HollyFrontier Corp
Form 10-Q
May 02, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)
ý QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended March 31, 2019
OR
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____
Commission File Number 1-3876

HOLLYFRONTIER CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	75-1056913
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
2828 N. Harwood, Suite 1300 Dallas, Texas	75201
(Address of principal executive offices)	(Zip Code)

(214) 871-3555
(Registrant's telephone number, including area code)

(Former name, former address and former fiscal year, if changed since last report)

Securities registered pursuant to 12(b) of the Securities Exchange Act of 1934:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock $0.01 par value	HFC	New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.
Yes ý No ¨
Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ý No ¨
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ý Accelerated filer ¨ Non-accelerated filer ¨ Smaller reporting company ¨
¨
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ¨

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No ý

170,765,384 shares of Common Stock, par value $.01 per share, were outstanding on April 26, 2019.

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FORWARD-LOOKING STATEMENTS

References herein to HollyFrontier Corporation ("HollyFrontier") include HollyFrontier and its consolidated subsidiaries. In accordance with the Securities and Exchange Commission's ("SEC") "Plain English" guidelines, this Quarterly Report on Form 10-Q has been written in the first person. In this document, the words "we," "our," "ours" and "us" refer only to HollyFrontier and its consolidated subsidiaries or to HollyFrontier or an individual subsidiary and not to any other person with certain exceptions. Generally, the words "we," "our," "ours" and "us" include Holly Energy Partners, L.P. ("HEP") and its subsidiaries as consolidated subsidiaries of HollyFrontier, unless when used in disclosures of transactions or obligations between HEP and HollyFrontier or its other subsidiaries. This document contains certain disclosures of agreements that are specific to HEP and its consolidated subsidiaries and do not necessarily represent obligations of HollyFrontier. When used in descriptions of agreements and transactions, "HEP" refers to HEP and its consolidated subsidiaries.

This Quarterly Report on Form 10-Q contains certain "forward-looking statements" within the meaning of the federal securities laws. All statements, other than statements of historical fact included in this Form 10-Q, including, but not limited to, those under "Results of Operations," "Liquidity and Capital Resources" and "Risk Management" in Part I, Item 2 "Management's Discussion and Analysis of Financial Condition and Results of Operations" and those in Part II, Item 1 "Legal Proceedings" are forward-looking statements. Forward-looking statements use words such as "anticipate," "project," "expect," "plan," "goal," "forecast," "intend," "should," "would," "could," "believe," "may," and similar expressions and state regarding our plans and objectives for future operations. These statements are based on management's beliefs and assumptions using currently available information and expectations as of the date hereof, are not guarantees of future performance and involve certain risks and uncertainties. All statements concerning our expectations for future results of operations are based on forecasts for our existing operations and do not include the potential impact of any future acquisitions. Although we believe that the expectations reflected in these forward-looking statements are reasonable, we cannot assure you that our expectations will prove to be correct. Therefore, actual outcomes and results could materially differ from what is expressed, implied or forecast in these statements. Any differences could be caused by a number of factors including, but not limited to:

- risks and uncertainties with respect to the actions of actual or potential competitive suppliers of refined petroleum products in our markets;
- the demand for and supply of crude oil and refined products;
- the spread between market prices for refined products and market prices for crude oil;
- the possibility of constraints on the transportation of refined products;
- the possibility of inefficiencies, curtailments or shutdowns in refinery operations or pipelines;
- effects of governmental and environmental regulations and policies;
- the availability and cost of our financing;
- the effectiveness of our capital investments and marketing strategies;
- our efficiency in carrying out construction projects;
- our ability to acquire refined or lubricant product operations or pipeline and terminal operations on acceptable terms and to integrate any existing or future acquired operations;
- the possibility of terrorist or cyber attacks and the consequences of any such attacks;
- general economic conditions; and
- other financial, operational and legal risks and uncertainties detailed from time to time in our SEC filings.

Cautionary statements identifying important factors that could cause actual results to differ materially from our expectations are set forth in this Form 10-Q, including without limitation, the forward-looking statements that are referred to above. This summary discussion should be read in conjunction with the discussion of the known material risk factors and other cautionary statements under the heading "Risk Factors" included in Item 1A of our Annual Report

on Form 10-K for the year ended December 31, 2018 and in conjunction with the discussion in this Form 10-Q in "Management's Discussion and Analysis of Financial Condition and Results of Operations" under the heading "Liquidity and Capital Resources." All forward-looking statements included in this Form 10-Q and all subsequent written or oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by these cautionary statements. The forward-looking statements speak only as of the date made and, other than as required by law, we undertake no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

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PART I. FINANCIAL INFORMATION

DEFINITIONS

Within this report, the following terms have these specific meanings:

“BPD” means the number of barrels per calendar day of crude oil or petroleum products.

“BPSD” means the number of barrels per stream day (barrels of capacity in a 24 hour period) of crude oil or petroleum products.

“Base oil” is a lubricant grade oil initially produced from refining crude oil or through chemical synthesis that is used in producing lubricant products such as lubricating greases, motor oil and metal processing fluids.

“Biodiesel” means a clean alternative fuel produced from renewable biological resources.

“Black wax crude oil” is a low sulfur, low gravity crude oil produced in the Uintah Basin in Eastern Utah that has certain characteristics that require specific facilities to transport, store and refine into transportation fuels.

“Cracking” means the process of breaking down larger, heavier and more complex hydrocarbon molecules into simpler and lighter molecules.

“Crude oil distillation” means the process of distilling vapor from liquid crudes, usually by heating, and condensing the vapor slightly above atmospheric pressure turning it back to liquid in order to purify, fractionate or form the desired products.

“Ethanol” means a high octane gasoline blend stock that is used to make various grades of gasoline.

“FCC,” or fluid catalytic cracking, means a refinery process that breaks down large complex hydrocarbon molecules into smaller more useful ones using a circulating bed of catalyst at relatively high temperatures.

“Hydrodesulfurization” means to remove sulfur and nitrogen compounds from oil or gas in the presence of hydrogen and a catalyst at relatively high temperatures.

“Hydrogen plant” means a refinery unit that converts natural gas and steam to high purity hydrogen, which is then used in the hydrodesulfurization, hydrocracking and isomerization processes.

“Isomerization” means a refinery process for rearranging the structure of C5/C6 molecules without changing their size or chemical composition and is used to improve the octane of C5/C6 gasoline blendstocks.

“LPG” means liquid petroleum gases.

“Lubricant” or “lube” means a solvent neutral paraffinic product used in commercial heavy duty engine oils, passenger car oils and specialty products for industrial applications such as heat transfer, metalworking, rubber and other general process oil.

“MSAT2” means Control of Hazardous Air Pollutants from Mobile Sources, a rule issued by the U.S. Environmental Protection Agency to reduce hazardous emissions from motor vehicles and motor vehicle fuels.

“MMBTU” means one million British thermal units.

“Rack back” represents the portion of our Lubricants and Specialty Products business operations that entails the processing of feedstocks into base oils.

“Rack forward” represents the portion of our Lubricants and Specialty Products business operations that entails the processing of base oils into finished lubricants and the packaging, distribution and sale to customers.

“Refinery gross margin” means the difference between average net sales price and average cost per barrel sold. This does not include the associated depreciation and amortization costs.

“RINs” means renewable identification numbers and refers to serial numbers assigned to credits generated from renewable fuel production under the Environmental Protection Agency’s Renewable Fuel Standard (“RFS”) regulations, which require blending renewable fuels into the nation’s fuel supply. In lieu of blending, refiners may purchase these transferable credits in order to comply with the regulations.

“Sour crude oil” means crude oil containing quantities of sulfur greater than 0.4 percent by weight, while “sweet crude oil” means crude oil containing quantities of sulfur equal to or less than 0.4 percent by weight.

“Vacuum distillation” means the process of distilling vapor from liquid crudes, usually by heating, and condensing the vapor below atmospheric pressure turning it back to a liquid in order to purify, fractionate or form the desired products.

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“White oil” is an extremely pure, highly-refined petroleum product that has a wide variety of applications ranging from pharmaceutical to cosmetic products.

“WTI” means West Texas Intermediate and is a grade of crude oil used as a common benchmark in oil pricing. WTI is a sweet crude oil and has a relatively low density.

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Item 1. Financial Statements

HOLLYFRONTIER CORPORATION
CONSOLIDATED BALANCE SHEETS
(In thousands, except share data)

	March 31, 2019 (Unaudited)	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents (HEP: $11,540 and $3,045, respectively)	$496,139	$1,154,752
Accounts receivable: Product and transportation (HEP: $14,585 and $12,332, respectively)	848,881	635,623
Crude oil resales	192,573	36,078
	1,041,454	671,701
Inventories: Crude oil and refined products	1,494,999	1,166,404
Materials, supplies and other (HEP: $786 and $858, respectively)	172,930	187,975
	1,667,929	1,354,379
Income taxes receivable	38,288	34,040
Prepayments and other (HEP: $3,280 and $3,452, respectively)	77,528	81,507
Total current assets	3,321,338	3,296,379
Properties, plants and equipment, at cost (HEP: $2,066,625 and $2,058,388, respectively)	6,998,671	6,780,980
Less accumulated depreciation (HEP: $(514,066) and $(489,217), respectively)	(2,182,541)	(2,098,446)
	4,816,130	4,682,534
Operating lease right-of-use assets (HEP: $76,950)	428,197	—
Other assets: Turnaround costs	388,552	339,861
Goodwill (HEP: $312,873 and $314,229, respectively)	2,528,087	2,246,435
Intangibles and other (HEP: $173,113 and $176,291, respectively)	641,126	429,392
	3,557,765	3,015,688
Total assets	$12,123,430	$10,994,601
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable (HEP: $9,763 and $16,723, respectively)	$1,158,759	$872,627
Income taxes payable	73,592	17,636
Operating lease liabilities (HEP: $5,020)	87,669	—
Accrued liabilities (HEP: $22,555 and $27,240, respectively)	349,265	277,892
Total current liabilities	1,669,285	1,168,155
Long-term debt (HEP: $1,438,054 and $1,418,900, respectively)	2,430,934	2,411,540
Noncurrent operating lease liabilities (HEP: $72,269)	342,171	—
Deferred income taxes (HEP: $488 and $488, respectively)	844,566	722,576
Other long-term liabilities (HEP: $61,005 and $63,534, respectively)	241,900	233,271
Equity:		
HollyFrontier stockholders' equity:		

Preferred stock, $1.00 par value – 5,000,000 shares authorized; none issued	—	—
Common stock $.01 par value – 320,000,000 shares authorized; 256,036,760 and 256,036,788 shares issued as of March 31, 2019 and December 31, 2018, respectively	2,560	2,560
Additional capital	4,204,841	4,196,125
Retained earnings	4,393,108	4,196,902
Accumulated other comprehensive income	27,398	13,623
Common stock held in treasury, at cost – 85,271,376 and 83,915,297 shares as of March 31, 2019 and December 31, 2018, respectively	(2,563,867)	(2,490,639)
Total HollyFrontier stockholders' equity	6,064,040	5,918,571
Noncontrolling interest	530,534	540,488
Total equity	6,594,574	6,459,059
Total liabilities and equity	$12,123,430	$10,994,601

Parenthetical amounts represent asset and liability balances attributable to Holly Energy Partners, L.P. ("HEP") as of March 31, 2019 and December 31, 2018. HEP is a variable interest entity.

See accompanying notes.

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HOLLYFRONTIER CORPORATION
CONSOLIDATED STATEMENTS OF INCOME
(Unaudited)
(In thousands, except per share data)

	Three Months Ended March 31,	
	2019	2018
Sales and other revenues	$3,897,247	$4,128,427
Operating costs and expenses:		
Cost of products sold (exclusive of depreciation and amortization):		
Cost of products sold (exclusive of lower of cost or market inventory valuation adjustment)	3,199,205	3,347,125
Lower of cost or market inventory valuation adjustment	(232,346)	(103,838)
	2,966,859	3,243,287
Operating expenses (exclusive of depreciation and amortization)	331,592	320,288
Selling, general and administrative expenses (exclusive of depreciation and amortization)	88,034	64,664
Depreciation and amortization	121,421	104,341
Total operating costs and expenses	3,507,906	3,732,580
Income from operations	389,341	395,847
Other income (expense):		
Earnings of equity method investments	2,100	1,279
Interest income	6,375	2,590
Interest expense	(36,647)	(32,723)
Gain on foreign currency transactions	2,265	5,560
Other, net	557	1,346
	(25,350)	(21,948)
Income before income taxes	363,991	373,899
Income tax expense:		
Current	55,284	57,651
Deferred	32,221	27,386
	87,505	85,037
Net income	276,486	288,862
Less net income attributable to noncontrolling interest	23,431	20,771
Net income attributable to HollyFrontier stockholders	$253,055	$268,091
Earnings per share attributable to HollyFrontier stockholders:		
Basic	$1.48	$1.51
Diluted	$1.47	$1.50
Average number of common shares outstanding:		
Basic	170,851	176,617
Diluted	172,239	177,954

See accompanying notes.

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HOLLYFRONTIER CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)
(In thousands)

	Three Months Ended March 31,	
	2019	2018
Net income	$276,486	$288,862
Other comprehensive income (loss):		
Foreign currency translation adjustment	4,363	(11,940)
Hedging instruments:		
Change in fair value of cash flow hedging instruments	15,590	(4,325)
Reclassification adjustments to net income on settlement of cash flow hedging instruments	(1,642)	(1,191)
Net unrealized gain (loss) on hedging instruments	13,948	(5,516)
Post-retirement benefit obligations:		
Loss on pension plans	(72)	—
Loss on post-retirement healthcare plan	(2)	—
Net change in post-retirement benefit obligations	(74)	—
Other comprehensive income (loss) before income taxes	18,237	(17,456)
Income tax expense (benefit)	4,462	(3,876)
Other comprehensive income (loss)	13,775	(13,580)
Total comprehensive income	290,261	275,282
Less noncontrolling interest in comprehensive income	23,431	20,771
Comprehensive income attributable to HollyFrontier stockholders	$266,830	$254,511

See accompanying notes.

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HOLLYFRONTIER CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)
(In thousands)

	Three Months Ended March 31,	
	2019	2018
Cash flows from operating activities:		
Net income	$276,486	$288,862
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	121,421	104,341
Lower of cost or market inventory valuation adjustment	(232,346)	(103,838)
Earnings of equity method investments, inclusive of distributions	(111)	243
Gain on sale of assets	(9)	(180)
Deferred income taxes	32,221	27,386
Equity-based compensation expense	9,374	8,797
Change in fair value – derivative instruments	20,909	(18,096)
(Increase) decrease in current assets:		
Accounts receivable	(315,106)	(136,841)
Inventories	3,967	151,451
Income taxes receivable	(1,292)	21,111
Prepayments and other	6,543	(5,297)
Increase (decrease) in current liabilities:		
Accounts payable	270,802	(20,065)
Income taxes payable	55,555	33,701
Accrued liabilities	43,480	34,978
Turnaround expenditures	(78,597)	(56,833)
Other, net	3,519	4,064
Net cash provided by operating activities	216,816	333,784
Cash flows from investing activities:		
Additions to properties, plants and equipment	(53,017)	(56,927)
Additions to properties, plants and equipment – HEP	(10,718)	(12,612)
Purchase of Sonneborn, net of cash acquired	(663,385)	—
Other, net	395	3,458
Net cash used for investing activities	(726,725)	(66,081)
Cash flows from financing activities:		
Borrowings under credit agreements	104,000	227,000
Repayments under credit agreements	(85,000)	(343,500)
Proceeds from issuance of common units - HEP	—	114,529
Purchase of treasury stock	(77,825)	(25,647)
Dividends	(56,849)	(58,856)
Distributions to noncontrolling interest	(33,673)	(29,237)
Payments on finance leases	(408)	—
Other, net	(373)	—
Net cash used for financing activities	(150,128)	(115,711)
Effect of exchange rate on cash flow	1,424	(1,282)

Cash and cash equivalents:		
Increase (decrease) for the period	(658,613)	150,710
Beginning of period	1,154,752	630,757
End of period	$496,139	$781,467
Supplemental disclosure of cash flow information:		
Cash paid during the period for:		
Interest	$(26,743)	$(17,293)
Income taxes, net	$(2,686)	$(2,857)

See accompanying notes.

HOLLYFRONTIER CORPORATION
CONSOLIDATED STATEMENTS OF EQUITY
(Unaudited)
(In thousands)

	HollyFrontier Stockholders' Equity						
	Common Stock	Additional Capital	Retained Earnings	Accumulated Other Comprehensive Income	Treasury stock	Non-controlling Interest	Total Equity
	(In thousands)						
Balance at December 31, 2018	$2,560	$4,196,125	$4,196,902	$ 13,623	$(2,490,639)	$ 540,488	$6,459,059
Net income	—	—	253,055	—	—	23,431	276,486
Dividends ($0.33 declared per common share)	—	—	(56,849)	—	—	—	(56,849)
Distributions to noncontrolling interest holders	—	—	—	—	—	(33,673)	(33,673)
Other comprehensive income, net of tax	—	—	—	13,775	—	—	13,775
Issuance of common stock under incentive compensation plans, net of tax	—	3	—	—	(3)	—	—
Equity-based compensation	—	8,713	—	—	—	661	9,374
Purchase of treasury stock	—	—	—	—	(73,225)	—	(73,225)
Purchase of HEP units for restricted grants	—	—	—	—	—	(373)	(373)
Balance at March 31, 2019	$2,560	$4,204,841	$4,393,108	$ 27,398	$(2,563,867)	$ 530,534	$6,594,574

	HollyFrontier Stockholders' Equity						
	Common Stock	Additional Capital	Retained Earnings	Accumulated Other Comprehensive Income	Treasury stock	Non-controlling Interest	Total Equity
	(In thousands)						
Balance at December 31, 2017	$2,560	$4,132,696	$3,346,615	$ 29,869	$(2,140,911)	$ 526,111	$5,896,940
Net income	—	—	268,091	—	—	20,771	288,862
Dividends ($0.33 declared per common share)	—	—	(58,856)	—	—	—	(58,856)
Distributions to noncontrolling interest holders	—	—	—	—	—	(29,237)	(29,237)
Other comprehensive loss, net of tax	—	—	—	(13,580)	—	—	(13,580)
Equity attributable to HEP common unit issuances, net of tax	—	41,980	—	—	—	58,031	100,011

Issuance of common stock under incentive compensation plans, net of tax	—	1,057	—	—	(1,057)	—	—
Equity-based compensation	—	7,961	—	—	—	836	8,797
Purchase of treasury stock	—	—	—	—	(27,520)	—	(27,520)
Purchase of HEP units for restricted grants	—	—	—	—	—	(58)	(58)
Adoption of accounting standards	—	—	(11,019)	3,572	—	—	(7,447)
Other	—	1	(1)	—	—	—	—
Balance at March 31, 2018	$2,560	$4,183,695	$3,544,830	$ 19,861	$(2,169,488)	$ 576,454	$6,157,912

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HOLLYFRONTIER CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

NOTE 1: Description of Business and Presentation of Financial Statements

References herein to HollyFrontier Corporation ("HollyFrontier") include HollyFrontier and its consolidated subsidiaries. In accordance with the Securities and Exchange Commission's ("SEC") "Plain English" guidelines, this Quarterly Report on Form 10-Q has been written in the first person. In these financial statements, the words "we," "our," "ours" and "us" refer only to HollyFrontier and its consolidated subsidiaries or to HollyFrontier or an individual subsidiary and not to any other person, with certain exceptions. Generally, the words "we," "our," "ours" and "us" include Holly Energy Partners, L.P. ("HEP") and its subsidiaries as consolidated subsidiaries of HollyFrontier, unless when used in disclosures of transactions or obligations between HEP and HollyFrontier or its other subsidiaries. These financial statements contain certain disclosures of agreements that are specific to HEP and its consolidated subsidiaries and do not necessarily represent obligations of HollyFrontier. When used in descriptions of agreements and transactions, "HEP" refers to HEP and its consolidated subsidiaries.

We are an independent petroleum refiner and marketer that produces high-value light products such as gasoline, diesel fuel, jet fuel and other specialty products. We own and operate petroleum refineries that serve markets throughout the Mid-Continent, Southwest and Rocky Mountain regions of the United States. In addition, we produce base oils and other specialized lubricants in the United States, Canada and the Netherlands, with retail and wholesale marketing of our products through a global sales network with locations in Canada, the United States, Europe, China and Latin America. As of March 31, 2019, we:

- owned and operated a petroleum refinery in El Dorado, Kansas (the "El Dorado Refinery"), two refinery facilities located in Tulsa, Oklahoma (collectively, the "Tulsa Refineries"), a refinery in Artesia, New Mexico that is operated in conjunction with crude oil distillation and vacuum distillation and other facilities situated 65 miles away in Lovington, New Mexico (collectively, the "Navajo Refinery"), a refinery located in Cheyenne, Wyoming (the "Cheyenne Refinery") and a refinery in Woods Cross, Utah (the "Woods Cross Refinery");
- owned and operated Petro-Canada Lubricants Inc. ("PCLI") located in Mississauga, Ontario, which produces base oils and other specialized lubricant products;
- owned and operated Sonneborn with manufacturing facilities in Petrolia, Pennsylvania and the Netherlands;
- owned and operated Red Giant Oil Company LLC ("Red Giant Oil"), which supplies locomotive engine oil with storage and distribution facilities in Iowa, Kansas, Utah and Wyoming, along with a blending and packaging facility in Texas;
- owned and operated HollyFrontier Asphalt Company LLC ("HFC Asphalt"), which operates various asphalt terminals in Arizona, New Mexico and Oklahoma; and
- owned a 57% limited partner interest and a non-economic general partner interest in HEP, a variable interest entity ("VIE"). HEP owns and operates logistic assets consisting of petroleum product and crude oil pipelines, terminals, tankage, loading rack facilities and refinery processing units that principally support our refining and marketing operations in the Mid-Continent, Southwest and Rocky Mountain regions of the United States.

On November 12, 2018, we entered into an equity purchase agreement to acquire 100% of the issued and outstanding capital stock of Sonneborn US Holdings Inc. and 100% of the membership rights in Sonneborn Coöperatief U.A. (collectively, "Sonneborn"). The acquisition closed on February 1, 2019.

On July 10, 2018, we entered into a definitive agreement to acquire Red Giant Oil, a privately-owned lubricants company. The acquisition closed on August 1, 2018.

We have prepared these consolidated financial statements without audit. In management's opinion, these consolidated financial statements include all normal recurring adjustments necessary for a fair presentation of our consolidated financial position as of March 31, 2019, the consolidated results of operations and comprehensive income for the three months ended March 31, 2019 and 2018 and consolidated cash flows for the three months ended March 31, 2019 and 2018 in accordance with the rules and regulations of the SEC. Although certain notes and other information required by generally accepted accounting principles in the United States ("GAAP") have been condensed or omitted, we believe that the disclosures in these consolidated financial statements are adequate to make the information presented not misleading. These consolidated financial statements should be read in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2018 that has been filed with the SEC.

Our results of operations for the three months ended March 31, 2019 are not necessarily indicative of the results of operations to be realized for the year ending December 31, 2019.

Accounts Receivable: Our accounts receivable consist of amounts due from customers that are primarily companies in the petroleum industry. Credit is extended based on our evaluation of the customer's financial condition, and in certain circumstances collateral, such as letters of credit or guarantees, is required. We reserve for doubtful accounts based on our historical loss experience as well as specific accounts identified as high risk, which historically have been minimal. Credit losses are charged to the allowance for doubtful accounts when an account is deemed uncollectible. Our allowance for doubtful accounts was $3.9 million at March 31, 2019 and $3.6 million at December 31, 2018.

Inventories: Inventories related to our refining operations are stated at the lower of cost, using the last-in, first-out ("LIFO") method for crude oil and unfinished and finished refined products, or market. In periods of rapidly declining prices, LIFO inventories may have to be written down to market value due to the higher costs assigned to LIFO layers in prior periods. In addition, the use of the LIFO inventory method may result in increases or decreases to cost of sales in years that inventory volumes decline as the result of charging cost of sales with LIFO inventory costs generated in prior periods. An actual valuation of inventory under the LIFO method is made at the end of each year based on the inventory levels at that time. Accordingly, interim LIFO calculations are based on management's estimates of expected year-end inventory levels and are subject to the final year-end LIFO inventory valuation.

Inventories of our Petro-Canada Lubricants and Sonneborn businesses are stated at the lower of cost, using the first-in, first-out ("FIFO") method, or net realizable value.

Inventories consisting of process chemicals, materials and maintenance supplies and renewable identification numbers ("RINs") are stated at the lower of weighted-average cost or net realizable value.

Leases: At inception, we determine if an arrangement is or contains a lease. Right-of-use ("ROU") assets represent our right to use an underlying asset for the lease term and lease liabilities represent our payment obligation under the leasing arrangement. ROU assets and lease liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. We use our estimated incremental borrowing rate ("IBR") to determine the present value of lease payments as most of our leases do not contain an implicit rate. Our IBR represents the interest rate which we would pay to borrow, on a collateralized basis, an amount equal to the lease payments over a similar term in a similar economic environment. We use the implicit rate when readily determinable.

Operating leases are recorded in operating lease right-of-use assets and current and noncurrent operating lease liabilities on our consolidated balance sheet. Finance leases are included in properties, plants and equipment and accrued liabilities and other long-term liabilities on our consolidated balance sheet.

Our lease term includes option to extend the lease when it is reasonably certain that we will exercise that option. Leases with a term of 12 months or less are not recorded on our balance sheet and lease expense is accounted for on a straight-line basis. For certain equipment leases, we apply a portfolio approach for the operating lease ROU assets and liabilities. Also, as a lessee, we separate non-lease components that are identifiable and exclude them from the determination of net present value of lease payment obligations. In addition, HEP, as a lessor, does not separate the non-lease (service) component in contracts in which the lease component is the dominant component. HEP treats these combined components as an operating lease.

Goodwill and Long-lived Assets: As of March 31, 2019, our goodwill balance was $2.5 billion, with goodwill assigned to our Refining, Lubricants and Specialty Products and HEP segments of $1.7 billion, $0.5 billion and $0.3 billion, respectively. During the first quarter of 2019, we recognized $280.0 million in goodwill as a result of our Sonneborn acquisition, all of which has been assigned to our Lubricants and Specialty Products segment. See Note 17 for additional information on our segments. The carrying amount of our goodwill may fluctuate from period to period due to the effects of foreign currency translation adjustments on goodwill assigned to our Lubricants and Specialty Products segment. Goodwill represents the excess of the cost of an acquired entity over the fair value of the assets acquired and liabilities assumed. Goodwill is not subject to amortization and is tested annually or more frequently if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. Our goodwill impairment testing first entails a comparison of our reporting units fair values relative to their respective carrying values. If carrying value exceeds fair value for a reporting unit, we measure goodwill impairment as the excess of the carrying amount of reporting unit goodwill over the implied fair value of that goodwill based on estimates of the fair value of all assets and liabilities in the reporting unit.

Our long-lived assets principally consist of our refining assets that are organized as refining asset groups and our lubricants and specialty products business. Our long-lived assets are evaluated for impairment by identifying whether indicators of impairment exist and if so, assessing whether the long-lived assets are recoverable from estimated future undiscounted cash flows. The actual amount of impairment loss measured, if any, is equal to the amount by which the asset group’s carrying value exceeds its fair value.

Revenue Recognition: Revenue on refined product and excess crude oil sales are recognized when delivered (via pipeline, in-tank or rack) and the customer obtains control of such inventory, which is typically when title passes and the customer is billed. All revenues are reported inclusive of shipping and handling costs billed and exclusive of any taxes billed to customers. Shipping and handling costs incurred are reported as cost of products sold. Additionally, our lubricants and specialty products business has sales agreements with marketers and distributors that provide certain rights of return or provisions for the repurchase of products previously sold to them. Under these agreements, revenues and cost of revenues are deferred until the products have been sold to end customers. Our lubricants and specialty products business also has agreements that create an obligation to deliver products at a future date for which consideration has already been received and recorded as deferred revenue. This revenue is recognized when the products are delivered to the customer.

HEP recognizes revenues as products are shipped through its pipelines and terminals and as other services are rendered. Additionally, HEP has certain throughput agreements that specify minimum volume requirements, whereby HEP bills a customer for a minimum level of shipments in the event a customer ships below their contractual requirements. If there are no future performance obligations, HEP recognizes these deficiency payments as revenue. In certain of these throughput agreements, a customer may later utilize such shortfall billings as credit towards future volume shipments in excess of its minimum levels within its respective contractual shortfall make-up period. Such amounts represent an obligation to perform future services, which may be initially deferred and later recognized as revenue based on estimated future shipping levels, including the likelihood of a customer’s ability to utilize such amounts prior to the end of the contractual shortfall make-up period. HEP recognizes the service portion of these deficiency payments as revenue when HEP does not expect it will be required to satisfy these performance obligations in the future based on the pattern of rights exercised by the customer. Payment terms under our contracts with customers are consistent with industry norms and are typically payable within 30 days of the date of invoice.

Foreign Currency Translation: Assets and liabilities recorded in foreign currencies are translated into U.S. dollars using exchange rates in effect as of the balance sheet date. Revenue and expense accounts are translated using the weighted-average exchange rates during the period presented. Foreign currency translation adjustments are recorded as a component of accumulated other comprehensive income.

In connection with our PCLI acquisition on February 1, 2017, we issued intercompany notes to initially fund certain of our foreign businesses. Remeasurement adjustments resulting from the conversion of such intercompany financing amounts to functional currencies are recorded as gains and losses as a component of other income (expense) in the income statement. Such adjustments are not recorded to the Lubricants and Specialty Products segment operations, but to Corporate and Other. See Note 17 for additional information on our segments.

Income Taxes: Provisions for income taxes include deferred taxes resulting from temporary differences in income for financial and tax purposes, using the liability method of accounting for income taxes. The liability method requires the effect of tax rate changes on deferred income taxes to be reflected in the period in which the rate change was enacted. The liability method also requires that deferred tax assets be reduced by a valuation allowance unless it is more likely than not that the assets will be realized.

Potential interest and penalties related to income tax matters are recognized in income tax expense. We believe we have appropriate support for the income tax positions taken and to be taken on our income tax returns and that our accruals for tax liabilities are adequate for all open years based on an assessment of many factors, including past experience and interpretations of tax law applied to the facts of each matter.

Inventory Repurchase Obligations: We periodically enter into same-party sell / buy transactions, whereby we sell certain refined product inventory and subsequently repurchase the inventory in order to facilitate delivery to certain locations. Such sell / buy transactions are accounted for as inventory repurchase obligations under which proceeds received under the initial sell is recognized as an inventory repurchase obligation that is subsequently reversed when the inventory is repurchased. For the three months ended March 31, 2019 and 2018, we received proceeds of $13.2 million and $9.8 million, respectively, and repaid $13.1 million and $10.0 million, respectively, under these sell / buy transactions.

Accounting Pronouncements - Recently Adopted

Leases
In February 2016, ASU 2016-02, “Leases,” was issued requiring leases to be measured and recognized as a lease liability, with a corresponding ROU asset on the balance sheet. We adopted this standard effective January 1, 2019 using the optional transition method, whereby comparative prior period financial information will not be restated and will continue to be reported under the lease accounting standard in effect during those periods. We also elected practical expedients provided by the new standard, including the package of practical expedients, whereby we did not reassess lease classification or initial indirect lease cost under the new standard. In addition, we elected to exclude short-term leases, which at inception have a lease term of 12 months or less, from the amounts recognized on our balance sheet. In addition, HEP elected an expedient whereby a lessor does not have to separate non-lease (service) components from lease components under certain contracts. Under this expedient, HEP treated the combined components of its leases with third parties (i.e., the contracts that are not eliminated upon consolidation of HEP by HFC) as an operating lease in accordance with ASC 842. Upon adoption of this standard, we recognized $433.4 million of lease liabilities and corresponding ROU assets on our consolidated balance sheet. Adoption of this standard did not have a material impact on our results of operations or cash flows. In addition, upon our acquisition of Sonneborn on February 1, 2019, we recognized $15.9 million of lease liabilities and corresponding ROU assets.

Accounting Pronouncements - Not Yet Adopted

Credit Losses Measurement
In June 2016, ASU 2016-13, “Measurement of Credit Losses on Financial Instruments,” was issued requiring measurement of all expected credit losses for certain types of financial instruments, including trade receivables, held at the reporting date based on historical experience, current conditions and reasonable and supportable forecasts. This standard is effective January 1, 2020, and we are evaluating the impact of this standard.

NOTE 2: Acquisitions

On November 12, 2018, we entered into an equity purchase agreement to acquire 100% of the capital stock of Sonneborn. The acquisition closed on February 1, 2019. Sonneborn is a producer of specialty hydrocarbon chemicals such as white oils, petrolatums and waxes with manufacturing facilities in the United States and Europe.

Aggregate consideration totaled $702.3 million and consists of $663.4 million in cash paid at acquisition, net of cash acquired, subject to final working capital settlement pursuant to the purchase agreement.

This transaction is accounted for as a business combination using the acquisition method of accounting, with the purchase price allocated to the fair value of the acquired Sonneborn assets and liabilities as of the February 1 acquisition date, with the excess purchase price recorded as goodwill assigned to our Lubricants and Specialty Products segment.

The following summarizes our preliminary value estimates of the Sonneborn assets and liabilities acquired on February 1, 2019:

	(In millions)
Cash and cash equivalents	$ 38.9
Accounts receivable and other current assets	58.8
Inventories	81.0
Properties, plants and equipment	167.6
Goodwill	280.0
Intangibles and other noncurrent assets	235.2
Accounts payable and accrued liabilities	(51.4)
Deferred income tax liabilities	(81.9)
Other long-term liabilities	(25.9)
	$ 702.3

The preliminary purchase price allocation resulted in the recognition of $280.0 million in goodwill, which relates to the established workforce and global market presence of the acquired business as well as the expected synergies to be gained upon combining with our existing operations to form an expanded lubricants and specialty products business.

Intangibles include customer relationships, trademarks, patents and technical know-how totaling $209.6 million that are being amortized on a straight-line basis over a 12-year period.

These values, including deferred taxes, are preliminary and, therefore, may change once we complete our valuations.

Our consolidated financial and operating results reflect the Sonneborn operations beginning February 1, 2019. Our results of operations for the three months ended March 31, 2019 included revenues and loss before income taxes of $64.3 million and $7.1 million, respectively, related to these operations.

As of March 31, 2019, we have incurred $12.6 million in incremental direct acquisition and integration costs that principally relate to legal, advisory and other professional fees and are presented as selling, general and administrative expenses.

Assuming the acquisition of Sonneborn had occurred as of January 1, 2018, proforma revenue for our Lubricants and Specialty Products segment was $540.1 million and proforma operating income was $32.9 million for the first quarter of 2018. Proforma revenue was $525.6 million and proforma operating income was $3.7 million for the first quarter of 2019. The proforma effects on consolidated HFC revenue and operating income are not material.

NOTE 3: Leases

We have operating and finance leases for land, buildings, pipelines, storage tanks, transportation and other equipment for our operations. Our leases have remaining terms of one to 60 years, some of which include options to extend the leases for up to 10 years.

The following table presents the amounts and balance sheet locations of our operating and financing leases recorded on our consolidated balance sheet.

	March 31, 2019 (In thousands)
Operating leases:	
Operating lease right-of-use assets	$428,197
Operating lease liabilities	87,669
Noncurrent operating lease liabilities	342,171
Total operating lease liabilities	$429,840
Finance leases:	
Properties, plants and equipment, at cost	$12,007
Accumulated amortization	(5,751)
Properties, plants and equipment, net	$6,256
Accrued liabilities	$1,641
Other long-term liabilities	4,645
Total finance lease liabilities	$6,286

Supplemental balance sheet information related to our leases was as follows:

	March 31, 2019
Weighted average remaining lease term (in years)	
Operating leases	8.3
Finance leases	8.4
Weighted average discount rate	
Operating leases	4.3 %
Finance leases	5.1 %

The components of lease expense were as follows:

	Three Months Ended March 31, 2019 (In thousands)
Operating lease expense	$ 27,624
Finance lease expense:	
Amortization of right-of-use assets	400
Interest on lease liabilities	88
Variable lease cost	615
Total lease expense	$ 28,727

Supplemental cash flow and other information related to leases was as follows:

	Three Months Ended March 31, 2019 (In thousands)
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	$ 28,990
Operating cash flows from finance leases	$ 88
Financing cash flows from finance leases	$ 408

As of March 31, 2019, we have no right-of-use assets that were obtained in exchange for lease obligation.

Maturities of lease liabilities were as follows:

	March 31, 2019	
	Operating	Finance
	(In thousands)	
2019	$78,216	$1,601
2020	91,707	1,649
2021	75,252	833
2022	63,681	566
2023	56,781	564
2024 and thereafter	164,320	2,756
Total lease payments	529,957	7,969
Less imputed interest	(100,117)	(1,683)
Total lease obligations	429,840	6,286
Less current obligations	(87,669)	(1,641)
Long-term lease obligations	$342,171	$4,645

As of March 31, 2019, we have no additional operating and finance lease commitments that have not yet commenced.

Our consolidated income statement reflects lease revenue recognized by HEP for contracts with third parties in which HEP is the lessor. Lease income recognized was as follows:

	Three Months Ended March 31, 2019
	(In thousands)
Operating lease revenues	$ 8,199

Annual minimum undiscounted lease payments in which HEP is a lessor to third-party contracts as of March 31, 2019 were as follows:

	(In thousands)
Remainder of 2019	$ 24,076
2020	8,068
2021	1,505
2022	125
2023	—
Thereafter	—
Total	$ 33,774

NOTE 4: Holly Energy Partners

HEP is a publicly held master limited partnership that owns and operates logistic assets consisting of petroleum product and crude oil pipelines, terminals, tankage, loading rack facilities and refinery processing units that principally support our refining and marketing operations in the Mid-Continent, Southwest and Rocky Mountain regions of the United States and Delek's refinery in Big Spring, Texas. Additionally, HEP owns a 75% interest in UNEV Pipeline, LLC ("UNEV"), the owner of a pipeline running from Woods Cross, Utah to Las Vegas, Nevada (the "UNEV Pipeline") and associated product terminals, and a 50% ownership interest in each of Osage Pipe Line Company, LLC, the owner of a pipeline running from Cushing, Oklahoma to El Dorado, Kansas (the "Osage Pipeline") and Cheyenne Pipeline, LLC, the owner of a pipeline running from Fort Laramie, Wyoming to Cheyenne, Wyoming (the "Cheyenne Pipeline").

As of March 31, 2019, we owned a 57% limited partner interest and a non-economic general partner interest in HEP. As the general partner of HEP, we have the sole ability to direct the activities that most significantly impact HEP's financial performance, and therefore as HEP's primary beneficiary, we consolidate HEP.

HEP has two primary customers (including us) and generates revenues by charging tariffs for transporting petroleum products and crude oil through its pipelines, by charging fees for terminalling refined products and other hydrocarbons, and storing and providing other services at its storage tanks and terminals. Under our long-term transportation agreements with HEP (discussed further below), we accounted for 77% of HEP's total revenues for the three months ended March 31, 2019. We do not provide financial or equity support through any liquidity arrangements and / or debt guarantees to HEP.

HEP has outstanding debt under a senior secured revolving credit agreement and its senior notes. HEP's creditors have no recourse to our assets. Furthermore, our creditors have no recourse to the assets of HEP and its consolidated subsidiaries. See Note 11 for a description of HEP's debt obligations.

HEP has risk associated with its operations. If a major customer of HEP were to terminate its contracts or fail to meet desired shipping or throughput levels for an extended period of time, revenue would be reduced and HEP could suffer substantial losses to the extent that a new customer is not found. In the event that HEP incurs a loss, our operating results will reflect HEP's loss,net of intercompany eliminations, to the extent of our ownership interest in HEP at that point in time.

HEP Private Placement Agreements
On January 25, 2018, HEP entered into a common unit purchase agreement in which certain purchasers agreed to purchase in a private placement 3,700,000 HEP common units, representing limited partner interests, at a price of $29.73 per common unit. The private placement closed on February 6, 2018, at which time HEP received proceeds of $110.0 million, which were used to repay indebtedness under the HEP Credit Agreement.

HEP Common Unit Continuous Offering Program
In May 2016, HEP established a continuous offering program under which HEP may issue and sell common units from time to time, representing limited partner interests, up to an aggregate gross sales amount of $200 million. During the three months ended March 31, 2019, HEP did not issue any common units under this program. As of March 31, 2019, HEP has issued 2,413,153 common units under this program, providing $82.3 million in gross proceeds.

HEP intends to use the net proceeds for general partnership purposes, which may include funding working capital, repayment of debt, acquisitions and capital expenditures. Amounts repaid under HEP's credit facility may be reborrowed from time to time.

As a result of these transactions and resulting HEP ownership changes, we adjusted additional capital and equity attributable to HEP's noncontrolling interest holders to reallocate HEP's equity among its unitholders.

Transportation Agreements

HEP serves our refineries under long-term pipeline, terminal and tankage throughput agreements and refinery processing tolling agreements expiring from 2019 through 2036. Under these agreements, we pay HEP fees to transport, store and process throughput volumes of refined products, crude oil and feedstocks on HEP's pipeline, terminals, tankage, loading rack facilities and refinery processing units that result in minimum annual payments to HEP including UNEV (a consolidated subsidiary of HEP). Under these agreements, the agreed upon tariff rates are subject to annual tariff rate adjustments on July 1 at a rate based upon the percentage change in Producer Price Index or Federal Energy Regulatory Commission index. As of March 31, 2019, these agreements result in minimum annualized payments to HEP of $302.8 million.

Our transactions with HEP and fees paid under our transportation agreements with HEP and UNEV are eliminated and have no impact on our consolidated financial statements.

NOTE 5: Revenues

Substantially all revenue-generating activities relate to sales of refined product and excess crude oil inventories sold at market prices (variable consideration) under contracts with customers. Additionally, we have revenues attributable to HEP logistics services provided under petroleum product and crude oil pipeline transportation, processing, storage and terminalling agreements with third parties.

Disaggregated revenues are as follows:

	Three Months Ended March 31,	
	2019	2018
	(In thousands)	
Revenues by type		
Refined product revenues		
Transportation fuels [1]	$2,807,440	$3,074,388
Specialty lubricant products [2]	444,342	399,039
Asphalt, fuel oil and other products [3]	218,858	207,757
Total refined product revenues	3,470,640	3,681,184
Excess crude oil revenues [4]	382,630	396,716
Transportation and logistic services	31,138	27,457
Other revenues [5]	12,839	23,070
Total sales and other revenues	$3,897,247	$4,128,427

	Three Months Ended March 31,	
	2019	2018
	(In thousands)	
Refined product revenues by market		
North America		
Mid-Continent	$1,730,505	$1,889,546
Southwest	850,149	846,478
Rocky Mountains	515,335	630,902
Northeast	127,891	82,857
Canada	177,355	180,422
Europe and Asia	69,405	50,979
Total refined product revenues	$3,470,640	$3,681,184

(1) Transportation fuels consist of gasoline, diesel and jet fuel.
(2) Specialty lubricant products consist of base oil, waxes, finished lubricants and other specialty fluids.
(3) Asphalt, fuel oil and other products revenue include revenues attributable to our Refining and Lubricants and Specialty Products segments of $169,866 and $48,992, respectively, for the three months ended March 31, 2019 and $161,956 and $45,801, respectively, for the three months ended March 31, 2018.
(4) Excess crude oil revenues represent sales of purchased crude oil inventory that at times exceeds the supply needs of our refineries.
(5) Other revenues are principally attributable to our Refining segment.

Our consolidated balance sheet reflects contract liabilities related to unearned revenues attributable to future service obligations under HEP's third-party transportation agreements and production agreements from the acquisition of Sonneborn on February 1, 2019. The following table presents changes to our contract liabilities during the three months ended March 31, 2019.

	January 1, 2019	Sonneborn Acquisition	Increase	Recognized as Revenue	March 31, 2019
	(In thousands)				
Accrued liabilities	$132	6,463	$3,968	$ (3,966)	$ 6,597

As of March 31, 2019, we have long-term contracts with customers that specify minimum volumes of gasoline, diesel, lubricants and specialty products to be sold ratably at market prices through 2021. Such volumes are typically nominated in the month preceding delivery and delivered ratably throughout the following month. Future prices are subject to market fluctuations and therefore, we have elected the exemption to exclude variable consideration under these contracts under Accounting Standards Codification 606-10-50-14A. Aggregate minimum volumes expected to be sold (future performance obligations) under our long-term product sales contracts with customers are as follows:

	Remainder of 2019	2020	2021	Thereafter	Total
	(In thousands)				
Refined product sales volumes (barrels)	20,175	7,456	1,847	—	29,478

Additionally, HEP has long-term contracts with third-party customers that specify minimum volumes of product to be transported through its pipelines and terminals that result in fixed-minimum annual of revenues through 2022. Annual minimum revenues attributable to HEP's third-party contracts as of March 31, 2019 are presented below:

	Remainder of 2019	2020	2021	Thereafter	Total
	(In thousands)				
HEP contractual minimum revenues	$31,807	$18,476	$11,245	$ 1,968	$63,496

NOTE 6: Fair Value Measurements

Our financial instruments measured at fair value on a recurring basis consist of derivative instruments and RINs credit obligations.

Fair value measurements are derived using inputs (assumptions that market participants would use in pricing an asset or liability, including assumptions about risk). GAAP categorizes inputs used in fair value measurements into three

broad levels as follows:

- (Level 1) Quoted prices in active markets for identical assets or liabilities.

- (Level 2) Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, similar assets and liabilities in markets that are not active or can be corroborated by observable market data.
- (Level 3) Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. This includes valuation techniques that involve significant unobservable inputs.

The carrying amounts of derivative instruments and RINs credit obligations at March 31, 2019 and December 31, 2018 were as follows:

		Fair Value by Input Level		
	Carrying Amount	Level 1	Level 2	Level 3
	(In thousands)			
March 31, 2019				
Assets:				
Foreign currency forward contracts	$11,239	$—	$11,239	$ —
Commodity price swaps	23,823	—	23,823	—
Commodity forward contracts	4,194	—	4,194	—
Total assets	$39,256	$—	$39,256	$ —
Liabilities:				
NYMEX futures contracts	$1,679	$1,679	$—	$ —
Commodity price swaps	14	—	14	—
Commodity forward contracts	3,933	—	3,933	—
RINs credit obligations [(1)]	5,229	—	5,229	—
Total liabilities	$10,855	$1,679	$9,176	$ —
December 31, 2018				
Assets:				
NYMEX futures contracts	$2,473	$2,473	$—	$—
Foreign currency forward contracts	25,956	—	25,956	—
Commodity price swaps	10,817	—	10,817	—
Commodity forward contracts	1,034	—	1,034	$—
Total assets	$40,280	$2,473	$37,807	$—
Liabilities:				
Commodity price swaps	$956	$—	$956	$—
Commodity forward contracts	1,137	—	1,137	—
RINs credit obligations [(1)]	4,084	—	4,084	—
Total liabilities	$6,177	$—	$6,177	$—

(1) Represent obligations for RINs credits for which we do not have sufficient quantities at March 31, 2019 and December 31, 2018 to satisfy our Environmental Protection Agency ("EPA") regulatory blending requirements.

Level 1 Instruments

Our NYMEX futures contracts are exchange traded and are measured and recorded at fair value using quoted market prices, a Level 1 input.

Level 2 Instruments
Derivative instruments consisting of foreign currency forward contracts, commodity price swaps and forward sales and purchase contracts are measured and recorded at fair value using Level 2 inputs. The fair value of the commodity price swap contracts is based on the net present value of expected future cash flows related to both variable and fixed rate legs of the respective swap agreements. The measurements are computed using market-based observable input and quoted forward commodity prices with respect to our commodity price swaps. RINs credit obligations are valued based on current market RINs prices. The fair value of foreign currency forward contracts are based on values provided by a third party, which were derived using market quotes for similar type instruments, a Level 2 input.

NOTE 7: Earnings Per Share

Basic earnings per share is calculated as net income attributable to HollyFrontier stockholders divided by the average number of shares of common stock outstanding. Diluted earnings per share assumes, when dilutive, the issuance of the net incremental shares from restricted shares and performance share units. The following is a reconciliation of the denominators of the basic and diluted per share computations for net income attributable to HollyFrontier stockholders:

	Three Months Ended March 31,	
	2019	2018
	(In thousands, except per share data)	
Net income attributable to HollyFrontier stockholders	$253,055	$268,091
Participating securities' (restricted stock) share in earnings	364	950
Net income attributable to common shares	$252,691	$267,141
Average number of shares of common stock outstanding	170,851	176,617
Effect of dilutive variable restricted shares and performance share units [(1)]	1,388	1,337
Average number of shares of common stock outstanding assuming dilution	172,239	177,954
Basic earnings per share	$1.48	$1.51
Diluted earnings per share	$1.47	$1.50
[(1)] Excludes anti-dilutive restricted and performance share units of:	—	5

NOTE 8: Stock-Based Compensation

We have a principal share-based compensation plan (the "Long-Term Incentive Compensation Plan"). The compensation cost charged against income for the plan was $8.7 million and $8.0 million for the three months ended March 31, 2019 and 2018, respectively. Our accounting policy for the recognition of compensation expense for awards with pro-rata vesting is to expense the costs ratably over the vesting periods.

Additionally, HEP maintains a share-based compensation plan for Holly Logistic Services, L.L.C.'s non-employee directors and certain executives and employees. Compensation cost attributable to HEP's share-based compensation plan was $0.7 million and $0.8 million for the three months ended March 31, 2019 and 2018, respectively.

Restricted Stock and Restricted Stock Units
Under our Long-Term Incentive Compensation Plan, we grant certain officers and other key employees restricted stock unit awards with awards generally vesting over a period of three years. We previously granted restricted stock to certain officers and key employees with awards vesting over a period of three years. Certain restricted stock unit

award recipients have the right to receive dividends, however, restricted stock units do not have any other rights of absolute ownership. Restricted stock award recipients are generally entitled to all the rights of absolute ownership of the restricted shares from the date of grant including the right to vote the shares and to receive dividends. Upon vesting, restrictions on the restricted stock and restricted stock units lapse at which time they convert to common shares or cash. In addition, we grant non-employee directors restricted stock unit awards, which typically vest over a period of one year and are payable in stock. The fair value of each restricted stock and restricted stock unit award is measured based on the grant date market price of our common shares and is amortized over the respective vesting period. We account for forfeitures on an estimated basis.

A summary of restricted stock and restricted stock unit activity during the three months ended March 31, 2019 is presented below:

Restricted Stock and Restricted Stock Units	Grants	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value ($000)
Outstanding at January 1, 2019 (non-vested)	1,196,914	$ 46.81	
Granted	30,739	55.16	
Vesting (transfer/conversion to common stock)	(910)	49.36	
Forfeited	(3,625)	41.21	
Outstanding at March 31, 2019 (non-vested)	1,223,118	47.03	$ 60,263

For the three months ended March 31, 2019, restricted stock and restricted stock units vested having a grant date fair value of $44,836. As of March 31, 2019, there was $27.4 million of total unrecognized compensation cost related to non-vested restricted stock and restricted stock unit grants. That cost is expected to be recognized over a weighted-average period of 1.5 years.

Performance Share Units

Under our Long-Term Incentive Compensation Plan, we grant certain officers and other key employees performance share units, which are payable in stock or cash upon meeting certain criteria over the service period, and generally vest over a period of three years. Under the terms of our performance share unit grants, awards are subject to “financial performance” and “market performance” criteria. Financial performance is based on our financial performance compared to a peer group of independent refining companies, while market performance is based on the relative standing of total shareholder return achieved by HollyFrontier compared to peer group companies. The number of shares ultimately issued under these awards can range from zero to 200% of target award amounts.

A summary of performance share unit activity during the three months ended March 31, 2019 is presented below:

Performance Share Units	Grants
Outstanding at January 1, 2019 (non-vested)	662,431
Granted	1,505
Outstanding at March 31, 2019 (non-vested)	663,936

As of March 31, 2019, there was $12.7 million of total unrecognized compensation cost related to non-vested performance share units having a grant date fair value of $46.97 per unit. That cost is expected to be recognized over a weighted-average period of 1.6 years.

NOTE 9: Inventories

Inventory consists of the following components:

	March 31, 2019	December 31, 2018
	(In thousands)	
Crude oil	$510,548	$503,705
Other raw materials and unfinished products[1]	427,496	360,124
Finished products[2]	684,747	662,713
Lower of cost or market reserve	(127,792)	(360,138)
Process chemicals[3]	30,864	31,413

Repair and maintenance supplies and other [4]	142,066	156,562
Total inventory	$1,667,929	$1,354,379

(1) Other raw materials and unfinished products include feedstocks and blendstocks, other than crude.
(2) Finished products include gasolines, jet fuels, diesels, lubricants, asphalts, LPG's and residual fuels.
(3) Process chemicals include additives and other chemicals.
(4) Includes RINs.

Our inventories that are valued at the lower of LIFO cost or market reflect a valuation reserve of $127.8 million and $360.1 million at March 31, 2019 and December 31, 2018, respectively. The December 31, 2018 market reserve of $360.1 million was reversed due to the sale of inventory quantities that gave rise to the 2018 reserve. A new market reserve of $127.8 million was established as of March 31, 2019 based on market conditions and prices at that time. The effect of the change in lower of cost or market reserve was a decrease to cost of products sold totaling $232.3 million and $103.8 million for the three months ended March 31, 2019 and 2018, respectively.

At March 31, 2019, the LIFO value of inventory, net of the lower of cost or market reserve, was equal to current costs.

During the three months ended March 31, 2018, the EPA granted the Cheyenne Refinery a one-year small refinery exemption from the Renewable Fuel Standard ("RFS") program requirements for the 2015 and 2017 calendar years end. As a result, the Cheyenne Refinery's gasoline and diesel production are not subject to the Renewable Volume Obligation ("RVO") for those years. At the date we received the 2017 Cheyenne Refinery exemption, we had not yet retired RINs to satisfy the 2017 RVO, which we intended to satisfy, in part, with 2016 vintage RINs subject to the 20% carryover limit. In the first quarter of 2018, we increased our inventory of RINs and reduced our cost of products sold by $37.9 million, representing the net cost of the Cheyenne Refinery's RINs charged to cost of products sold in 2017, less the loss incurred from selling 2016 vintage RINs prior to their expiration in 2018.

In the first quarter of 2018, the EPA provided us 2018 vintage RINs to replace the RINs previously submitted to meet the Cheyenne Refinery's 2015 RVO. In the first quarter of 2018, we increased our inventory of RINs and reduced our cost of products sold by $33.8 million representing the fair value of the 2018 replacement RINs obtained from the Cheyenne Refinery's exemption of its 2015 RVO.

During the second quarter of 2018, the Renewable Fuel Association and three other associations sought judicial review of three hardship waivers granted by the EPA under the RFS provisions of the Clean Air Act by filing a lawsuit in the United States Court of Appeals for the Tenth Circuit ("Tenth Circuit") that alleges the EPA erred in granting the waivers. This challenge includes two hardship waivers granted to our subsidiaries for the 2016 compliance year. The Tenth Circuit granted our motion to intervene in the case, thereby making us a party to this case. It is too early to assess whether the case is expected to have any impact on us.

NOTE 10: Environmental

Environmental costs are charged to operating expenses if they relate to an existing condition caused by past operations and do not contribute to current or future revenue generation. We have ongoing investigations of environmental matters at various locations and routinely assess our recorded environmental obligations, if any, with respect to such matters. Liabilities are recorded when site restoration and environmental remediation, cleanup and other obligations are either known or considered probable and can be reasonably estimated. Such estimates are undiscounted and require judgment with respect to costs, time frame and extent of required remedial and cleanup activities and are subject to periodic adjustments based on currently available information. Recoveries of environmental costs through insurance, indemnification arrangements or other sources are included in other assets to the extent such recoveries are considered probable.

We incurred expense of $0.3 million for each of the three months ended March 31, 2019 and 2018 for environmental remediation obligations. The accrued environmental liability reflected in our consolidated balance sheets was $110.0 million and $110.2 million at March 31, 2019 and December 31, 2018, respectively, of which $93.6 million and $93.8 million, respectively, were classified as other long-term liabilities. These accruals include remediation and monitoring costs expected to be incurred over an extended period of time (up to 30 years for certain projects). Estimated liabilities could increase in the future when the results of ongoing investigations become known, are considered probable and can be reasonably estimated.

NOTE 11: Debt

HollyFrontier Credit Agreement
We have a $1.35 billion senior unsecured revolving credit facility maturing in February 2022 (the “HollyFrontier Credit Agreement”). The HollyFrontier Credit Agreement may be used for revolving credit loans and letters of credit from time to time and is available to fund general corporate purposes. At March 31, 2019, we were in compliance with all covenants, had no outstanding borrowings and had outstanding letters of credit totaling $2.2 million under the HollyFrontier Credit Agreement.

HEP Credit Agreement
HEP has a $1.4 billion senior secured revolving credit facility maturing in July 2022 (the “HEP Credit Agreement”) and is available to fund capital expenditures, investments, acquisitions, distribution payments, working capital and for general partnership purposes. It is also available to fund letters of credit up to a $50 million sub-limit and has a $300 million accordion. During the three months ended March 31, 2019, HEP received advances totaling $104.0 million and repaid $85.0 million under the HEP Credit Agreement. At March 31, 2019, HEP was in compliance with all of its covenants, had outstanding borrowings of $942.0 million and no outstanding letters of credit under the HEP Credit Agreement.

HEP’s obligations under the HEP Credit Agreement are collateralized by substantially all of HEP’s assets and are guaranteed by HEP’s material wholly-owned subsidiaries. Any recourse to the general partner would be limited to the extent of HEP Logistics Holdings, L.P.’s assets, which other than its investment in HEP are not significant. HEP’s creditors have no recourse to our other assets. Furthermore, our creditors have no recourse to the assets of HEP and its consolidated subsidiaries.

HollyFrontier Senior Notes
Our 5.875% senior notes ($1 billion aggregate principal amount maturing April 2026) (the “HollyFrontier Senior Notes”) are unsecured and unsubordinated obligations of ours and rank equally with all our other existing and future unsecured and unsubordinated indebtedness.

HollyFrontier Financing Arrangements

In December 2018, certain of our wholly-owned subsidiaries entered into financing arrangements whereby such subsidiaries sold a portion of their precious metals catalyst to a financial institution and then leased back the precious metals catalyst in exchange for total cash received of $32.5 million. The volume of the precious metals catalyst and the lease rate are fixed over the one-year term of each lease, and the lease payments are recorded as interest expense. At maturity, we must repurchase the precious metals catalyst at its then fair market value. These financing arrangements are recorded at a Level 2 fair value totaling $35.6 million at March 31, 2019 and are included in “Accrued liabilities” in our consolidated balance sheets. See Note 6 for additional information on Level 2 inputs.

HEP Senior Notes

HEP's 6.0% senior notes ($500 million aggregate principal amount maturing August 2024) (the "HEP Senior Notes") are unsecured and impose certain restrictive covenants, including limitations on HEP's ability to incur additional indebtedness, make investments, sell assets, incur certain liens, pay distributions, enter into transactions with affiliates, and enter into mergers. At any time when the HEP Senior Notes are rated investment grade by both Moody's and Standard & Poor's and no default or event of default exists, HEP will not be subject to many of the foregoing covenants. Additionally, HEP has certain redemption rights under the HEP Senior Notes.

Indebtedness under the HEP Senior Notes is guaranteed by HEP's wholly-owned subsidiaries. HEP's creditors have no recourse to our assets. Furthermore, our creditors have no recourse to the assets of HEP and its consolidated subsidiaries.

The carrying amounts of long-term debt are as follows:

	March 31, 2019	December 31, 2018
	(In thousands)	
HollyFrontier 5.875% Senior Notes		
Principal	$1,000,000	$1,000,000
Unamortized discount and debt issuance costs	(7,120)	(7,360)
	992,880	992,640
HEP Credit Agreement	942,000	923,000
HEP 6% Senior Notes		
Principal	500,000	500,000
Unamortized discount and debt issuance costs	(3,946)	(4,100)
	496,054	495,900
Total HEP long-term debt	1,438,054	1,418,900
Total long-term debt	$2,430,934	$2,411,540

The fair values of the senior notes are as follows:

	March 31, 2019	December 31, 2018
	(In thousands)	
HollyFrontier senior notes	$1,069,640	$1,019,160
HEP senior notes	$517,740	$488,310

These fair values are based on a Level 2 input. See Note 6 for additional information on Level 2 inputs.

We capitalized interest attributable to construction projects of $0.7 million and $0.9 million for the three months ended March 31, 2019 and 2018, respectively.

NOTE 12: Derivative Instruments and Hedging Activities

Commodity Price Risk Management

Our primary market risk is commodity price risk. We are exposed to market risks related to the volatility in crude oil and refined products, as well as volatility in the price of natural gas used in our refining operations. We periodically enter into derivative contracts in the form of commodity price swaps, forward purchase and sales and futures contracts to mitigate price exposure with respect to our inventory positions, natural gas purchases, sales prices of refined products and crude oil costs.

Foreign Currency Risk Management

We are exposed to market risk related to the volatility in foreign currency exchange rates. We periodically enter into derivative contracts in the form of foreign exchange forward and foreign exchange swap contracts to mitigate the exposure associated with fluctuations on intercompany notes with our foreign subsidiaries that are not denominated in the U.S. dollar.

Accounting Hedges

We have swap contracts serving as cash flow hedges against price risk on forecasted purchases of natural gas and to lock in basis spread differentials on forecasted purchases of crude oil. We also periodically have forward sales contracts that lock in the prices of future sales of crude oil and refined product. These contracts have been designated as accounting hedges and are measured at fair value with offsetting adjustments (gains/losses) recorded directly to other comprehensive income. These fair value adjustments are later reclassified to earnings as the hedging instruments mature.

The following table presents the pre-tax effect on other comprehensive income ("OCI") and earnings due to fair value adjustments and maturities of derivatives designated as hedging instruments under hedge accounting:

	Net Unrealized Gain (Loss) Recognized in OCI		Gain (Loss) Reclassified into Earnings		
Derivatives Designated as Cash Flow Hedging Instruments	Three Months Ended March 31,		Income Statement Location	Three Months Ended March 31,	
	2019	2018		2019	2018
	(In thousands)				
Commodity contracts	$13,948	$(5,516)	Sales and other revenues	$(1,799)	$1,647
			Cost of products sold	3,622	—
			Operating expenses	(181)	(456)
Total	$13,948	$(5,516)		$1,642	$1,191

Economic Hedges

We have commodity contracts including forward purchase and sell contracts and NYMEX futures contracts to lock in prices on forecasted purchases and sales of inventory that serve as economic hedges (derivatives used for risk management, but not designated as accounting hedges). We also have forward currency contracts to fix the rate of foreign currency. Our catalyst financing arrangements discussed in Note 11 could require repayment under certain conditions based on the futures price of platinum, which is an embedded derivative. These contracts are measured at fair value with offsetting adjustments (gains/losses) recorded directly to income.

The following table presents the pre-tax effect on income due to maturities and fair value adjustments of our economic hedges:

	Gain (Loss) Recognized in Earnings		
Derivatives Not Designated as Hedging Instruments	Income Statement Location	Three Months Ended March 31,	
		2019	2018
		(In thousands)	
Commodity contracts	Cost of products sold	$(7,417)	$(4,867)
	Interest expense	(2,016)	—
Foreign currency contracts	Gain on foreign currency transactions	(7,606)	16,197
	Total	$(17,039)	$11,330

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As of March 31, 2019, we have the following notional contract volumes related to outstanding derivative instruments:

		Notional Contract Volumes by Year of Maturity			
	Total Outstanding Notional	2019	2020	2021	Unit of Measure
Derivatives Designated as Hedging Instruments					
Natural gas price swaps - long	4,950,000	1,350,000	1,800,000	1,800,000	MMBTU
Crude oil price swaps (basis spread) - long	8,333,000	3,575,000	4,758,000	—	Barrels
Derivatives Not Designated as Hedging Instruments					
NYMEX futures (WTI) - short	1,035,000	1,035,000	—	—	Barrels
Forward gasoline and diesel contracts - long	395,000	395,000	—	—	Barrels
Foreign currency forward contracts	440,629,812	440,629,812	—	—	U.S. dollar
Forward commodity contracts (platinum)	41,147	41,147	—	—	Troy ounces

The following table presents the fair value and balance sheet locations of our outstanding derivative instruments. These amounts are presented on a gross basis with offsetting balances that reconcile to a net asset or liability position in our consolidated balance sheets. We present on a net basis to reflect the net settlement of these positions in accordance with provisions of our master netting arrangements.

	Derivatives in Net Asset Position			Derivatives in Net Liability Position		
	Gross Assets	Gross Liabilities Offset in Balance Sheet	Net Assets Recognized in Balance Sheet	Gross Liabilities	Gross Assets Offset in Balance Sheet	Net Liabilities Recognized in Balance Sheet
	(In thousands)					
March 31, 2019						
Derivatives designated as cash flow hedging instruments:						
Commodity price swap contracts	$24,576	$(753)	$ 23,823	$1,186	$(1,172)	$ 14
	$24,576	$(753)	$ 23,823	$1,186	$(1,172)	$ 14
Derivatives not designated as cash flow hedging instruments:						
Foreign currency forward contracts	$11,247	$—	$ 11,247	$8	$—	$ 8
NYMEX futures contracts	—	—	—	1,679	—	1,679
Commodity forward contracts	4,194	—	4,194	3,933	—	3,933
	$15,441	$—	$ 15,441	$5,620	$—	$ 5,620
Total net balance			$ 39,264			$ 5,634
Balance sheet classification:	Prepayment and other		$ 36,510	Accrued liabilities		$ 5,620
	Intangibles and other		2,754	Other long-term liabilities		14
			$ 39,264			$ 5,634

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	Derivatives in Net Asset Position			Derivatives in Net Liability Position		
	Gross Assets	Gross Liabilities Offset in Balance Sheet	Net Assets Recognized in Balance Sheet	Gross Liabilities	Gross Assets Offset in Balance Sheet	Net Liabilities Recognized in Balance Sheet
	(In thousands)					
December 31, 2018						
Derivatives designated as cash flow hedging instruments:						
Commodity price swap contracts	$11,790	$(973)	$ 10,817	$1,755	$ (799)	$ 956
	$11,790	$(973)	$ 10,817	$1,755	$ (799)	$ 956
Derivatives not designated as cash flow hedging instruments:						
Foreign currency forward contracts	$25,956	$—	$ 25,956	$—	$ —	$ —
NYMEX futures contracts	2,473	—	2,473	—	—	—
Commodity forward contracts	1,034	—	1,034	1,137	—	1,137
	$29,463	$—	$ 29,463	$1,137	$ —	$ 1,137
Total net balance			$ 40,280			$ 2,093
Balance sheet classification:	Prepayment and other		$ 37,982	Accrued liabilities		$ 1,137
	Intangibles and other		2,298	Other long-term liabilities		956
			$ 40,280			$ 2,093

At March 31, 2019, we had a pre-tax net unrealized gain of $23.8 million classified in accumulated other comprehensive income that relates to all accounting hedges having contractual maturities through 2021. Assuming commodity prices remain unchanged, an unrealized gain of $21.1 million will be effectively transferred from accumulated other comprehensive income into the statement of income as the hedging instruments contractually mature over the next twelve-month period.

NOTE 13: Equity

In September 2018, our Board of Directors approved a $1 billion share repurchase program, which replaced all existing share repurchase programs, authorizing us to repurchase common stock in the open market or through privately negotiated transactions. The timing and amount of stock repurchases will depend on market conditions and corporate, regulatory and other relevant considerations. This program may be discontinued at any time by the Board of Directors. As of March 31, 2019, we had remaining authorization to repurchase up to $714.4 million under this stock repurchase program. In addition, we are authorized by our Board of Directors to repurchase shares in an amount sufficient to offset shares issued under our compensation programs.

During the three months ended March 31, 2019 and 2018, we withheld 345 and 11,920, respectively, shares of our common stock under the terms of stock-based compensation agreements to provide funds for the payment of payroll and income taxes due at the vesting of share-based awards.

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NOTE 14: Other Comprehensive Income

The components and allocated tax effects of other comprehensive income are as follows:

	Before-Tax	Tax Expense (Benefit)	After-Tax
	(In thousands)		
Three Months Ended March 31, 2019			
Net change in foreign currency translation adjustment	$4,363	$905	$3,458
Net unrealized gain on hedging instruments	13,948	3,557	10,391
Net change in pension and other post-retirement benefit obligations	(74)	—	(74)
Other comprehensive income attributable to HollyFrontier stockholders	$18,237	$4,462	$13,775
Three Months Ended March 31, 2018			
Net change in foreign currency translation adjustment	$(11,940)	$(2,464)	$(9,476)
Net unrealized loss on hedging instruments	(5,516)	(1,412)	(4,104)
Other comprehensive loss attributable to HollyFrontier stockholders	$(17,456)	$(3,876)	$(13,580)

The following table presents the income statement line item effects for reclassifications out of accumulated other comprehensive income ("AOCI"):

AOCI Component	Gain (Loss) Reclassified From AOCI		Income Statement Line Item
	(In thousands)		
	Three Months Ended March 31,		
	2019	2018	
Hedging instruments:			
Commodity price swaps	$(1,799)	$1,647	Sales and other revenues
	3,622	—	Cost of products sold
	(181)	(456)	Operating expenses
	1,642	1,191	
	419	304	Income tax expense
Total reclassifications for the period	$1,223	$887	Net of tax

Accumulated other comprehensive income in the equity section of our consolidated balance sheets includes:

	March 31, 2019	December 31, 2018
	(In thousands)	
Foreign currency translation adjustment	$(9,218)	$ (12,676)
Unrealized loss on pension obligation	(1,476)	(1,404)
Unrealized gain on post-retirement benefit obligations	20,356	20,358
Unrealized gain on hedging instruments	17,736	7,345
Accumulated other comprehensive income	$27,398	$ 13,623

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NOTE 15: Post-retirement Plans

Our net periodic pension expense consisted of the following components:

	Three Months Ended March 31,	
	2019	2018
	(In thousands)	
Service cost - benefit earned during the period	$1,027	$1,104
Interest cost on projected benefit obligations	598	562
Expected return on plan assets	(811)	(865)
Net periodic pension expense	$814	$801

The expected long-term annual rate of return on plan assets is 5.75%. This rate was used in measuring 2019 net periodic benefit costs. We expect to contribute $3.3 million to the pension plans in 2019.

The net periodic benefit credit of our post-retirement healthcare and other benefits plans consisted of the following components

	Three Months Ended March 31,	
	2019	2018
	(In thousands)	
Service cost – benefit earned during the period	$367	$412
Interest cost on projected benefit obligations	258	234
Amortization of prior service credit	(870)	(870)
Amortization of gain	(20)	—
Net periodic post-retirement credit	$(265)	$(224)

Sonneborn has various post-retirement benefit plans for employees in the United States and in the Netherlands.
The plans for Sonneborn employees in the Netherlands include a defined benefit pension plan which was frozen and all plan participants became inactive in 2016. The plan assets are in the form of a third-party insurance contract that is valued based on the assets held by the insurer and insures a value which approximates the accrued benefits related to the plan's accumulated benefit obligation. A new multiemployer pension plan was established in 2016, which is accounted for as a defined contribution plan. Also, in 2016, a new plan was established to provide future indexation benefits to participants who had accrued benefits under the expiring arrangements. Such benefits are funded by Sonneborn Refined Products B.V.
The plans for Sonneborn employees in the United States include a post-retirement medical plan and a multiemployer plan for union employees. These plans are accounted for as defined contribution plans.

NOTE 16: Contingencies

We are a party to various litigation and legal proceedings which we believe, based on advice of counsel, will not either individually or in the aggregate have a material adverse effect on our financial condition, results of operations or cash flows.

We have a crude oil supply contract that requires the supplier to deliver a specified volume of crude oil or pay a shortfall fee for the difference in the actual barrels delivered to us less the specified barrels per the supply contract. For the contract year ended August 31, 2017, the actual number of barrels delivered to us was substantially less than the specified barrels, and we recorded a reduction to cost of products sold and accumulated a shortfall fee receivable of $26.0 million during this period. In September 2017, the supplier notified us they are disputing the shortfall fee owed and in October 2017 notified us of their demand for arbitration. We offset the receivable with payments of invoices for deliveries of crude oil received subsequent to August 31, 2017, which is permitted under the supply contract. For the second contract year ended August 31, 2018, the actual number of barrels delivered to us was less than the specified barrels, and we recorded a reduction to cost of products sold and accumulated a shortfall fee receivable of $8.0 million during this period. We offset the receivable with payments of invoices for deliveries of crude oil received subsequent to August 31, 2018, which is permitted under the supply contract. The shortfall fees owed for the second contract year are now also part of the arbitration proceedings. In February 2019, the arbitration panel ruled in our favor on our motion for summary judgment, and we are currently finalizing a settlement with the supplier.

In March 2006, a subsidiary of ours sold the assets of Montana Refining Company under an Asset Purchase Agreement (“APA”). Calumet Montana Refining LLC, the current owner of the assets, has submitted requests for reimbursement of approximately $20.0 million pursuant to contractual indemnity provisions under the APA for various costs incurred. Calumet has also asserted claims related to environmental matters. We have rejected all of the currently pending claims for payment, and selected issues were arbitrated in July 2018. In September 2018, the arbitration panel ruled on the selected issues and held that the APA places a number of important limitations on claims advanced by Calumet. The remaining issues were heard by the arbitration panel in April 2019, and the arbitration panel’s decision is expected in August 2019. We have accrued appropriate costs for this matter, and we believe that any reasonably possible losses beyond the amounts accrued are not material.

NOTE 17: Segment Information

Our operations are organized into three reportable segments, Refining, Lubricants and Specialty Products and HEP. Our operations that are not included in the Refining, Lubricants and Specialty Products and HEP segments are included in Corporate and Other. Intersegment transactions are eliminated in our consolidated financial statements and are included in Eliminations. Corporate and
Other and Eliminations are aggregated and presented under Corporate, Other and Eliminations column.

The Refining segment represents the operations of the El Dorado, Tulsa, Navajo, Cheyenne and Woods Cross Refineries and HFC Asphalt (aggregated as a reportable segment). Refining activities involve the purchase and refining of crude oil and wholesale and branded marketing of refined products, such as gasoline, diesel fuel and jet fuel. These petroleum products are primarily marketed in the Mid-Continent, Southwest and Rocky Mountain regions of the United States. HFC Asphalt operates various asphalt terminals in Arizona, New Mexico and Oklahoma.

The Lubricants and Specialty Products segment involves PCLI’s production operations, located in Mississauga, Ontario, that includes lubricant products such as base oils, white oils, specialty products and finished lubricants, and the operations of our Petro- Canada Lubricants business that includes the marketing of products to both retail and wholesale outlets through a global sales network with locations in Canada, the United States, Europe and China. Additionally, the Lubricants and Specialty Products segment includes specialty lubricant products produced at our Tulsa Refineries that are marketed throughout North America and are distributed in Central and South America. Also, effective with our acquisition that closed August 1, 2018, the Lubricants and Specialty Products segment includes Red Giant Oil, one of the largest suppliers of locomotive engine oil in North America, and effective with our acquisition that closed February 1, 2019, includes Sonneborn, a producer of specialty hydrocarbon chemicals such as white oils, petrolatums and waxes with manufacturing facilities in the United States and Europe.

The HEP segment includes all of the operations of HEP, which owns and operates logistics and refinery assets consisting of petroleum product and crude oil pipelines, terminals, tankage, loading rack facilities and processing units in the Mid-Continent, Southwest and Rocky Mountain regions of the United States. The HEP segment also includes a 75% ownership interest in UNEV (a consolidated subsidiary of HEP); and 50% ownership interests in each of the Osage Pipeline and the Cheyenne Pipeline. Revenues from the HEP segment are earned through transactions with unaffiliated parties for pipeline transportation, rental and terminalling operations as well as revenues relating to pipeline transportation services provided for our refining operations. Due to certain basis differences, our reported amounts for the HEP segment may not agree to amounts reported in HEP's periodic public filings.

The accounting policies for our segments are the same as those described in the summary of significant accounting policies in our Annual Report on Form 10-K for the year ended December 31, 2018.

	Refining	Lubricants and Specialty Products	HEP	Corporate, Other and Eliminations	Consolidated Total
	(In thousands)				
Three Months Ended March 31, 2019					
Sales and other revenues:					
Revenues from external customers	$3,372,666	$493,334	$31,138	$109	$3,897,247
Intersegment revenues	74,744	—	103,359	(178,103)	—
	$3,447,410	$493,334	$134,497	$(177,994)	$3,897,247
Cost of products sold (exclusive of lower of cost or market inventory)	$2,962,540	$389,017	$—	$(152,352)	$3,199,205
Lower of cost or market inventory valuation adjustment	$(232,346)	$—	$—	$—	$(232,346)
Operating expenses	$264,497	$53,559	$37,513	$(23,977)	$331,592
Selling, general and administrative expenses	$26,977	$39,719	$2,620	$18,718	$88,034
Depreciation and amortization	$74,415	$20,171	$23,830	$3,005	$121,421
Income (loss) from operations	$351,327	$(9,132)	$70,534	$(23,388)	$389,341
Earnings of equity method investments	$—	$—	$2,100	$—	$2,100
Capital expenditures	$41,762	$7,860	$10,718	$3,395	$63,735
Three Months Ended March 31, 2018					
Sales and other revenues:					
Revenues from external customers	$3,655,867	$444,840	$27,457	$263	$4,128,427
Intersegment revenues	93,318	—	101,427	(194,745)	—
	$3,749,185	$444,840	$128,884	$(194,482)	$4,128,427
Cost of products sold (exclusive of lower of cost or market inventory)	$3,211,704	$307,531	$—	$(172,110)	$3,347,125
Lower of cost or market inventory valuation adjustment	$(103,838)	$—	$—	$—	$(103,838)
Operating expenses	$238,484	$64,908	$36,203	$(19,307)	$320,288
Selling, general and administrative expenses	$26,371	$30,654	$3,122	$4,517	$64,664
Depreciation and amortization	$67,175	$8,864	$25,141	$3,161	$104,341
Income (loss) from operations	$309,289	$32,883	$64,418	$(10,743)	$395,847
Earnings of equity method investments	$—	$—	$1,279	$—	$1,279
Capital expenditures	$42,774	$8,538	$12,612	$5,615	$69,539

	Refining	Lubricants and Specialty Products	HEP	Corporate, Other and Eliminations	Consolidated Total
	(In thousands)				
March 31, 2019					
Cash and cash equivalents	$5,310	$110,119	$11,540	$369,170	$496,139
Total assets	$7,338,824	$2,368,141	$2,202,110	$214,355	$12,123,430
Long-term debt	$—	$—	$1,438,054	$992,880	$2,430,934
December 31, 2018					
Cash and cash equivalents	$7,236	$80,931	$3,045	$1,063,540	$1,154,752

Total assets	$6,465,155	$1,506,209	$2,142,027	$ 881,210	$10,994,601
Long-term debt	$—	$—	$1,418,900	$ 992,640	$2,411,540

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Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

This Item 2 contains "forward-looking" statements. See "Forward-Looking Statements" at the beginning of Part I of this Quarterly Report on Form 10-Q. References herein to HollyFrontier Corporation ("HollyFrontier") include HollyFrontier and its consolidated subsidiaries. In accordance with the Securities and Exchange Commission's ("SEC") "Plain English" guidelines, this Quarterly Report on Form 10-Q has been written in the first person. In this document, the words "we," "our," "ours" and "us" refer only to HollyFrontier and its consolidated subsidiaries or to HollyFrontier or an individual subsidiary and not to any other person with certain exceptions. Generally, the words "we," "our," "ours" and "us" include Holly Energy Partners, L.P. ("HEP") and its subsidiaries as consolidated subsidiaries of HollyFrontier, unless when used in disclosures of transactions or obligations between HEP and HollyFrontier or its other subsidiaries. This document contains certain disclosures of agreements that are specific to HEP and its consolidated subsidiaries and do not necessarily represent obligations of HollyFrontier. When used in descriptions of agreements and transactions, "HEP" refers to HEP and its consolidated subsidiaries.

OVERVIEW

We are an independent petroleum refiner and marketer that produces high-value light products such as gasoline, diesel fuel, jet fuel and other specialty products. We own and operate refineries located in El Dorado, Kansas (the "El Dorado Refinery"), Tulsa, Oklahoma (the "Tulsa Refineries"), which comprise two production facilities, the Tulsa West and East facilities, Artesia, New Mexico, which operates in conjunction with crude, vacuum distillation and other facilities situated 65 miles away in Lovington, New Mexico (collectively, the "Navajo Refinery"), Cheyenne, Wyoming (the "Cheyenne Refinery") and Woods Cross, Utah (the "Woods Cross Refinery"). We market our refined products principally in the Southwest United States, the Rocky Mountains extending into the Pacific Northwest and in other neighboring Plains states. In addition, we produce base oils and other specialized lubricants in the United States, Canada and the Netherlands, and export products to more than 80 countries. We also own a 57% limited partner interest and a non-economic general partner interest in HEP, a master limited partnership that provides petroleum product and crude oil transportation, terminalling, storage and throughput services to the petroleum industry, including HollyFrontier Corporation subsidiaries.

On November 12, 2018, we entered into an equity purchase agreement to acquire 100% of the issued and outstanding capital stock of Sonneborn US Holdings Inc. and 100% of the membership rights in Sonneborn Coöperatief U.A. (collectively, "Sonneborn"). The acquisition closed on February 1, 2019. Cash consideration paid was $663.4 million. Sonneborn is a producer of specialty hydrocarbon chemicals such as white oils, petrolatums and waxes with manufacturing facilities in the United States and Europe.

On July 10, 2018, we entered into a definitive agreement to acquire Red Giant Oil Company LLC ("Red Giant Oil"), a privately-owned lubricants company. The acquisition closed on August 1, 2018. Cash consideration paid was $54.2 million. Red Giant Oil is one of the largest suppliers of locomotive engine oil in North America and is headquartered in Council Bluffs, Iowa with storage and distribution facilities in Iowa, Kansas, Utah and Wyoming, along with a blending and packaging facility in Texas.

For the three months ended March 31, 2019, net income attributable to HollyFrontier stockholders was $253.1 million compared to $268.1 million for the three months ended March 31, 2018. Overall gross refining margins per produced barrel sold for the three months ended March 31, 2019 decreased 1% over the same period of 2018 due to lower 2019 crude differentials. Included in our financial results for the first quarter was an inventory reserve adjustment that increased pre-tax earnings by $232.3 million.

Pursuant to the 2007 Energy Independence and Security Act, the Environmental Protection Agency (“EPA”) promulgated the Renewable Fuel Standard (“RFS”) regulations, which increased the volume of renewable fuels mandated to be blended into the nation’s fuel supply. The regulations, in part, require refiners to add annually increasing amounts of “renewable fuels” to their petroleum products or purchase credits, known as renewable identification numbers (“RINs”), in lieu of such blending. Compliance with RFS significantly increases our cost of products sold, with RINs costs totaling $39.0 million for the three months ended March 31, 2019.

OUTLOOK

For the second quarter of 2019, despite tightening crude differentials, we expect crack spreads to experience typical seasonal strength based on continued demand growth for gasoline and diesel. Operationally, we have no major planned downtime until September, and we expect to run between 445,000 to 455,000 barrels per day of crude oil.

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In our Lubricants and Specialty Products segment, we expect the Rack Forward business to perform well based on the seasonal uptick in demand for finished products. We expect this to be offset somewhat by further cyclical weakness and oversupply in the base oil markets which could depress Rack Back earnings in the second quarter.

At HEP, we anticipate seasonal weakness in the second quarter and an annual distribution growth rate of 2% and coverage to average 1.0x for the full year of 2019.

A more detailed discussion of our financial and operating results for the three months ended March 31, 2019 and 2018 is presented in the following sections.

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RESULTS OF OPERATIONS

Financial Data

	Three Months Ended March 31,		Change from 2018	
	2019	2018	Change	Percent
	(In thousands, except per share data)			
Sales and other revenues	$3,897,247	$4,128,427	$(231,180)	(6)%
Operating costs and expenses:				
Cost of products sold (exclusive of depreciation and amortization):				
Cost of products sold (exclusive of lower of cost or market inventory valuation adjustment)	3,199,205	3,347,125	(147,920)	(4)
Lower of cost or market inventory valuation adjustment	(232,346)	(103,838)	(128,508)	124
	2,966,859	3,243,287	(276,428)	(9)
Operating expenses (exclusive of depreciation and amortization)	331,592	320,288	11,304	4
Selling, general and administrative expenses (exclusive of depreciation and amortization)	88,034	64,664	23,370	36
Depreciation and amortization	121,421	104,341	17,080	16
Total operating costs and expenses	3,507,906	3,732,580	(224,674)	(6)
Income from operations	389,341	395,847	(6,506)	(2)
Other income (expense):				
Earnings of equity method investments	2,100	1,279	821	64
Interest income	6,375	2,590	3,785	146
Interest expense	(36,647)	(32,723)	(3,924)	12
Gain on foreign currency transactions	2,265	5,560	(3,295)	(59)
Other, net	557	1,346	(789)	(59)
	(25,350)	(21,948)	(3,402)	16
Income before income taxes	363,991	373,899	(9,908)	(3)
Income tax expense	87,505	85,037	2,468	3
Net income	276,486	288,862	(12,376)	(4)
Less net income attributable to noncontrolling interest	23,431	20,771	2,660	13
Net income attributable to HollyFrontier stockholders	$253,055	$268,091	$(15,036)	(6)%
Earnings per share attributable to HollyFrontier stockholders:				
Basic	$1.48	$1.51	$(0.03)	(2)%
Diluted	$1.47	$1.50	$(0.03)	(2)%
Cash dividends declared per common share	$0.33	$0.33	$—	— %
Average number of common shares outstanding:				
Basic	170,851	176,617	(5,766)	(3)%
Diluted	172,239	177,954	(5,715)	(3)%

Balance Sheet Data

	March 31, 2019	December 31, 2018
	(Unaudited)	
	(In thousands)	
Cash and cash equivalents	$496,139	$1,154,752
Working capital	$1,652,053	$2,128,224
Total assets	$12,123,430	$10,994,601

Long-term debt	$2,430,934	$2,411,540
Total equity	$6,594,574	$6,459,059

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Other Financial Data

	Three Months Ended March 31,	
	2019	2018
	(In thousands)	
Net cash provided by operating activities	$216,816	$333,784
Net cash used for investing activities	$(726,725)	$(66,081)
Net cash used for financing activities	$(150,128)	$(115,711)
Capital expenditures	$63,735	$69,539
EBITDA [1]	$492,253	$487,602

(1) Earnings before interest, taxes, depreciation and amortization, which we refer to as "EBITDA," is calculated as net income attributable to HollyFrontier stockholders plus (i) interest expense, net of interest income, (ii) income tax provision, and (iii) depreciation and amortization. EBITDA is not a calculation provided for under GAAP; however, the amounts included in the EBITDA calculation are derived from amounts included in our consolidated financial statements. EBITDA should not be considered as an alternative to net income or operating income as an indication of our operating performance or as an alternative to operating cash flow as a measure of liquidity. EBITDA is not necessarily comparable to similarly titled measures of other companies. EBITDA is presented here because it is a widely used financial indicator used by investors and analysts to measure performance. EBITDA is also used by our management for internal analysis and as a basis for financial covenants. EBITDA presented above is reconciled to net income under "Reconciliations to Amounts Reported Under Generally Accepted Accounting Principles" following Item 3 of Part I of this Form 10-Q.

Segment Operating Data

Our operations are organized into three reportable segments, Refining, Lubricants and Specialty Products and HEP. See Note 17 "Segment Information" in the Notes to Consolidated Financial Statements for additional information on our reportable segments.

Refining Segment Operating Data

Our refinery operations include the El Dorado, Tulsa, Navajo, Cheyenne and Woods Cross Refineries. The following tables set forth information, including non-GAAP performance measures, about our consolidated refinery operations. The cost of products and refinery gross and net operating margins do not include the non-cash effects of lower of cost or market inventory valuation adjustments and depreciation and amortization. Reconciliations to amounts reported under GAAP are provided under "Reconciliations to Amounts Reported Under Generally Accepted Accounting Principles" following Item 3 of Part I of this Form 10-Q.

	Three Months Ended March 31,	
	2019	2018
Mid-Continent Region (El Dorado and Tulsa Refineries)		
Crude charge (BPD) [1]	213,180	227,690
Refinery throughput (BPD) [2]	230,050	246,070
Sales of produced refined products (BPD) [3]	217,600	253,080
Refinery utilization [4]	82.0 %	87.6 %
Average per produced barrel [5]		
Refinery gross margin	$11.14	$10.65

Refinery operating expenses [6]	6.66	5.14
Net operating margin	$4.48	$5.51
Refinery operating expenses per throughput barrel [7]	$6.30	$5.28

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	Three Months Ended March 31,	
	2019	2018
Mid-Continent Region (El Dorado and Tulsa Refineries)		
Feedstocks:		
Sweet crude oil	50 %	43 %
Sour crude oil	26 %	30 %
Heavy sour crude oil	17 %	20 %
Other feedstocks and blends	7 %	7 %
Total	100 %	100 %
Sales of produced refined products:		
Gasolines	53 %	55 %
Diesel fuels	28 %	30 %
Jet fuels	9 %	5 %
Fuel oil	1 %	1 %
Asphalt	3 %	3 %
Base oils	4 %	4 %
LPG and other	2 %	2 %
Total	100 %	100 %
Southwest Region (Navajo Refinery)		
Crude charge (BPD) [1]	106,030	106,110
Refinery throughput (BPD) [2]	116,220	116,560
Sales of produced refined products (BPD) [3]	123,390	122,260
Refinery utilization [4]	106.0 %	106.1 %
Average per produced barrel [5]		
Refinery gross margin	$15.95	$9.85
Refinery operating expenses [6]	4.94	4.00
Net operating margin	$11.01	$5.85
Refinery operating expenses per throughput barrel [7]	$5.24	$4.19
Feedstocks:		
Sweet crude oil	16 %	31 %
Sour crude oil	75 %	60 %
Other feedstocks and blends	9 %	9 %
Total	100 %	100 %
Sales of produced refined products:		
Gasolines	54 %	54 %
Diesel fuels	37 %	38 %
Fuel oil	3 %	2 %
Asphalt	3 %	3 %
LPG and other	3 %	3 %
Total	100 %	100 %
Rocky Mountain Region (Cheyenne and Woods Cross Refineries)		

Crude charge (BPD) [1]	81,220	81,460
Refinery throughput (BPD) [2]	87,450	89,420
Sales of produced refined products (BPD) [3]	82,040	90,180
Refinery utilization [4]	83.7 %	84.0 %

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	Three Months Ended March 31,	
	2019	2018
Rocky Mountain Region (Cheyenne and Woods Cross Refineries)		
Average per produced barrel [5]		
Refinery gross margin	$12.14	$22.98
Refinery operating expenses [6]	10.73	9.54
Net operating margin	$1.41	$13.44
Refinery operating expenses per throughput barrel [7]	$10.07	$9.62
Feedstocks:		
Sweet crude oil	36 %	33 %
Heavy sour crude oil	35 %	37 %
Black wax crude oil	22 %	21 %
Other feedstocks and blends	7 %	9 %
Total	100 %	100 %
Sales of produced refined products:		
Gasolines	54 %	56 %
Diesel fuels	34 %	34 %
Fuel oil	3 %	3 %
Asphalt	5 %	3 %
LPG and other	4 %	4 %
Total	100 %	100 %
Consolidated		
Crude charge (BPD) [1]	400,430	415,260
Refinery throughput (BPD) [2]	433,720	452,050
Sales of produced refined products (BPD) [3]	423,030	465,520
Refinery utilization [4]	87.6 %	90.9 %
Average per produced barrel [5]		
Refinery gross margin	$12.74	$12.83
Refinery operating expenses [6]	6.95	5.69
Net operating margin	$5.79	$7.14
Refinery operating expenses per throughput barrel [7]	$6.78	$5.86
Feedstocks:		
Sweet crude oil	38 %	38 %
Sour crude oil	34 %	32 %
Heavy sour crude oil	16 %	18 %
Black wax crude oil	4 %	4 %
Other feedstocks and blends	8 %	8 %
Total	100 %	100 %
Sales of produced refined products:		
Gasolines	53 %	55 %
Diesel fuels	32 %	33 %
Jet fuels	5 %	3 %

Fuel oil	2 %	1 %
Asphalt	3 %	3 %
Base oils	2 %	2 %
LPG and other	3 %	3 %
Total	100%	100%

(1) Crude charge represents the barrels per day of crude oil processed at our refineries.

(2) Refinery throughput represents the barrels per day of crude and other refinery feedstocks input to the crude units and other conversion units at our refineries.

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(3) Represents barrels sold of refined products produced at our refineries (including HFC Asphalt) and does not include volumes of refined products purchased for resale or volumes of excess crude oil sold.

(4) Represents crude charge divided by total crude capacity (BPSD). Our consolidated crude capacity is 457,000 BPSD.

(5) Represents average amount per produced barrel sold, which is a non-GAAP measure. Reconciliations to amounts reported under GAAP are provided under "Reconciliations to Amounts Reported Under Generally Accepted Accounting Principles" following Item 3 of Part I of this Form 10-Q.

(6) Represents total refining segment operating expenses, exclusive of depreciation and amortization, divided by sales volumes of refined products produced at our refineries.

(7) Represents total refining segment operating expenses, exclusive of depreciation and amortization, divided by refinery throughput.

Lubricants and Specialty Products Operating Data

The following table sets forth information about our lubricants and specialty products operations.

	Three Months Ended March 31,	
	2019	2018
Lubricants and Specialty Products		
Throughput (BPD)	19,800	21,580
Sales of produced refined products (BPD)	34,770	32,450
Sales of produced refined products:		
Finished products	49 %	45 %
Base oils	26 %	34 %
Other	25 %	21 %
Total	100 %	100 %

Supplemental financial data attributable to our Lubricants and Specialty Products segment is presented below.

	Rack Back (1)	Rack Forward (2)	Eliminations (3)	Total Lubricants and Specialty Products
	(In thousands)			
Three months ended March 31, 2019				
Sales and other revenues	$156,455	$444,342	$(107,463)	$493,334
Cost of products sold	145,818	350,662	(107,463)	389,017
Operating expenses	29,560	23,999	—	53,559
Selling, general and administrative expenses	13,479	26,240	—	39,719
Depreciation and amortization	10,526	9,645	—	20,171
Income (loss) from operations	$(42,928)	$33,796	$—	$(9,132)
Three months ended March 31, 2018				
Sales and other revenues	$173,432	$399,039	$(127,631)	$444,840
Cost of products sold	152,054	283,108	(127,631)	307,531
Operating expenses	28,771	36,137	—	64,908

Selling, general and administrative expenses	6,819	23,835	—	30,654
Depreciation and amortization	5,628	3,236	—	8,864
Income (loss) from operations	$(19,840)	$52,723	$—	$32,883

(1) Rack back consists of our PCLI base oil production activities, by-product sales to third parties and intra-segment base oil sales to rack forward.
(2) Rack forward activities include the purchase of base oils from rack back and the blending, packaging, marketing and distribution and sales of finished lubricants and specialty products to third parties.
(3) Intra-segment sales of rack back produced base oils to rack forward are eliminated under the “Eliminations” column.

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Results of Operations – Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018

Summary

Net income attributable to HollyFrontier stockholders for the three months ended March 31, 2019 was $253.1 million ($1.48 per basic and $1.47 per diluted share), a $15.0 million decrease compared to net income of $268.1 million ($1.51 per basic and $1.50 per diluted share) for the three months ended March 31, 2018. Net income decreased due principally to a decrease in gross refining margins and lower refining segment sales volumes. For the three months ended March 31, 2019 and 2018, lower of cost or market inventory reserve adjustments increased pre-tax earnings by $232.3 million and $103.8 million, respectively. Refinery gross margins for the three months ended March 31, 2019 decreased to $12.74 per barrel sold from $12.83 for the three months ended March 31, 2018.

Sales and Other Revenues

Sales and other revenues decreased 6% from $4,128.4 million for the three months ended March 31, 2018 to $3,897.2 million for the three months ended March 31, 2019 due to lower refined product sales volumes, partially offset by a year-over-year increase in first quarter sales prices. Sales and other revenues for the three months ended March 31, 2019 and 2018 included $31.1 million and $27.5 million, respectively, in HEP revenues attributable to pipeline and transportation services provided to unaffiliated parties. Additionally, sales and other revenues included $493.3 million and $444.8 million in unaffiliated revenues related to our Lubricants and Specialty Products segment for the three months ended March 31, 2019 and 2018, respectively. Sonneborn contributed $64.3 million in sales and other revenues for the three months ended March 31, 2019.

Cost of Products Sold

Total cost of products sold decreased 9% from $3,243.3 million for the three months ended March 31, 2018 to $2,966.9 million for the three months ended March 31, 2019, due principally to lower refined product sales volumes, partially offset by higher crude oil costs. Additionally during the first quarters of 2019 and 2018, we recognized lower of cost or market inventory valuation benefits of $232.3 million and $103.8 million, respectively, resulting in a new $127.8 million inventory reserve at March 31, 2019. The reserve at March 31, 2019 is based on market conditions and prices at that time. Cost of products sold includes $50.3 million in costs attributable to our Sonneborn operations. During the first quarter 2018, our Cheyenne Refinery was granted a one-year small refinery exemption from the EPA at which time we recorded a $71.7 million decrease to our cost of products sold.

Gross Refinery Margins

Gross refinery margin per barrel sold decreased 1% from $12.83 for the three months ended March 31, 2018 to $12.74 for the three months ended March 31, 2019. This was due to the effects of increased crude oil and feedstock prices, partially offset by an increase in the average per barrel sold sales price during the current year quarter. Gross refinery margin does not include the non-cash effects of lower of cost or market inventory valuation adjustments or depreciation and amortization. See “Reconciliations to Amounts Reported Under Generally Accepted Accounting Principles” following Item 3 of Part I of this Form 10-Q for a reconciliation to the income statement of sale prices of products sold and cost of products purchased.

Operating Expenses

Operating expenses, exclusive of depreciation and amortization, increased 4% from $320.3 million for the three months ended March 31, 2018 to $331.6 million for the three months ended March 31, 2019 due principally to higher repair and maintenance costs related to a February 2019 fire in an FCC unit at our El Dorado Refinery. Prior year period operating expenses included higher repair and maintenance costs as a result of the Woods Cross Refinery fire and resulting damage in March 2018. Operating expenses include $9.6 million in costs attributable to our Sonneborn operations.

Selling, General and Administrative Expenses

Selling, general and administrative expenses increased 36% from $64.7 million for the three months ended March 31, 2018 to $88.0 million for the three months ended March 31, 2019 due principally to higher legal and professional fees and salary costs. Selling, general and administrative expenses include $5.2 million in costs attributable to our Sonneborn operations. Additionally, direct acquisition and integration costs of our recently acquired Sonneborn operations were $12.6 million for the three months ended March 31, 2019. We incurred $3.6 million in direct acquisition and integration costs of our PCLI business during the three months ended March 31, 2018.

Depreciation and Amortization Expenses

Depreciation and amortization increased 16% from $104.3 million for the three months ended March 31, 2018 to $121.4 million for the three months ended March 31, 2019. This increase was due principally to depreciation and amortization attributable to capitalized improvement projects and capitalized refinery turnaround costs. Depreciation and amortization expenses include $6.3 million in costs attributable to our Sonneborn operations.

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Interest Income
Interest income for the three months ended March 31, 2019 was $6.4 million compared to $2.6 million for the three months ended March 31, 2018. This increase was due to higher interest rates and higher cash balances during the current year quarter.

Interest Expense
Interest expense was $36.6 million for the three months ended March 31, 2019 compared to $32.7 million for the three months ended March 31, 2018. This increase was due to interest attributable to higher HEP debt levels and market interest rate increases during the current year quarter relative to the same period of 2018. For the three months ended March 31, 2019 and 2018, interest expense included $19.0 million and $17.6 million, respectively, in interest costs attributable to HEP operations.

Gain on Foreign Currency Transactions
Remeasurement adjustments resulting from the conversion of the intercompany financing structure on our PCLI acquisition from local currencies to the U.S. dollar resulted in $2.3 million and $5.6 million gains for the three months ended March 31, 2019 and 2018, respectively. For the three months ended March 31, 2019 and 2018, gain on foreign currency translation included a loss of $7.6 million and a gain of $16.2 million, respectively, on foreign exchange forward contracts (utilized as an economic hedge).

Income Taxes
For the three months ended March 31, 2019, we recorded income tax expense of $87.5 million compared to $85.0 million for the three months ended March 31, 2018. Our effective tax rates, before consideration of earnings attributable to the noncontrolling interest, were 24.0% and 22.7% for the three months ended March 31, 2019 and 2018, respectively.

LIQUIDITY AND CAPITAL RESOURCES

HollyFrontier Credit Agreement
We have a $1.35 billion senior unsecured revolving credit facility maturing in February 2022 (the “HollyFrontier Credit Agreement”). The HollyFrontier Credit Agreement may be used for revolving credit loans and letters of credit from time to time and is available to fund general corporate purposes. At March 31, 2019, we were in compliance with all covenants, had no outstanding borrowings and had outstanding letters of credit totaling $2.2 million under the HollyFrontier Credit Agreement.

HollyFrontier Financing Arrangements
In December 2018, certain of our wholly-owned subsidiaries entered into financing arrangements whereby such subsidiaries sold a portion of their precious metals catalyst to a financial institution and then leased back the precious metals catalyst in exchange for total cash received of $32.5 million. The volume of the precious metals catalyst and the lease rate are fixed over the one-year term of each lease, and the lease payments are recorded as interest expense. At maturity, we must repurchase the precious metals catalyst at its then fair market value.

HEP Credit Agreement
HEP has a $1.4 billion senior secured revolving credit facility maturing in July 2022 (the “HEP Credit Agreement”) and is available to fund capital expenditures, investments, acquisitions, distribution payments, working capital and for general partnership purposes. It is also available to fund letters of credit up to a $50 million sub-limit and has a $300 million accordion. During the three months ended March 31, 2019, HEP received advances totaling $104.0 million and repaid $85.0 million under the HEP Credit Agreement. At March 31, 2019, HEP was in compliance with all of its covenants, had outstanding borrowings of $942.0 million and no outstanding letters of credit under the HEP Credit

Agreement.

See Note 11 “Debt” in the Notes to Consolidated Financial Statements for additional information on our debt instruments.

HEP Common Unit Continuous Offering Program
In May 2016, HEP established a continuous offering program under which HEP may issue and sell common units from time to time, representing limited partner interests, up to an aggregate gross sales amount of $200 million. During the three months ended March 31, 2019, HEP did not issue any common units under this program. As of March 31, 2019, HEP has issued 2,413,153 units under this program, providing $82.3 million in gross proceeds.

HEP intends to use the net proceeds for general partnership purposes, which may include funding working capital, repayment of debt, acquisitions and capital expenditures. Amounts repaid under HEP’s credit facility may be reborrowed from time to time.

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Liquidity

We believe our current cash and cash equivalents, along with future internally generated cash flow and funds available under our credit facilities, will provide sufficient resources to fund currently planned capital projects and our liquidity needs for the foreseeable future. In addition, components of our growth strategy include the expansion of existing units at our facilities and selective acquisition of complementary assets for our refining operations intended to increase earnings and cash flow.

As of March 31, 2019, our cash and cash equivalents totaled $496.1 million. We consider all highly-liquid instruments with a maturity of three months or less at the time of purchase to be cash equivalents. Cash equivalents are stated at cost, which approximates market value. These primarily consist of investments in conservative, highly-rated instruments issued by financial institutions, government and corporate entities with strong credit standings and money market funds.

In September 2018, our Board of Directors approved a $1 billion share repurchase program, which replaced all existing share repurchase programs, authorizing us to repurchase common stock in the open market or through privately negotiated transactions. The timing and amount of stock repurchases will depend on market conditions and corporate, regulatory and other relevant considerations. This program may be discontinued at any time by the Board of Directors. As of March 31, 2019, we had remaining authorization to repurchase up to $714.4 million under this stock repurchase program. In addition, we are authorized by our Board of Directors to repurchase shares in an amount sufficient to offset shares issued under our compensation programs.

Cash and cash equivalents decreased $658.6 million for the three months ended March 31, 2019. Net cash used for investing and financing activities of $726.7 million, and $150.1 million, respectively, exceeded net cash provided by operating activities of $216.8 million.

Cash Flows – Operating Activities

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018

Net cash flows provided by operating activities were $216.8 million for the three months ended March 31, 2019 compared to $333.8 million for the three months ended March 31, 2018, a decrease of $117.0 million. Net income for the three months ended March 31, 2019 was $276.5 million, a decrease of $12.4 million compared to $288.9 million for the three months ended March 31, 2018. Non-cash adjustments to net income consisting of depreciation and amortization, lower of cost or market inventory valuation adjustment, earnings of equity method investments, inclusive of distributions, gain on sale of assets, deferred income taxes, equity-based compensation expense and fair value changes to derivative instruments totaled $48.5 million for the three months ended March 31, 2019 compared to $18.7 million for the same period in 2018. Adjusted for non-cash items, changes in working capital increased operating cash flows by $63.9 million and $79.0 million, for the three months ended March 31, 2019 and 2018, respectively. Additionally, for the three months ended March 31, 2019, turnaround expenditures increased to $78.6 million from $56.8 million from the same period of 2018.

Cash Flows – Investing Activities and Planned Capital Expenditures

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018

Net cash flows used for investing activities were $726.7 million for the three months ended March 31, 2019 compared to $66.1 million for the three months ended March 31, 2018, an increase of $660.6 million. Current year investing activities reflect a net cash outflow of $663.4 million upon the acquisition of Sonneborn. Cash expenditures for properties, plants and equipment for the first three months of 2019 decreased to $63.7 million from $69.5 million for the same period in 2018. These include HEP capital expenditures of $10.7 million and $12.6 million for the three

months ended March 31, 2019 and 2018, respectively.

Planned Capital Expenditures

HollyFrontier Corporation

Each year our Board of Directors approves our annual capital budget, which includes specific projects that management is authorized to undertake. Additionally, when conditions warrant or as new opportunities arise, additional projects may be approved. The funds appropriated for a particular capital project may be expended over a period of several years, depending on the time required to complete the project. Therefore, our planned capital expenditures for a given year consist of expenditures appropriated in that year's capital budget plus expenditures for projects appropriated in prior years which have not yet been completed. During 2019, we expect to spend approximately $510.0 million to $560.0 million in cash for capital projects and refinery turnarounds appropriated in 2019 and prior years. Refinery turnaround spending is amortized over the useful life of the turnaround. Our expected capital and turnaround cash spending for 2019 is as follows:

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	Expected Cash Spending Range (In millions)
Type:	
Capital	$275.0 - $300.0
Turnarounds	235.0 - 260.0
Total	$510.0 - $560.0

The refining industry is capital intensive and requires on-going investments to sustain our refining operations. This includes replacement of, or rebuilding, refinery units and components that extend the useful life. We also invest in projects that improve operational reliability and profitability via enhancements that improve refinery processing capabilities as well as production yield and flexibility. Our capital expenditures also include projects related to environmental, health and safety compliance and include initiatives as a result of federal and state mandates.

Our refinery operations and related emissions are highly regulated at both federal and state levels, and we invest in our facilities as needed to remain in compliance with these standards. Additionally, when faced with new emissions or fuels standards, we seek to execute projects that facilitate compliance and also improve the operating costs and / or yields of associated refining processes.

HEP

Each year the Holly Logistic Services, L.L.C. board of directors approves HEP's annual capital budget, which specifies capital projects that HEP management is authorized to undertake. Additionally, at times when conditions warrant or as new opportunities arise, special projects may be approved. The funds allocated for a particular capital project may be expended over a period in excess of a year, depending on the time required to complete the project. Therefore, HEP's planned capital expenditures for a given year consist of expenditures approved for capital projects included in its current year capital budget as well as, in certain cases, expenditures approved for capital projects in capital budgets for prior years. The 2019 HEP capital budget is comprised of $10.0 million for maintenance capital expenditures and $20.0 million to $25.0 million for expansion capital expenditures. HEP expects the majority of the expansion capital budget to be invested in refined product pipeline expansions, crude system enhancements, new storage tanks and enhanced blending capabilities at its racks. In addition, HEP may spend funds periodically to perform capital upgrades or additions to its assets where a customer reimburses HEP for such costs. The upgrades or additions would generally benefit the customer over the remaining live of the related service agreements.

Cash Flows – Financing Activities

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018

Net cash flows used for financing activities were $150.1 million for the three months ended March 31, 2019 compared to $115.7 million for the three months ended March 31, 2018, an increase of $34.4 million. During the three months ended March 31, 2019, we purchased $77.8 million of treasury stock and paid $56.8 million in dividends. Also during this period, HEP received $104.0 million and repaid $85.0 million under the HEP Credit Agreement and paid distributions of $33.7 million to noncontrolling interests. During the three months ended March 31, 2018, we purchased $25.6 million of treasury stock and paid $58.9 million in dividends. Also during this period, HEP received $227.0 million and repaid $343.5 million under the HEP Credit Agreement, received $114.5 million in proceeds from the issuance of its common units and paid distributions of $29.2 million to noncontrolling interests.

Contractual Obligations and Commitments

HollyFrontier Corporation

There were no significant changes to our long-term contractual obligations during the three months ended March 31, 2019.

HEP

During the three months ended March 31, 2019, HEP had net borrowings of $19.0 million resulting in $942.0 million of outstanding borrowings under the HEP Credit Agreement at March 31, 2019. There were no other significant changes to HEP's long-term contractual obligations during this period.

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CRITICAL ACCOUNTING POLICIES

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities as of the date of the financial statements. Actual results may differ from these estimates under different assumptions or conditions.

Our significant accounting policies are described in “Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies” in our Annual Report on Form 10-K for the year ended December 31, 2018. Certain critical accounting policies that materially affect the amounts recorded in our consolidated financial statements include the use of the last-in, first-out (“LIFO”) method of valuing certain inventories, assessing the possible impairment of certain long-lived assets and goodwill, and assessing contingent liabilities for probable losses.

Inventory Valuation: Inventories related to our refining operations are stated at the lower of cost, using the LIFO method for crude oil and unfinished and finished refined products, or market. In periods of rapidly declining prices, LIFO inventories may have to be written down to market value due to the higher costs assigned to LIFO layers in prior periods. In addition, the use of the LIFO inventory method may result in increases or decreases to cost of sales in years that inventory volumes decline as the result of charging cost of sales with LIFO inventory costs generated in prior periods. An actual valuation of inventory under the LIFO method is made at the end of each year based on the inventory levels at that time. Accordingly, interim LIFO calculations are based on management’s estimates of expected year-end inventory levels and are subject to the final year-end LIFO inventory valuation.

At March 31, 2019, our lower of cost or market inventory valuation reserve was $127.8 million. This amount, or a portion thereof, is subject to reversal as a reduction to cost of products sold in subsequent periods as inventories giving rise to the reserve are sold, and a new reserve is established.

Inventories consisting of process chemicals, materials and maintenance supplies and RINs are stated at the lower of weighted-average cost or net realizable value. Inventories of our Petro-Canada Lubricants and Sonneborn businesses are stated at the lower of cost, using the FIFO method, or net realizable value.

Goodwill and Long-lived Assets: As of March 31, 2019, our goodwill balance was $2.5 billion, with goodwill assigned to our Refining, Lubricants and Specialty Products and HEP segments of $1.7 billion, $0.5 billion and $0.3 billion, respectively. Goodwill represents the excess of the cost of an acquired entity over the fair value of the assets acquired and liabilities assumed. Goodwill is not subject to amortization and is tested annually or more frequently if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. Our goodwill impairment testing first entails a comparison of our reporting units fair values relative to their respective carrying values. If carrying value exceeds fair value for a reporting unit, we measure goodwill impairment as the excess of the carrying amount of reporting unit goodwill over the implied fair value of that goodwill based on estimates of the fair value of all assets and liabilities in the reporting unit.

Our long-lived assets principally consist of our refining assets that are organized as refining asset groups and the assets of our Lubricants and Specialty Products business. The refinery asset groups also constitute our individual refinery reporting units that are used for testing and measuring goodwill impairments. Our long-lived assets are evaluated for impairment by identifying whether indicators of impairment exist and if so, assessing whether the long-lived assets are recoverable from estimated future undiscounted cash flows. The actual amount of impairment loss measured, if any, is equal to the amount by which the asset group’s carrying value exceeds its fair value.

Contingencies

We are subject to proceedings, lawsuits and other claims related to environmental, labor, product and other matters. We are required to assess the likelihood of any adverse judgments or outcomes to these matters as well as potential ranges of probable losses. A determination of the amount of reserves required, if any, for these contingencies is made after careful analysis of each individual issue. The required reserves may change in the future due to new developments in each matter or changes in approach such as a change in settlement strategy in dealing with these matters.

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RISK MANAGEMENT

We use certain strategies to reduce some commodity price and operational risks. We do not attempt to eliminate all market risk exposures when we believe that the exposure relating to such risk would not be significant to our future earnings, financial position, capital resources or liquidity or that the cost of eliminating the exposure would outweigh the benefit.

Commodity Price Risk Management
Our primary market risk is commodity price risk. We are exposed to market risks related to the volatility in crude oil and refined products, as well as volatility in the price of natural gas used in our refining operations. We periodically enter into derivative contracts in the form of commodity price swaps, forward purchase and sales and futures contracts to mitigate price exposure with respect to our inventory positions, natural gas purchases, sales prices of refined products and crude oil costs.

Foreign Currency Risk Management
We are exposed to market risk related to the volatility in foreign currency exchange rates. We periodically enter into derivative contracts in the form of foreign exchange forward and foreign exchange swap contracts to mitigate the exposure associated with fluctuations on intercompany notes with our foreign subsidiaries that are not denominated in the U.S. dollar.

As of March 31, 2019, we have the following notional contract volumes related to all outstanding derivative instruments used to mitigate commodity price and foreign currency risk:

		Notional Contract Volumes by Year of Maturity			
Derivative Instrument	Total Outstanding Notional	2019	2020	2021	Unit of Measure
Natural gas price swaps - long	4,950,000	1,350,000	1,800,000	1,800,000	MMBTU
Crude oil price swaps (basis spread) - long	8,333,000	3,575,000	4,758,000	—	Barrels
NYMEX futures (WTI) - short	1,035,000	1,035,000	—	—	Barrels
Forward gasoline and diesel contracts - long	395,000	395,000	—	—	Barrels
Foreign currency forward contracts	440,629,812	440,629,812	—	—	U.S. dollar
Forward commodity contracts (platinum) [1]	41,147	41,147	—	—	Troy ounces

(1) Represents an embedded derivative within our catalyst financing arrangements, which may be refinanced or require repayment under certain conditions. See Note 11 “Debt” in the Notes to Consolidated Financial Statements for additional information on these financing arrangements.

The following sensitivity analysis provides the hypothetical effects of market price fluctuations to the commodity positions hedged under our derivative contracts:

	Estimated Change in Fair Value at March 31,	
Commodity-based Derivative Contracts	2019	2018
	(In thousands)	
Hypothetical 10% change in underlying commodity prices	$2,670	$2,320

Interest Rate Risk Management

The market risk inherent in our fixed-rate debt is the potential change arising from increases or decreases in interest rates as discussed below.

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For the fixed rate HollyFrontier Senior Notes and HEP Senior Notes, changes in interest rates will generally affect fair value of the debt, but not earnings or cash flows. The outstanding principal, estimated fair value and estimated change in fair value (assuming a hypothetical 10% change in the yield-to-maturity rates) for this debt as of March 31, 2019 is presented below:

	Outstanding Principal	Estimated Fair Value	Estimated Change in Fair Value
	(In thousands)		
HollyFrontier Senior Notes	$1,000,000	$1,069,640	$ 29,004
HEP Senior Notes	$500,000	$517,740	$ 12,433

For the variable rate HEP Credit Agreement, changes in interest rates would affect cash flows, but not the fair value. At March 31, 2019, outstanding borrowings under the HEP Credit Agreement were $942.0 million. A hypothetical 10% change in interest rates applicable to the HEP Credit Agreement would not materially affect cash flows.

Our operations are subject to hazards of petroleum processing operations, including fire, explosion and weather-related perils. We maintain various insurance coverages, including business interruption insurance, subject to certain deductibles. We are not fully insured against certain risks because such risks are not fully insurable, coverage is unavailable, or premium costs, in our judgment, do not justify such expenditures.

Financial information is reviewed on the counterparties in order to review and monitor their financial stability and assess their ongoing ability to honor their commitments under the derivative contracts. We have not experienced, nor do we expect to experience, any difficulty in the counterparties honoring their commitments.

We have a risk management oversight committee consisting of members from our senior management. This committee oversees our risk enterprise program, monitors our risk environment and provides direction for activities to mitigate identified risks that may adversely affect the achievement of our goals.

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Item 3. Quantitative and Qualitative Disclosures About Market Risk

See “Risk Management” under “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

Reconciliations to Amounts Reported Under Generally Accepted Accounting Principles

Reconciliations of earnings before interest, taxes, depreciation and amortization (“EBITDA”) to amounts reported under generally accepted accounting principles in financial statements.

Earnings before interest, taxes, depreciation and amortization, which we refer to as EBITDA, is calculated as net income attributable to HollyFrontier stockholders plus (i) interest expense, net of interest income, (ii) income tax provision, and (iii) depreciation and amortization. EBITDA is not a calculation provided for under GAAP; however, the amounts included in the EBITDA calculation are derived from amounts included in our consolidated financial statements. EBITDA should not be considered as an alternative to net income or operating income as an indication of our operating performance or as an alternative to operating cash flow as a measure of liquidity. EBITDA is not necessarily comparable to similarly titled measures of other companies. EBITDA is presented here because it is a widely used financial indicator used by investors and analysts to measure performance. EBITDA is also used by our management for internal analysis and as a basis for financial covenants.

Set forth below is our calculation of EBITDA.

	Three Months Ended March 31,	
	2019	2018
	(In thousands)	
Net income attributable to HollyFrontier stockholders	$253,055	$268,091
Add income tax expense	87,505	85,037
Add interest expense	36,647	32,723
Subtract interest income	(6,375)	(2,590)
Add depreciation and amortization	121,421	104,341
EBITDA	$492,253	$487,602

Reconciliations of refinery operating information (non-GAAP performance measures) to amounts reported under generally accepted accounting principles in financial statements.

Refinery gross margin and net operating margin are non-GAAP performance measures that are used by our management and others to compare our refining performance to that of other companies in our industry. We believe these margin measures are helpful to investors in evaluating our refining performance on a relative and absolute basis. Refinery gross margin per produced barrel sold is total refining segment revenues less total refining segment cost of products sold, exclusive of lower of cost or market inventory valuation adjustments, divided by sales volumes of produced refined products sold. Net operating margin per barrel sold is the difference between refinery gross margin and refinery operating expenses per produced barrel sold. These two margins do not include the non-cash effects of lower of cost or market inventory valuation adjustments or depreciation and amortization. Each of these component performance measures can be reconciled directly to our consolidated statements of income. Other companies in our industry may not calculate these performance measures in the same manner.

Below are reconciliations to our consolidated statements of income for refinery net operating and gross margin and operating expenses, in each case averaged per produced barrel sold. Due to rounding of reported numbers, some

amounts may not calculate exactly.

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Reconciliation of average refining segment net operating margin per produced barrel sold to refinery gross margin to total sales
and other revenues

	Three Months Ended March 31,	
	2019	2018
	(Dollars in thousands, except per barrel amounts)	
Consolidated		
Net operating margin per produced barrel sold	$5.79	$7.14
Add average refinery operating expenses per produced barrel sold	6.95	5.69
Refinery gross margin per produced barrel sold	12.74	12.83
Times produced barrels sold (BPD)	423,030	465,520
Times number of days in period	90	90
Refining segment gross margin	485,046	537,536
Add (subtract) rounding	(176)	(55)
Total refining segment gross margin	484,870	537,481
Add refining segment cost of products sold	2,962,540	3,211,704
Refining segment sales and other revenues	3,447,410	3,749,185
Add lubricants and specialty products segment sales and other revenues	493,334	444,840
Add HEP segment sales and other revenues	134,497	128,884
Subtract corporate, other and eliminations	(177,994)	(194,482)
Sales and other revenues	$3,897,247	$4,128,427

Reconciliation of average refining segment operating expenses per produced barrel sold to total operating expenses

	Three Months Ended March 31,	
	2019	2018
	(Dollars in thousands, except per barrel amounts)	
Consolidated		
Average refinery operating expenses per produced barrel sold	$6.95	$5.69
Times produced barrels sold (BPD)	423,030	465,520
Times number of days in period	90	90
Refinery operating expenses	264,605	238,393
Add (subtract) rounding	(108)	91
Total refining segment operating expenses	264,497	238,484
Add lubricants and specialty products segment operating expenses	53,559	64,908
Add HEP segment operating expenses	37,513	36,203
Subtract corporate, other and eliminations	(23,977)	(19,307)
Operating expenses (exclusive of depreciation and amortization)	$331,592	$320,288

Item 4. Controls and Procedures

Evaluation of disclosure controls and procedures. Our principal executive officer and principal financial officer have evaluated, as required by Rule 13a-15(b) under the Securities Exchange Act of 1934 (the "Exchange Act"), our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e)) under the Exchange Act as of the end of the period covered by this Quarterly Report on Form 10-Q. Our disclosure controls and procedures are designed to provide reasonable assurance that the information we are required to disclose in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure and is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms. Based upon the evaluation, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of March 31, 2019.

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Changes in internal control over financial reporting. During the three months ended March 31, 2019, we implemented a new lease accounting system and process in response to the adoption of ASU No. 2016-02, Leases (Topic 842)," effective January 1, 2019. Accordingly, we added additional internal controls over financial reporting to address the reporting requirements per Topic 842.

Except as described above, there have been no changes in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that occurred during our last fiscal quarter that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

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PART II. OTHER INFORMATION

Item 1. Legal Proceedings

In the ordinary course of business, we may become party to legal, regulatory or administrative proceedings or governmental investigations, including environmental and other matters. Damages or penalties may be sought from us in some matters and certain matters may require years to resolve. While the outcome and impact of these proceedings and investigations on us cannot be predicted with certainty, based on advice of counsel, management believes that the resolution of these proceedings and investigations through settlement or adverse judgment will not either individually or in the aggregate have a material adverse effect on our financial condition, results of operations or cash flows.

Environmental Matters

We are reporting the following proceedings to comply with SEC regulations which require us to disclose proceedings arising under provisions regulating the discharge of materials into the environment or protecting the environment if we reasonably believe that such proceedings may result in monetary sanctions of $100,000 or more. Our respective subsidiaries have or will develop corrective action plans regarding these disclosures that will be implemented in consultation with the respective federal and state agencies. It is not possible to predict the ultimate outcome of these proceedings, although none are currently expected to have a material effect on our financial condition, results of operations or cash flows.

Cheyenne
HollyFrontier Cheyenne Refining LLC (“HFCR”) has been engaged in discussions with the Wyoming Department of Environmental Quality (“WDEQ”) relating to Notices of Violations issued in late 2016 and 2018 for possible violations of air quality standards related to operation of certain refinery units at the Cheyenne Refinery in 2016 through 2018. HFCR and the WDEQ are working towards settlement of these matters.

El Dorado
HollyFrontier El Dorado Refining LLC (“HFEDR”) is engaged in discussions with, and has responded to document requests from, the EPA and the U.S. Department of Justice (“DOJ”) regarding potential Clean Air Act civil violations relating to flaring devices and other equipment at the refinery. Topics of the discussions include (a) three information requests for activities beginning in January 2009, (b) Risk Management Program compliance issues relating to a November 2014 inspection and subsequent events, (c) a Notice of Violation issued by the EPA in August 2017 and (d) possible late reporting under the Emergency Planning and Community Right-to-Know Act for the release of sulfur dioxide and visible emissions from October 2018. HFEDR is currently in a dialogue with the EPA about a possible settlement of potential and alleged civil violations for the foregoing items. We are currently unable to estimate the amount of penalties that might be assessed. HFEDR will continue to work with the EPA and DOJ to resolve these civil matters. Some of the foregoing civil investigations resulted from fires that occurred at the El Dorado Refinery in September 2017, October 2018 and March 2019. An employee fatality occurred during the September 2017 event.

The Occupational Safety and Health Administration (“OSHA”) has an ongoing investigation of the March 2019 event. HFEDR settled the OSHA claims related to an investigation of the September 2017 event. In April 2019, HFEDR became aware that the EPA also initiated a criminal investigation into one or more of the foregoing events. The EPA has not brought any charges or commenced any formal proceedings against HFEDR or any affiliate.

Tulsa
HollyFrontier Tulsa Refining LLC (“HFTR”) operates under two Consent Decrees with the EPA and the Oklahoma Department of Environmental Quality (“ODEQ”). On December 13, 2017, during a meeting between the parties, ODEQ proposed stipulated penalties related to violations of the two Consent Decrees. The violations relate to Clean Air Act

regulated fuel gas and flare operations. Additionally, on April 3, 2019, during a meeting between the parties, the EPA notified HFTR of potential monitoring violations of the Consent Decrees. HFTR is working with the ODEQ and the EPA to document a settlement agreement.

Other

We are a party to various other litigation and proceedings that we believe, based on advice of counsel, will not either individually or in the aggregate have a materially adverse impact on our financial condition, results of operations or cash flows.

Item 1A. Risk Factors

There have been no material changes in our risk factors as previously disclosed in Part 1, “Item 1A. Risk Factors” of our Annual Report on Form 10-K for the fiscal year ended December 31, 2018. You should carefully consider the risk factors discussed in our 2018 Form 10-K, which could materially affect our business, financial condition or future results. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition or future results.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(c) Common Stock Repurchases Made in the Quarter

Under our common stock repurchase programs, repurchases are being made from time to time in the open market or privately negotiated transactions based on market conditions, securities law limitations and other factors. The following table includes repurchases made under these programs during the first quarter of 2019.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs
January 2019	950,000	$ 53.48	950,000	$ 736,804,371
February 2019	405,000	$ 55.27	405,000	$ 714,419,895
March 2019	—	$ —	—	$ 714,419,895
Total for January to March 2019	1,355,000		1,355,000	

Item 6. Exhibits

The Exhibit Index on page 53 of this Quarterly Report on Form 10-Q lists the exhibits that are filed or furnished, as applicable, as part of the Quarterly Report on Form 10-Q.

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Exhibit Index

Exhibit Number	Description
2.1	Waiver and Amendment to Equity Purchase Agreement, dated January 31, 2019, by and between Sonneborn Holdings, L.P., Sonneborn Co-op LLC, Sonneborn Coöperatief U.A. and HollyFrontier LSP Holdings LLC (incorporated by reference to Exhibit 2.7 of Registrant's Annual Report on Form 10-K for the period ending December 31, 2018 filed February 20, 2019, File No. 1-03876).
3.1	Amended and Restated Certificate of Incorporation of HollyFrontier Corporation (incorporated by reference to Exhibit 3.1 of Registrant's Current Report on Form 8-K filed July 8, 2011, File No. 1-03876).
3.2	Amended and Restated By-Laws of HollyFrontier Corporation (incorporated by reference to Exhibit 3.1 of Registrant's Current Report on Form 8-K filed February 20, 2014, File No. 1-03876).
10.1*	First Amendment to Third Amended and Restated Crude Pipelines and Tankage Agreement, dated April 22, 2019, by and among HollyFrontier Navajo Refining LLC, HollyFrontier Woods Cross Refining LLC, HollyFrontier Refining & Marketing LLC, Holly Energy Partners - Operating, L.P., HEP Pipeline, L.L.C. and HEP Woods Cross, L.L.C.
31.1*	Certification of Chief Executive Officer under Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Chief Financial Officer under Section 302 of the Sarbanes-Oxley Act of 2002.
32.1**	Certification of Chief Executive Officer under Section 906 of the Sarbanes-Oxley Act of 2002.
32.2**	Certification of Chief Financial Officer under Section 906 of the Sarbanes-Oxley Act of 2002.
101+	The following financial information from HollyFrontier Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019, formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Income, (iii) Consolidated Statements of Comprehensive Income, (iv) Consolidated Statements of Cash Flows, and (v) Notes to the Consolidated Financial Statements.

* Filed herewith.
** Furnished herewith.
+ Filed electronically herewith.

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SIGNATURES

Pursuant to the requirements of the Securities and Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

HOLLYFRONTIER CORPORATION
(Registrant)

Date: May 2, 2019 /s/ Richard L. Voliva III
Richard L.Voliva III
Executive Vice President and
Chief Financial Officer
(Principal Financial Officer)

Date: May 2, 2019 /s/ J. W. Gann, Jr.
J. W. Gann, Jr.
Vice President, Controller and
Chief Accounting Officer
(Principal Accounting Officer)