSFA04 3.38	LLSCN04 107.09	AAZDC04 91.14	LLSCM04 15.91
Mars	MRSCY04 102.26	MRSFA04 3.50	MRSCN04 98.76	AAIIM00 89.29	MRSCM04 9.73
Maya	MYSCY04 94.44	MYSFA04 3.67	MYSCN04 90.77	AAYXG04 87.06	MYSCM04 3.71
Minas	MNSCY04 108.00	TDDDX04 1.42	MNSCN04 106.58	PCAB010 88.11	MNSCM04 18.46
Oman	OMSCY04 100.48	TDDEB04 1.13	OMSCN04 99.35	PCABS10 93.46	OMSCM04 5.89
Qua lboe	QBSCY04 111.39	QBSFA04 2.20	QBSCN04 109.19	PCAI004 95.87	QBSCM04 13.53
Saharan Blend	SHSCY04 104.75	SHSFA04 2.03	SHSCN04 102.71	PCABU00 93.10	SHSCM04 9.00
Tapis	TPSCY04 108.71	TDDEO04 1.39	TPSCN04 107.32	AAIIW00 97.37	TPSCM04 9.95
Tupi*	LUSCY04 106.81			LUQDA04 94.41	LUSCM04 13.18
Urals	URSCY04 104.42	URSFA04 2.10	URSCN04 102.32	AAGZS04 80.03	URSCM04 22.50
WTI MEH	WTSCY04 106.77	WTSFA04 3.30	WTSCN04 103.47	AAZDF04 90.44	WTSCM04 12.93

Commodity Insights Analytics Monthly Average Yields & Netbacks, August 2023

US Gulf Coast

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGGCY03 109.34	AGGFA03 2.37	AGGCN03 106.92	AAQZB03 84.23	AGGCM03 21.74
Arab Berri	BEGCY03 108.90	TDDAC03 1.32	BEGCN03 107.59	AAISO00 91.52	BEGCM03 16.07
Arab Heavy	AHGCY03 98.22	TDDAJ03 1.39	AHGCN03 96.83	AAISL00 89.62	AHGCN03 7.21
Arab Light	LIGCY03 105.28	TDDAR03 1.35	LIGCN03 103.93	AAISF00 89.37	LIGCM03 14.56
Arab Medium	MEGCY03 100.52	TDDAZ03 1.35	MEGCN03 99.17	AAISI00 90.07	MEGCM03 9.10
Bakken	BKGCY03 108.84	TDDRP03 7.78	BKGCN03 101.06	AAXPP03 80.57	BKGCN03 20.49
Basrah Medium	BLGCV03 98.32	TDDBS03 2.25	BLGCN03 95.85	BSMAM31 86.92	BLGCM03 13.77
Bonny Light	YLGCV03 111.82	TDDBX03 2.58	YLGCN03 109.20	PCAI03 86.73	YLGCM03 21.52
Brent	BRGCY03 108.08	TDDCB03 2.47	BRGCN03 105.60	AAVJA03 86.34	BRGCM03 18.30
Cabinda	CBGCY03 105.60	TDDCF03 2.78	CBGCN03 102.77	PCAFD03 87.66	CBGCM03 14.17
Eagle Ford	EAGCY03 109.48			AAAYT03 82.65	EAGCM03 26.84
Escalante	ECGCY03 99.54	TDDCV03 3.79	ECGCN03 95.74	PCAGC03 82.54	ECGCM03 12.30
Forties	FTGCY03 107.59	FTGFA03 2.26	FTGCN03 105.30	PCADJ03 86.26	FTGCM03 18.10
Isthmus	ISGCY03 105.92	TDDDJ03 1.25	ISGCN03 104.67	PDAT039 79.61	ISGCM03 25.07
LLS	LLGCY03 111.63	TDDQW03 0.55	LLGCN03 111.08	PCABN03 84.01	LLGCM03 27.06
Marlim	MLGCY03 102.79	TDDGK03 3.02	MLGCN03 99.77	AAITG00 80.81	MLGCM03 18.06
Mars	MRGCY03 102.35	TDDQY03 0.55	MRGCN03 101.80	AAMBS00 82.12	MRGCM03 19.68
Maya	MYGCY03 88.64	TDDDP03 1.31	MYGCN03 87.33	PDATS39 77.01	MYGCM03 10.32
Mesa	MSGCY03 103.39	TDDDV03 1.92	MSGCN03 101.47	AAITC00 82.03	MSGCM03 19.44
Olmecca	OLGCY03 108.54	TDDDY03 1.26	OLGCN03 107.28	PDATT39 79.66	OLGCM03 27.62
Poseidon	PDGCY03 102.88	PDGFA03 0.00	PDGCN03 102.88	AAABL00 81.57	PDGCM03 21.31
Saharan Blend	SHGCY03 109.25	TDDRD03 1.81	SHGCN03 107.41	AAJIB00 85.38	SHGCM03 21.08
Syncrude	SYGCY03 111.51	SYGFA03 8.52	SYGCN03 103.06	AASOK03 83.24	SYGCM03 19.82
Urals	URGCY03 104.43	TDDFM03 2.63	URGCN03 101.79	AAWVH03 71.57	URGCM03 29.27
WTI	WTGCY03 108.64			AAAYR03 83.03	WTGCM03 25.61
WTS	WSGCY03 105.53	TDDRJ03 6.89	WSGCN03 98.64	PCACK03 82.25	WSGCM03 16.40

US Atlantic Coast

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGACY03 112.83	AGAF03 2.10	AGACN03 110.68	AAQZB03 84.23	AGACM03 25.50
Arab Light	LIACY03 107.39	TDDAU03 1.35	LIACN03 106.04	AAISF00 89.37	LIACM03 16.67
Bakken	BKACY03 113.52	TDDRN03 7.20	BKACN03 106.32	AAXPP03 80.57	BKACM03 25.75
Bonny Light	YLACY03 114.13	TDDBZ03 2.29	YLACN03 111.78	PCAI03 86.73	YLACM03 24.10
Brent	BRACY03 110.87	TDDCC03 2.32	BRACN03 108.51	AAVJA03 86.34	BRACM03 22.11
Cabinda	CBACY03 108.66	TDDCH03 2.49	CBACN03 106.12	PCAFD03 87.66	CBACM03 17.51
CPC Blend	CPACY03 112.86	CPAFA03 2.74	CPACN03 110.07	AALVY00 81.34	CPACM03 28.68
Forties	FTACY03 112.67	FTAFA03 2.14	FTACN03 110.49	PCADJ03 86.26	FTACM03 24.19
Saharan Blend	SHACY03 113.42	SHAFA03 1.56	SHACN03 111.82	AAJIB00 85.38	SHACM03 25.49
Urals	URACY03 106.58	URAF03 2.06	URACN03 104.49	AAWVH03 71.57	URACM03 31.97

US Gulf Coast

	Coke Yield	Coke Freight	Coke Netback	Crude Price	Coke Margin
Arab Heavy	AHGOY03 104.32	TDDAJ03 1.39	AHGON03 102.94	AAISL00 89.62	AHGOM03 13.32
Arab Light	LIGOY03 107.69	TDDAR03 1.35	LIGON03 106.34	AAISF00 89.37	LIGOM03 16.97
Arab Medium	MEGOY03 103.66	TDDAZ03 1.35	MEGON03 102.31	AAISI00 90.07	MEGOM03 12.24
Basrah Heavy	BHGOY03 100.52	BHGFA03 2.35	BHGON03 97.96	AALZC03 83.85	BHGOM03 19.78
Basrah Medium	BLGOY03 103.43	TDDBS03 2.25	BLGON03 100.97	BSMAM31 86.92	BLGOM03 18.89
Cabinda	CBGOY03 106.52	TDDCF03 2.78	CBGON03 103.71	PCAFD03 87.66	CBGOM03 15.11
Castilla Blend	CSGOY03 99.37	CSGFA03 2.02	CSGON03 97.35	AAVEQ03 77.96	CSGOM03 19.39
LLS	LLGOY03 111.86	TDDQW03 0.55	LLGON03 111.31	PCABN03 84.01	LLGOM03 27.30
Marlim	MLGOY03 105.33	TDDGK03 3.02	MLGON03 102.32	AAITG00 80.81	MLGOM03 20.61
Mars	MRGOY03 105.97	TDDQY03 0.55	MRGON03 105.42	AAMBS00 82.12	MRGOM03 23.30
Maya	MYGOY03 100.67	TDDDP03 1.31	MYGON03 99.36	PDATS39 77.01	MYGOM03 22.35
Napo	NPGOY03 97.56	NPGFA03 3.73	NPGON03 93.83	AAMCC00 74.05	NPGOM03 18.93
Oriente	ORGOY03 104.21	ORGFA03 3.52	ORGON03 100.69	PCADE03 76.20	ORGOM03 23.68
Urals	URGOY03 107.05	TDDFM03 2.63	URGON03 104.39	AAWVH03 71.57	URGOM03 31.88
Vasconia	VCGOY03 108.18	VCGFA03 1.97	VCGON03 106.21	PCAGI03 80.92	VCGOM03 25.28
WCS ex-Hardisty	WHGOY03 101.94	TDDRS03 8.50	WHGON03 93.49	AAPPN03 63.87	WHGOM03 29.63
WCS ex-Nederland	WNGOY03 101.94	WCGFA03 0.00	WNGON03 101.99	AAAYY03 74.03	WNGOM03 27.96
WTS	WSGOY03 109.04	TDDRJ03 6.89	WSGON03 102.15	PCACK03 82.25	WSGOM03 19.91

Commodity Insights Analytics Monthly Average Yields & Netbacks (continued)

US Midwest

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Bakken	BKTCY03 105.29	TDDR003 1.68	BKTCN03 103.61	AASRU13 81.98	BKTCM03 21.63
Syncrude	SYTCY03 108.53	TDDFP03 8.20	SYTCN03 100.28	AASOK03 83.24	SYTCM03 17.04
WTI	WTTCY03 105.04	TDDRG03 2.39	WTTCN03 102.64	PCACG03 81.47	WTTCM03 21.18
WTS	WSTCY03 102.73	TDDRI03 3.08	WSTCN03 99.65	PCACK03 82.25	WSTCM03 17.41

US West Coast

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
ANS	ANWCY03 123.79			PCAAD03 87.17	ANWCM03 36.62
Bakken	BKWCY03 131.29	TDDRT03 11.74	BKWCN03 119.55	AAXPP03 80.57	BKWCN03 38.98

Northwest Europe

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGNCY03 110.39	AGNFA03 2.06	AGNCN03 108.33	AAQZB03 84.23	AGNCM03 24.10
Arab Berri	BENYCY03 109.49	BENFA03 1.32	BENCN03 108.17	AAISP00 89.50	BENCM03 18.64
Arab Heavy	AHNCY03 99.63	TDDAN03 1.39	AHNCN03 98.25	AAISM00 86.00	AHNCM03 12.21
Arab Light	LINCY03 106.46	TDDAV03 1.35	LINCN03 105.11	AAISG00 88.90	LINCM03 16.17
Arab Medium	MENYCY03 102.09	TDDBD03 1.36	MENCN03 100.73	AAISJ00 88.40	MENCM03 12.29
Azeri Light	ZLNCY03 110.89	TDDBI03 1.98	ZLNCN03 108.90	AATHM03 87.58	ZLNCM03 20.42
Basrah Medium	BLNCY03 101.08	TDDBU03 2.82	BLNCN03 98.06	BSMAM31 86.92	BLNCM03 14.21
Bonny Light	YLNCY03 111.96	YLNFA03 2.25	YLNCN03 109.71	PCAI03 86.73	YLNCM03 22.98
Brent	BRNCY03 108.41	TDDCD03 2.06	BRNCN03 106.35	AAVJA03 86.34	BRNCM03 20.01
Cabinda	CBNCY03 105.09	TDDQR03 2.45	CBNCN03 102.64	PCAFD03 87.66	CBNCM03 14.98
CPC Blend	CPNCY03 109.40	CPNFA03 2.63	CPNCN03 106.77	AALVY00 81.34	CPNCM03 25.42
Dubai	DBNCY03 105.83	DBNFA03 2.66	DBNCN03 103.01	PCAA03 86.47	DBNCM03 15.72
Eagle Ford	EANCY03 109.47	EANFA03 4.00	EANCN03 105.47	AAAYT03 82.65	EANCM03 22.85
Ekofisk	EKNYCY03 109.49	TDDCT03 1.34	EKNCN03 108.16	PCADI03 87.71	EKNCM03 20.45
Forties	FTNCY03 108.67	TDDZE03 1.55	FTNCN03 107.12	PCADJ03 86.26	FTNCM03 20.86
Iran Heavy	BHNCY03 104.84	TDDDG03 2.79	BHNCN03 101.90	AIHKA03 84.76	BHNCM03 16.32
Johan Sverdrup	JSNCY03 106.77	JSNFA03 1.64	JSNCN03 105.13	AJSVA03 86.21	JSNCM03 18.92
Kirkuk	KRNCY03 105.53	TDDGH03 2.60	KRNCN03 102.93	AAEJG00 83.97	KRNCM03 16.26
LLS	LLNCY03 113.26	LLNFA03 4.20	LLNCN03 109.07	AAQBB13 84.02	LLNCM03 25.03
Maya	MYNCY03 93.99	MYNFA03 4.31	MYNCN03 89.69	AAAYE03 75.40	MYNCM03 14.25
Oman	OMNCY03 104.79	OMNFA03 2.61	OMNCN03 102.04	PCABS03 86.59	OMNCM03 14.65
Saharan Blend	SHNCY03 111.01	TDDGI03 1.68	SHNCN03 109.32	AAJIB00 85.38	SHNCM03 23.94
Urals*	URNCY03 107.47			PCAFW03 74.04	URNCM03 33.43
WTI MEH	WTNCY03 109.54	WTNFA03 4.07	WTNCN03 105.48	AAAYZ03 83.05	WTNCM03 22.44

*Indicates the crude price is a CIF value

US Midwest

	Coke Yield	Freight	Coke Netback	Crude Price	Coke Margin
WCS	WCTOY03 99.47	TDDR03 8.56	WCTON03 90.88	AAPPN03 63.87	WCTOM03 27.02
WTS	WSTOY03 105.72	TDDRI03 3.08	WSTON03 102.64	PCACK03 82.25	WSTOM03 20.39

US West Coast

	Coke Yield	Freight	Coke Netback	Crude Price	Coke Margin
ANS	ANWOY03 126.91			PCAAD03 87.17	ANWOM03 39.74
Arab Light	LIWOY03 129.31	TDDAT03 1.35	LIWON03 127.96	AAISF00 89.37	LIWOM03 38.59
Arab Medium	MEWOY03 124.41	TDDBB03 1.35	MEWON03 123.06	AAISI00 90.07	MEWOM03 32.99
Basrah Heavy	BHWOY03 123.73	BHWFA03 2.84	BHWON03 120.89	AALZC03 83.85	BHWOM03 43.60
Basrah Medium	BLWOY03 125.09	TDDBW03 2.72	BLWON03 122.37	BSMAM31 86.92	BLWOM03 41.19
Castilla Blend	CSWOY03 125.78	CSWFA03 5.11	CSWON03 120.68	AAVEQ03 77.96	CSWOM03 41.85
Maya	MYWOY03 122.85	MYWFA03 2.95	MYWON03 119.90	AAJUP03 76.71	MYWOM03 43.19
Napo	NPWOY03 121.90	NPWFA03 4.46	NPWON03 117.44	AAACC00 74.05	NPWOM03 42.53
Oriente	ORWOY03 126.10	TDDEC03 4.21	ORWON03 121.89	PCADE03 76.20	ORWOM03 44.89
Vasconia	VCWOY03 136.15	VCWFA03 4.93	VCWON03 131.22	PCAGI03 80.92	VCWOM03 49.47

Mediterranean

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGMZY03 108.91	AGMFA03 1.98	AGMCN03 106.93	AAQZB03 84.23	AGMCM03 22.70
Arab Heavy	AHMYC03 98.22	TDDAI03 1.39	AHMCN03 96.84	AAISM00 86.00	AHMCN03 11.30
Arab Light	LIMYC03 105.00	TDDAQ03 1.35	LIMCN03 103.65	AAISG00 88.90	LIMCM03 15.02
Arab Medium	MEMYC03 100.45	TDDAY03 1.37	MEMCN03 99.09	AAISJ00 88.40	MEMCM03 10.75
Azeri Light*	ZLMZY03 109.53			AAJIA00 89.46	ZLMCM03 20.07
Basrah Medium	BLMYC03 98.91	TDDBR03 2.10	BLMCN03 96.67	BSMAM31 86.92	BLMCM03 12.82
Bonny Light	YLMZY03 110.49	YLMFA03 2.16	YLMCN03 108.33	PCAI03 86.73	YLMCM03 21.60
Cabinda	CBMYC03 104.01	CBMFA03 2.36	CBMCN03 101.65	PCAFD03 87.66	CBMCM03 14.00
CPC Blend*	CPMZY03 107.66			AAJHY00 83.96	CPMCM03 23.70
Eagle Ford	EAMZY03 108.22	TNEIF03 4.25	EAMCN03 103.98	AAAYT03 82.65	EAMCM03 21.36
Forties	FTMYC03 107.17	FTMFA03 2.26	FTMCN03 104.91	PCADJ03 86.26	FTMCM03 18.66
Iran Heavy	BHMYC03 103.50	TDDDF03 2.06	BHMCN03 101.30	AIHKA03 84.76	BHMCN03 15.72
Johan Sverdrup	JSMYC03 105.83	JSMFA03 2.41	JSMCN03 103.42	AJSVA03 86.21	JSMCM03 17.22
Kirkuk	KRMZY03 103.97	TDDFF03 1.52	KRMCN03 102.45	AAEJG00 83.97	KRMCN03 15.78
LLS	LLMZY03 111.72	LLMFA03 4.45	LLMCN03 107.28	AAQBB13 84.02	LLMCM03 23.24
Oman	OMMZY03 103.88	OMMFA03 1.89	OMMCN03 101.84	PCABS03 86.59	OMMCM03 14.45
Saharan Blend	SHMZY03 108.91	TDDFG03 1.31	SHMCN03 107.61	AAJIB00 85.38	SHMCM03 22.22
Urals*	URMZY03 104.97			PCACE03 74.52	URMCM03 30.45

Commodity Insights Analytics Monthly Average Yields & Netbacks (continued)

Singapore

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Agbami	AGSCY03 101.03	AGSFA03 2.36	AGSCN03 98.67	AAQZB03 84.23	AGSCM03 14.45
Arab Berri	BESCY03 100.11	BESFA03 1.38	BESCN03 98.73	AAISQ00 89.08	BESCM03 9.65
Arab Heavy	AHSCY03 92.21	TDDA003 1.43	AHSCN03 90.79	AAISN00 87.53	AHSCM03 3.26
Arab Light	LIACY03 98.38	TDDAW03 1.41	LISCN03 96.97	AAISH00 89.73	LISCM03 7.25
Arab Medium	MESCY03 93.68	TDDBE03 1.42	MESCN03 92.26	AAISK00 89.18	MESCM03 3.08
Basrah Medium	BHSCY03 94.03	BHSFA03 1.48	BHSCN03 92.55	BSMAM31 86.92	BHSCM03 5.62
Bonny Light	YLSCY03 103.71	YLSFA03 2.54	YLSCN03 101.17	PCAI03 86.73	YLSCM03 14.45
Cabinda	CBSCY03 100.10	TDDQS03 2.45	CBSCN03 97.65	PCAFD03 87.66	CBSCM03 10.01
Castilla	CSSCY03 86.31	CSSFA03 4.33	CSSCN03 81.99	AAVEQ03 77.96	CSSCM03 4.02
Dalia	DLSCY03 102.69	DLSFA03 2.54	DLSCN03 100.16	AAQYX03 85.88	DLSCM03 14.31
Dubai	DBSCY03 98.31	TDDCQ03 1.33	DBSCN03 96.98	PCAA03 86.47	DBSCM03 10.51
Duri	DRSCY03 98.24	TDDCR03 1.29	DRSCN03 96.95	AAFZE00 88.96	DRSCM03 8.06
Eagle Ford	EASCY03 100.34	EASFA03 3.75	EASCN03 96.59	AAVAT03 82.65	EASCM03 14.00
ESPO	ESSCY03 100.41	ESSFA03 1.16	ESSCN03 99.24	AARWF03 78.64	ESSCM03 20.64

*Indicates the crude price is a CIF value

Singapore

	Crack Yield	Freight	Crack Netback	Crude Price	Crack Margin
Forties	FTSCY03 98.85	TNEFD03 3.34	FTSCN03 95.51	PCADJ03 86.26	FTSCM03 9.28
Kimanis	KISCY03 111.13	KISFA03 1.18	KISCN03 109.95	AAASCL03 94.76	KISCM03 15.24
LLS	LLSCY03 103.44	LLSFA03 3.91	LLSCN03 99.54	AAZDC03 83.85	LLSCM03 15.53
Mars	MRSCY03 96.65	MRSFA03 4.05	MRSCN03 92.61	AAMBS00 82.12	MRSCM03 10.49
Maya	MYSCY03 90.57	MYSFA03 4.25	MYSCN03 86.33	AAAYG03 79.53	MYSCM03 6.80
Minas	MNSCY03 101.35	TDDDX03 1.18	MNSCN03 100.17	AAFZ00 81.52	MNSCM03 18.68
Oman	OMSCY03 95.07	TDDEB03 1.27	OMSCN03 93.80	PCABS03 86.59	OMSCM03 7.21
Qua lboe	QBSCY03 104.36	QBSFA03 2.55	QBSCN03 101.82	PCAI03 88.03	QBSCM03 13.80
Saharan Blend	SHSCY03 97.93	SHSFA03 2.16	SHSCN03 95.78	AAJIB00 85.38	SHSCM03 9.61
Tapis	TPSCY03 101.71	TDDE03 1.16	TPSCN03 100.55	AAFZK00 90.19	TPSCM03 10.39
Tupi*	LUSCY03 100.37			LUQDA03 88.55	LUSCM03 12.27
Urals	URSCY03 98.36	URSFA03 2.24	URSCN03 96.12	AAJHV00 71.61	URSCM03 24.59
WTI MEH	WTSCY03 100.06	WTSFA03 3.81	WTSCN03 96.25	AAZDF03 82.86	WTSCM03 13.24

Weekly asphalt cement assessments, Sep 15 (PGA page 580)

Market		\$/ton	Mid	Change
Arkansas	PPARP00	590.00-600.00	595.000	+15.000
Colorado	PPARU00	565.00-575.00	570.000	+15.000
Montana	PPASM00	565.00-575.00	570.000	+15.000
California	PPARW00	620.00-630.00	625.000	+15.000
Illinois	PPARX00	580.00-590.00	585.000	+15.000
Georgia	PPARQ00	655.00-665.00	660.000	+15.000
Minneapolis/St. Paul	PPARR00	570.00-580.00	575.000	+15.000
Ohio	PPARY00	570.00-580.00	575.000	+15.000
Oklahoma	AAUQ000	585.00-595.00	590.000	+15.000
Kansas	PPARZ00	600.00-610.00	605.000	+15.000
Texas	PPART00	570.00-580.00	575.000	+15.000
Louisiana	PPALA00	580.00-590.00	585.000	+15.000
MidAtlantic	AAWIC00	625.00-635.00	630.000	+15.000
Tampa	AAWID00	590.00-600.00	595.000	+15.000

Monthly spot lube assessments, August 2023 (PGA page 1146)

		\$/mt	Mid	Change
USGC				
150 SN	PLAAB00	1055.00-1075.00	1065.000	+55.000
500 SN	PLAAE00	1475.00-1495.00	1485.000	+80.000
Bright Stock	PLAAH00	1890.00-1910.00	1900.000	+100.000
Europe				
150 SN	PLAAC00	760.00-780.00	770.000	+40.000
500 SN	PLAAF00	985.00-1005.00	995.000	+50.000
Bright Stock	PLAAI00	1310.00-1330.00	1320.000	+70.000
Asia				
150 SN	PLAAA00	740.00-760.00	750.000	+40.000
500 SN	PLAAD00	895.00-915.00	905.000	+50.000
Bright Stock	PLAAG00	1160.00-1180.00	1170.000	+65.000

US crude pipeline averages 26Jul23 - 25Aug23

(\$/barrel)			Mid	Change		Spread vs WTI	Mid	Change
(PGA pages 212 & 216)								
WTI (Sep)	AAFCV00	81.23-81.25	81.239	+7.328				
WTI (Oct)	AAFCX00	80.64-80.66	80.646	+6.805				
WTI (Nov)	AAGIU00	80.20-80.22	80.209	+6.562				
Mars (1st mth)	AAMBS02	81.89-81.91	81.904	+6.568	AAGWK02	0.66/0.68	0.665	-0.760
Mars (2nd mth)	AAMBV02	80.94-80.96	80.953	+6.260	AAKTI02	0.30/0.32	0.307	-0.546
Mars (3rd mth)	AAMBY02	80.36-80.368	80.368	+6.286	AAMPB02	0.15/0.17	0.159	-0.276
P-Plus WTI	AAFCT00	4.12/4.14	4.126	+0.616				
WTI-Delta	AAEJK03	0.74/0.76	0.746	+0.616				
WTI Midland	AAFCE00	82.60-82.62	82.613	+7.282	AAGWA02	1.36/1.38	1.374	-0.046
LLS (1st mth)	AAFCO00	83.79-83.81	83.796	+7.305	AAGWO02	2.55/2.57	2.557	-0.023
LLS (2nd mth)	AAURC03	82.73-82.75	82.744	+6.483	AAURD03	2.09/2.11	2.098	-0.322
HLS (1st mth)	AAFCK00	83.44-83.46	83.446	+7.315	AAGWQ02	2.20/2.22	2.207	-0.013
HLS (2nd mth)	AAURE03	82.38-82.40	82.394	+6.493	AAURF03	1.74/1.76	1.748	-0.312
WTS (1st mth)	AAFCS00	81.96-81.98	81.972	+7.368	AAGWC02	0.72/0.74	0.733	+0.040
WTS (2nd mth)	AAURG03	81.08-81.10	81.087	+6.839	AAURH03	0.43/0.45	0.441	+0.033
Poseidon	AAFCQ00	81.36-81.38	81.365	+6.491	AAGWM02	0.12/0.14	0.126	-0.837
Thunder Horse Bld	AAWZK02	83.61-83.63	83.624	+6.925	AAWZL02	2.38/2.40	2.385	-0.403
Wyoming Sweet	PCACL03	80.06-80.08	80.070	+6.951	AAGWS02	-1.18/-1.16	-1.170	-0.377
Bonito	AAFCI00	81.74-81.76	81.754	+6.568	AAGWG02	0.51/0.53	0.515	-0.760
SGC	AASOI02	82.05-82.07	82.063	+7.147	AASOJ02	0.81/0.83	0.824	-0.181
ACM (Sep)*	AAQHN03	81.33-81.35	81.341	+6.662				
ACM (Oct)*	AAQHO03	80.38-80.40	80.390	+6.354				
ACM (Nov)*	AAQHP03	79.80-79.82	79.805	+6.381				

London close (\$/barrel)(PGA page 1242)

WTI (Sep)	AAQAR03	81.26-81.28	81.271	+7.516				
WTI (Oct)	AAQAT03	80.66-80.68	80.671	+6.940				
WTI (Nov)	AAQAV03	80.21-80.23	80.222	+6.686				
LLS (Sep)	AAQBB03	83.82-83.84	83.825	+7.515	AAQBC03	2.54/2.56	2.554	-0.001
LLS (Oct)	AAQBD03	82.75-82.77	82.764	+6.633	AAQBE03	2.08/2.10	2.093	-0.307
MARS (Sep)	AAQAX03	81.94-81.96	81.945	+6.782	AAQAY03	0.66/0.68	0.674	-0.734
MARS (Oct)	AAQAZ03	80.97-80.99	80.984	+6.445	AAQBA03	0.30/0.32	0.313	-0.495

*=Americas Crude Marker assessed at the Americas market close at 2:30pm Eastern Time.

European monthly averages, August 2023

(\$/mt)			Mid	Change		Mid	Change	
(PGA page 1115)								
		Cargoes FOB Med basis Italy				Cargoes CIF Med basis Genoa/Lavera		
Prem unl 10 ppm	AAWZA03	947.716-948.216	947.966	+67.299	AAWZB03	963.170-963.670	+68.801	
Naphtha physical*	PAAAI03	606.273-606.773	606.523	+63.368	PAAAH03	626.693-627.193	+65.419	
Jet av. fuel	AAIDM00	947.591-948.091	947.841	+139.912	AAZBN03	975.659-976.159	+142.623	
10ppm ULSD	AAWY03	900.807-901.307	901.057	+122.093	AAWYZ03	916.045-916.545	+123.593	
Gasoil 0.1%	AAVJI03	891.136-891.636	891.386	+129.791	AAVJJ03	905.318-905.818	+131.187	
1% fuel oil	PUAAK03	552.682-553.182	552.932	+50.253	PUAAJ03	565.670-566.170	+50.206	
3.5% fuel oil	PUAAZ03	509.250-509.750	509.500	+34.929	PUAAY03	522.091-522.591	+34.770	

*Naphtha FOB Med is basis East Med

(PGA page 1111)

		Cargoes FOB NWE				Cargoes CIF NWE basis ARA		
Gasoline 10 ppm					AAXF003	1021.443-1021.943	+97.907	
Naphtha physical					PAAAL03	641.784-642.284	+66.713	
Naphtha swaps					PAAAJ00	643.318 -643.818	+60.997	
Jet kerosene	PJAAV03	960.932-961.432	961.182	+139.515	PJAAU03	977.159-977.659	+142.623	
10ppm ULSD	AAVBF03	910.636-911.136	910.886	+127.065	AAVBG03	921.318-921.818	+129.128	
Diesel 10 ppm NWE	AAWZD03	910.739-911.239	910.989	+127.191	AAWZC03	923.500-924.000	+129.583	
Diesel 10 ppm UK					AAVBH03	924.818-925.318	+130.139	
Diesel 10ppm UK cargoes CIF NWE - original (French) spec	AUKDA03		926.761	+130.082				
Gasoil 0.1%	AAYWR03	890.114-890.614	890.364	+130.554	AAYWS03	910.375-910.875	+134.327	
1% fuel oil	PUAAM03	537.568-538.068	537.818	+56.985	PUAAL03	551.966-552.466	+56.954	
3.5% fuel oil	PUABB03	517.852-518.352	518.102	+71.531	PUABA03	531.034-531.534	+71.474	
0.5%-0.7% straight run	PKABA03	572.261-573.261	572.761	+54.642				

(PGA pages 1113 & 1381)

		Barges FOB Rotterdam					
98 RON unl	AAKOE00	1063.375-1063.875	1063.625	+99.208			
Prem unl	PGABM03	978.795-979.295	979.045	+94.533			
Eurobob	AAQZV03	975.148-975.648	975.398	+88.386			
MTBE*	PHBFZ03	1335.966-1336.466	1336.216	+203.918			
Naphtha physical	PAAAM03	637.784-638.284	638.034	+66.713			
Jet kerosene	PJABA03	974.886-975.386	975.136	+140.160			
Diesel 10 ppm*	AAJUW00	911.216-911.716	911.466	+128.121			
Gasoil 50 ppm	AAUQC03	903.330-903.830	903.580	+133.747			
Gasoil 0.1%*	AAYWT03	888.000-888.500	888.250	+130.440			
1% fuel oil	PUAAP03	547.864-548.364	548.114	+60.959			
3.5% fuel oil	PUABC03	536.034-536.534	536.284	+71.474			
3.5% 500 CST fuel oil	PUAGN03	534.034-534.534	534.284	+71.474			
380 CST	PUAYW03	561.500-562.500	562.000	+71.429			

*FOB Amsterdam-Rotterdam-Antwerp

Saudi Arabian Official Selling Prices (\$/barrel), Sep 6

Benchmark			OCT	Monthly change	SEP	AUG	JUL
US(PGA page 1070)							
Extra Light	ASCI	AAIQZ00	9.60	+ 0.20	9.40	9.40	9.30
Arab Light	ASCI	AAIRA00	7.45	+ 0.20	7.25	7.25	7.15
Arab Medium	ASCI	AAIRB00	8.15	+ 0.20	7.95	7.95	7.85
Arab Heavy	ASCI	AAIRC00	7.70	+ 0.20	7.50	7.50	7.40

Prices FOB Ras Tanura

Northwest Europe(PGA page 1069)

Extra Light	ICE Brent	AAIQQ00	7.30	-0.10	7.40	4.40	3.60
Arab Light	ICE Brent	AAIQR00	5.70	-0.10	5.80	3.80	3.00
Arab Medium	ICE Brent	AAIQS00	4.50	-0.10	4.60	3.30	2.50
Arab Heavy	ICE Brent	AAIQT00	1.80	-0.10	1.90	0.90	0.10

Prices FOB Ras Tanura

Mediterranean(PGA page 1069)

Extra Light	ICE Brent	AAWQK00	6.20	-0.10	6.30	4.80	3.80
Arab Light	ICE Brent	AAWQL00	4.40	-0.10	4.50	3.50	2.50
Arab Medium	ICE Brent	AAWQM00	3.40	-0.10	3.50	3.20	2.20
Arab Heavy	ICE Brent	AAWQN00	0.40	-0.10	0.50	0.40	-0.70

Prices FOB Ras Tanura

FOB Sidi Kerir(PGA page 1069)

Extra Light	ICE Brent	AAUCS00	NA	NA NA	6.35	4.80	3.85
Arab Light	ICE Brent	AAUCU00	NA	NA NA	4.55	3.50	2.55
Arab Medium	ICE Brent	AAUCW00	NA	NA NA	3.55	3.20	2.25
Arab Heavy	ICE Brent	AAUCY00	NA	NA NA	0.55	0.40	-0.65

Asia(PGA page 1068)

Super Light	(O+D)/2	AAIQU00	5.45	+ 0.50	4.95	4.35	4.75
Extra Light	(O+D)/2	AAIQV00	2.85	+ 0.30	2.55	2.55	2.55
Arab Light	(O+D)/2	AAIQW00	3.60	+ 0.10	3.50	3.20	3.00
Arab Medium	(O+D)/2	AAIQX00	3.45	+ 0.10	3.35	2.65	2.45
Arab Heavy	(O+D)/2	AAIQY00	1.70	+ 0.10	1.60	1.00	0.80

Prices FOB Ras Tanura

ASCI=Argus Sour Crude Index; BWAVE=ICE Brent Weighted Average; (O+D)/2=Average of Platts Oman and Dubai assessments

Sources: Saudi Aramco OSP differentials prior to July 2017 were set against BWAVE.