

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 or 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the Quarterly Period Ended June 30, 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 001-03970

HARSCO

HARSCO CORPORATION

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

350 Poplar Church Road, Camp Hill, Pennsylvania

(Address of principal executive offices)

Registrant's telephone number, including area code 717-763-7064

23-1483991

(I.R.S. employer identification number)

17011

(Zip Code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value \$1.25 per share	HSC	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 NO

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes 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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
	(Do not check if a smaller reporting company)	Emerging growth company	<input type="checkbox"/>

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

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date.

Class	Outstanding at July 15, 2019
Common stock, par value \$1.25 per share	80,278,742

HARSCO CORPORATION
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PART I — FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS
**HARSCO CORPORATION
CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)**

(In thousands)	June 30 2019	December 31 2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 106,094	\$ 64,260
Restricted cash	2,985	2,886
Trade accounts receivable, net	333,357	246,427
Other receivables	53,019	53,770
Inventories	133,890	116,185
Current portion of contract assets	8,215	12,130
Current portion of assets held-for-sale	91,979	75,232
Other current assets	52,418	34,144
Total current assets	781,957	605,034
Property, plant and equipment, net	550,671	432,793
Right-of-use assets, net	44,145	—
Goodwill	717,727	404,713
Intangible assets, net	326,688	69,207
Deferred income tax assets	16,764	48,551
Assets held-for-sale	74,743	55,331
Other assets	21,999	17,238
Total assets	\$ 2,534,694	\$ 1,632,867
LIABILITIES		
Current liabilities:		
Short-term borrowings	\$ 10,405	\$ 10,078
Current maturities of long-term debt	6,840	6,489
Accounts payable	176,308	124,984
Acquisition consideration payable	39,182	—
Accrued compensation	41,442	50,201
Income taxes payable	890	2,634
Insurance liabilities	40,664	40,774
Current portion of advances on contracts	45,787	29,407
Current portion of operating lease liabilities	12,960	—
Current portion of liabilities of assets held-for-sale	38,077	39,410
Other current liabilities	120,051	113,019
Total current liabilities	532,606	416,996
Long-term debt	1,313,843	585,662
Insurance liabilities	19,721	19,575
Retirement plan liabilities	190,525	213,578
Advances on contracts	9,642	37,675
Operating lease liabilities	31,440	—
Liabilities of assets held-for-sale	15,549	555
Other liabilities	72,254	45,450
Total liabilities	2,185,580	1,319,491
COMMITMENTS AND CONTINGENCIES		

(In thousands)	June 30 2019	December 31 2018
HARSCO CORPORATION STOCKHOLDERS' EQUITY		
Preferred stock	—	—
Common stock	143,394	141,842
Additional paid-in capital	195,034	190,597
Accumulated other comprehensive loss	(580,229)	(567,107)
Retained earnings	1,349,520	1,298,752
Treasury stock	(807,003)	(795,821)
Total Harsco Corporation stockholders' equity	300,716	268,263
Noncontrolling interests	48,398	45,113
Total equity	349,114	313,376
Total liabilities and equity	\$ 2,534,694	\$ 1,632,867

See accompanying notes to unaudited condensed consolidated financial statements.

HARSCO CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
(In thousands, except per share amounts)				
Revenues from continuing operations:				
Service revenues	\$ 238,003	\$ 245,708	\$ 467,523	\$ 489,918
Product revenues	112,895	94,199	213,277	174,429
Total revenues	350,898	339,907	680,800	664,347
Costs and expenses from continuing operations:				
Cost of services sold	186,840	187,393	368,711	379,068
Cost of products sold	79,355	64,849	148,664	123,802
Selling, general and administrative expenses	67,501	49,609	123,907	98,208
Research and development expenses	1,120	1,006	1,869	1,827
Other (income) expenses, net	(1,717)	(1,014)	26	650
Total costs and expenses	333,099	301,843	643,177	603,555
Operating income from continuing operations	17,799	38,064	37,623	60,792
Interest income	591	577	1,124	1,070
Interest expense	(6,103)	(5,681)	(11,610)	(11,271)
Unused debt commitment and amendment fees	(7,435)	—	(7,435)	—
Loss on early extinguishment of debt	—	(1,034)	—	(1,034)
Defined benefit pension income (expense)	(1,472)	904	(2,810)	1,743
Income from continuing operations before income taxes and equity income	3,380	32,830	16,892	51,300
Income tax (expense) benefit	(3,994)	502	(5,213)	(5,696)
Equity income of unconsolidated entities, net	49	—	70	—
Income (loss) from continuing operations	(565)	33,332	11,749	45,604
Discontinued operations:				
Income from discontinued businesses	9,936	11,988	23,686	21,233
Income tax (expense) benefit related to discontinued businesses	1,558	(2,609)	(1,969)	(4,549)
Income from discontinued operations	11,494	9,379	21,717	16,684
Net income	10,929	42,711	33,466	62,288
Less: Net income attributable to noncontrolling interests	(2,287)	(2,222)	(4,127)	(3,991)
Net income attributable to Harsco Corporation	\$ 8,642	\$ 40,489	\$ 29,339	\$ 58,297
Amounts attributable to Harsco Corporation common stockholders:				
Income (loss) from continuing operations, net of tax	\$ (2,852)	\$ 31,110	\$ 7,622	\$ 41,613
Income from discontinued operations, net of tax	11,494	9,379	21,717	16,684
Net income attributable to Harsco Corporation common stockholders	\$ 8,642	\$ 40,489	\$ 29,339	\$ 58,297
Weighted-average shares of common stock outstanding	80,328	80,861	80,119	80,756
Basic earnings (loss) per common share attributable to Harsco Corporation common stockholders:				
Continuing operations	\$ (0.04)	\$ 0.38	\$ 0.10	\$ 0.52
Discontinued operations	0.14	0.12	0.27	0.21
Basic earnings per share attributable to Harsco Corporation common stockholders	\$ 0.11 ^(a)	\$ 0.50	\$ 0.37	\$ 0.72 ^(a)
Diluted weighted-average shares of common stock outstanding	80,328	83,643	82,074	83,594
Diluted earnings (loss) per common share attributable to Harsco Corporation common stockholders:				
Continuing operations	\$ (0.04)	\$ 0.37	\$ 0.09	\$ 0.50
Discontinued operations	0.14	0.11	0.26	0.20
Diluted earnings per share attributable to Harsco Corporation common stockholders	\$ 0.11 ^(a)	\$ 0.48	\$ 0.36 ^(a)	\$ 0.70

(a) Does not total due to rounding

See accompanying notes to unaudited condensed consolidated financial statements.

HARSCO CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (Unaudited)

(In thousands)	Three Months Ended June 30	
	2019	2018
Net income	\$ 10,929	\$ 42,711
Other comprehensive income (loss):		
Foreign currency translation adjustments, net of deferred income taxes of \$(1,383) and \$(2,579) in 2019 and 2018, respectively	(8,950)	(48,706)
Net gain (loss) on cash flow hedging instruments, net of deferred income taxes of \$196 and \$(1,046) in 2019 and 2018, respectively	(1,024)	2,902
Pension liability adjustments, net of deferred income taxes of \$(379) and \$(288) in 2019 and 2018, respectively	13,562	28,627
Unrealized gain (loss) on marketable securities, net of deferred income taxes of \$(3) and \$4 in 2019 and 2018, respectively	10	(13)
Total other comprehensive income (loss)	3,598	(17,190)
Total comprehensive income	14,527	25,521
Less: Comprehensive (income) loss attributable to noncontrolling interests	(1,687)	296
Comprehensive income attributable to Harsco Corporation	\$ 12,840	\$ 25,817

(In thousands)	Six Months Ended June 30	
	2019	2018
Net income	\$ 33,466	\$ 62,288
Other comprehensive income (loss):		
Foreign currency translation adjustments, net of deferred income taxes of \$(252) and \$(952) in 2019 and 2018, respectively	504	(36,205)
Net gain (loss) on cash flow hedging instruments, net of deferred income taxes of \$1,141 and \$(1,885) in 2019 and 2018, respectively	(4,171)	5,579
Pension liability adjustments, net of deferred income taxes of \$(721) and \$(613) in 2019 and 2018, respectively	11,771	19,626
Unrealized gain (loss) on marketable securities, net of deferred income taxes of \$(8) and \$8 in 2019 and 2018, respectively	25	(27)
Total other comprehensive income (loss)	8,129	(11,027)
Total comprehensive income	41,595	51,261
Less: Comprehensive income attributable to noncontrolling interests	(3,947)	(2,751)
Comprehensive income attributable to Harsco Corporation	\$ 37,648	\$ 48,510

See accompanying notes to unaudited condensed consolidated financial statements.

HARSCO CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)

(In thousands)	Six Months Ended June 30	
	2019	2018
Cash flows from operating activities:		
Net income	\$ 33,466	\$ 62,288
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	59,857	62,005
Amortization	5,792	4,566
Deferred income tax expense (benefit)	(3,823)	340
Equity income of unconsolidated entities, net	(70)	—
Other, net	2,561	3,037
Changes in assets and liabilities:		
Accounts receivable	(27,034)	(21,445)
Inventories	(20,497)	(11,175)
Contract assets	(69)	(1,393)
Right-of-use assets	7,228	—
Accounts payable	10,917	7,359
Accrued interest payable	285	(58)
Accrued compensation	(14,525)	(16,045)
Advances on contracts	(10,381)	(13,116)
Operating lease liabilities	(6,894)	—
Retirement plan liabilities, net	(13,146)	(18,330)
Other assets and liabilities	(18,295)	(11,334)
Net cash provided by operating activities	5,372	46,699
Cash flows from investing activities:		
Purchases of property, plant and equipment	(91,201)	(56,496)
Purchases of businesses, net of cash acquired	(584,485)	(56,389)
Proceeds from sales of assets	2,205	3,153
Purchase of intangible assets	(525)	—
Net payments from settlement of foreign currency forward exchange contracts	(691)	(2,942)
Payments for interest rate swap terminations	(2,758)	—
Net cash used by investing activities	(677,455)	(112,674)
Cash flows from financing activities:		
Short-term borrowings, net	84	(2,977)
Current maturities and long-term debt:		
Additions	740,360	124,858
Reductions	(3,333)	(43,193)
Dividends paid to noncontrolling interests	(3,098)	(4,609)
Sale of noncontrolling interests	876	477
Stock-based compensation - Employee taxes paid	(11,167)	(3,614)
Deferred financing costs	(9,464)	(354)
Net cash provided by financing activities	714,258	70,588
Effect of exchange rate changes on cash and cash equivalents, including restricted cash	(242)	(3,735)
Net increase in cash and cash equivalents, including restricted cash	41,933	878
Cash and cash equivalents, including restricted cash, at beginning of period	67,146	66,209
Cash and cash equivalents, including restricted cash, at end of period	\$ 109,079	\$ 67,087
Supplementary cash flow information:		
Change in accrual for purchases of property, plant and equipment included in accounts payable	\$ 12,804	\$ 4,965

See accompanying notes to unaudited condensed consolidated financial statements.

HARSCO CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF EQUITY (Unaudited)

(In thousands, except share amounts)	Harsco Corporation Stockholders' Equity						
	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interests	Total
	Issued	Treasury					
Balances, December 31, 2017	\$ 141,110	\$ (762,079)	\$ 180,201	\$ 1,157,801	\$ (546,582)	\$ 44,714	\$ 215,165
Adoption of new accounting standards				3,907	(1,520)		2,387
Net income				17,808		1,769	19,577
Total other comprehensive income, net of deferred income taxes of \$467					4,885	1,278	6,163
Sale of subsidiary shares to noncontrolling interest						477	477
Stock appreciation rights exercised, net 2,560 shares	5	(26)	(5)				(26)
Vesting of restricted stock units and other stock grants, net 102,695 shares	171	(683)	(171)				(683)
Amortization of unearned portion of stock-based compensation, net of forfeitures			3,285				3,285
Balances, March 31, 2018	141,286	(762,788)	183,310	1,179,516	(543,217)	48,238	246,345
Adoption of new accounting standards				(13)			(13)
Net income				40,489		2,222	42,711
Cash dividends declared:							
Noncontrolling interests						(5,521)	(5,521)
Total other comprehensive income, net of deferred income taxes of \$(3,909)					(14,672)	(2,518)	(17,190)
Stock appreciation rights exercised, net 20,024 shares	34	(175)	(34)				(175)
Vesting of restricted stock units and other stock grants, net 266,803 shares	492	(2,732)	(492)				(2,732)
Amortization of unearned portion of stock-based compensation, net of forfeitures			2,728				2,728
Balances, June 30, 2018	<u>\$ 141,812</u>	<u>\$ (765,695)</u>	<u>\$ 185,512</u>	<u>\$ 1,219,992</u>	<u>\$ (557,889)</u>	<u>\$ 42,421</u>	<u>\$ 266,153</u>

HARSCO CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF EQUITY (Unaudited)

(In thousands)	Harsco Corporation Stockholders' Equity						
	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interests	Total
	Issued	Treasury					
Balances, December 31, 2018	\$ 141,842	\$ (795,821)	\$ 190,597	\$ 1,298,752	\$ (567,107)	\$ 45,113	\$ 313,376
Adoption of new accounting standards (See Note 2)				21,429	(21,429)		—
Net income				20,697		1,840	22,537
Sale of subsidiary shares to noncontrolling interest						876	876
Total other comprehensive income, net of deferred income taxes of \$1,729					4,111	420	4,531
Stock appreciation rights exercised, net 927 shares	2	(8)	(2)				(8)
Vesting of restricted stock units and other stock grants, net 94,229 shares	198	(1,456)	(198)				(1,456)
Vesting of performance share units, net 529,213 shares	1,136	(8,235)	(1,149)				(8,248)
Amortization of unearned portion of stock-based compensation, net of forfeitures			3,664				3,664
Balances, March 31, 2019	143,178	(805,520)	192,912	1,340,878	(584,425)	48,249	335,272
Net income				8,642		2,287	10,929
Cash dividends declared:							
Noncontrolling interests						(4,690)	(4,690)
Total other comprehensive income, net of deferred income taxes of \$(1,569)					4,196	(598)	3,598
Contribution receivable from noncontrolling interest (a)						3,150	3,150
Stock appreciation rights exercised, net 10,216 shares	18	(108)	(18)				(108)
Vesting of restricted stock units and other stock grants, net 99,134 shares	198	(1,375)	(198)				(1,375)
Amortization of unearned portion of stock-based compensation, net of forfeitures			2,338				2,338
Balances, June 30, 2019	\$ 143,394	\$ (807,003)	\$ 195,034	\$ 1,349,520	\$ (580,229)	\$ 48,398	\$ 349,114

(a) Cash contribution was received during July 2019.

See accompanying notes to unaudited condensed consolidated financial statements.

HARSCO CORPORATION
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)

1. Basis of Presentation

Harsco Corporation (the "Company") has prepared these unaudited condensed consolidated financial statements in accordance with accounting principles generally accepted in the U.S. ("U.S. GAAP") for interim financial information and with the instructions to Form 10-Q and Rule 10-01 of Regulation S-X of the Securities and Exchange Commission (the "SEC"). Accordingly, the unaudited condensed consolidated financial statements do not include all information and disclosure required by U.S. GAAP for annual financial statements. The December 31, 2018 Condensed Consolidated Balance Sheet information contained in this Quarterly Report on Form 10-Q was derived from the 2018 audited consolidated financial statements. The unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements, including the notes thereto, included in the Company's Annual Report on Form 10-K for the year ended December 31, 2018. In the opinion of management, all adjustments (all of which are of a normal recurring nature) that are necessary for a fair statement are reflected in the unaudited condensed consolidated financial statements.

Additionally, in May 2019, the former Harsco Metals & Minerals Segment was rebranded as the Harsco Environmental Segment.

Acquisition of Clean Earth

On June 28, 2019, the Company completed the previously announced acquisition of CEHI Acquisition Corporation and Subsidiaries ("Clean Earth"), a leader in processing specialty waste and hazardous and non-hazardous waste from Compass Diversified Holdings for approximately \$628 million in cash, subject to post-closing adjustments. See Note 3, Acquisitions and Dispositions, for additional information.

Segment Reporting

The Company reports information about operating segments using the "management approach," which is based on the way management organizes and reports the segments within the enterprise for making operating decisions and assessing performance. The Company's reportable segments are identified based upon differences in products, services and markets served. The Company has determined that the operations of Clean Earth represent a separate reportable segment.

Discontinued Operations

In May 2019, the Company entered into a definitive agreement to sell the Harsco Industrial Air-X-Changers ("AXC") business to Chart Industries, Inc. for \$592 million in cash, subject to post-closing adjustments and announced the Company's intent to divest the remainder of the businesses in the Harsco Industrial Segment, Harsco Industrial IKG ("IKG") and Harsco Industrial Patterson-Kelley ("PK"). The Company completed the sale of AXC on July 1, 2019 and the sale of the remaining businesses is expected to occur within one year. Additionally, these disposals represent a strategic shift and accelerate the transformation of the Company's portfolio of businesses into a leading provider of environmental solutions and services. As a result of these disposals (i) the carrying value of assets and liabilities of the Harsco Industrial Segment have been classified as Assets-held-for-sale and Liabilities of assets-held-for-sale on the Company's Condensed Consolidated Balance Sheets; (ii) the operating results of the Harsco Industrial Segment, costs directly related to the disposals and an allocation of interest expense associated with mandatory debt repayments required as a result of the disposals have been reflected in the Company's Condensed Consolidated Statements of Operations as discontinued operations for all periods presented; and (iii) all disclosures have been updated to reflect these changes. See Note 3, Acquisitions and Dispositions, for additional information.

Reclassifications

Certain reclassifications have been made to prior year amounts to conform with current year classifications.

2. Recently Adopted and Recently Issued Accounting Standards

The following accounting standards have been adopted in 2019:

On January 1, 2019, the Company adopted changes issued by the Financial Accounting Standards Board (“FASB”) related to accounting for leases. The changes introduce a lessee model that brings most leases onto the balance sheet. The changes also align many of the underlying principles of the new lessor model with those in the FASB’s new revenue recognition standard. Furthermore, the changes address other concerns related to the current lease model such as eliminating the requirement in current guidance for an entity to use bright-line tests in determining lease classification. The changes also require lessors to increase the transparency of their exposure to changes in value of their residual assets and how they manage that exposure. The Company elected the package of practical expedients permitted under the transition, which among other items, allowed the carry forward of the historical lease classification. The Company has elected to apply the transition requirements at the January 1, 2019 effective date and therefore, comparative information has not been restated and continues to be reported under U.S. GAAP in effect for those periods. The changes had a significant impact on the Company’s Condensed Consolidated Balance Sheets upon adoption and the Company recorded Right-of-use (“ROU”) assets and lease liabilities of \$34.0 million and \$34.2 million, respectively. The difference between the ROU assets and lease liabilities was recorded primarily as adjustments to other assets and liabilities where prepaid rent and deferred expenses were previously recorded. Additionally, the Company’s accounting for finance leases remained consistent. The changes did not have an impact on the Company’s Condensed Consolidated Statements of Operations or Condensed Consolidated Statements of Cash Flows. The discount rates used to calculate the ROU assets and lease liabilities as of the effective date were based on the remaining lease terms as of the effective date. See Note 6, Leases, for additional information.

On January 1, 2019, the Company adopted changes issued by the FASB which expand and refine hedge accounting for both financial and non-financial risk components, aligns the recognition and presentation of the effects of hedging instruments and hedged items in the financial statements and includes certain targeted improvements to ease the application of current guidance related to the assessment of hedge effectiveness. Upon adoption, the Company’s recognition model for the excluded component was modified from a mark-to-market approach to an amortization approach for hedging relationships. Hedging relationships entered into on or after January 1, 2019 will be under the amortization approach while those entered into before January 1, 2019 will continue to be recognized under the mark-to-market approach. As such, there was no effect of applying this election reflected as an adjustment to Accumulated other comprehensive loss with a corresponding adjustment to the opening balance of Retained earnings. Presentation and disclosure amendments are required to be applied prospectively. Other than required expanded disclosures, the adoption of these changes did not have a material impact on the Company’s condensed consolidated financial statements.

On January 1, 2019, the Company adopted changes issued by the FASB which allow entities to reclassify stranded income tax effects resulting from the Tax Cuts and Jobs Act (the “Tax Act”) from accumulated other comprehensive income to retained earnings in the consolidated financial statements. Under the Tax Act, deferred taxes were adjusted to reflect the reduction of the historical corporate income tax rate to the newly enacted corporate income tax rate, which left the tax effects on items within accumulated other comprehensive income stranded at historical tax rates. The adoption of these changes resulted in the Company reclassifying approximately \$21 million of stranded income tax effects into Retained earnings.

The following accounting standards have been issued and become effective for the Company at a future date:

In June 2016, the FASB issued changes, as amended, which update the impairment model by requiring entities to use a forward-looking approach based on expected losses rather than incurred losses to estimate credit losses on certain types of financial instruments, including trade receivables. This may result in the earlier recognition of allowances for losses. The changes become effective for the Company on January 1, 2020, with early adoption permitted. Management has not yet completed the assessment of the impact of the new standard on the Company’s condensed consolidated financial statements.

In January 2017, the FASB issued changes that remove the second step of the annual goodwill impairment test, which requires a hypothetical purchase price allocation. The changes provide that the amount of goodwill impairment will be equal to the amount by which a reporting unit’s carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. All other goodwill impairment guidance remains largely unchanged. The same one-step impairment test will be applied to goodwill at all reporting units, even those with zero or negative carrying amounts. Entities will be required to disclose the amount of goodwill at reporting units with zero or negative carrying amounts. The changes become effective for the Company on January 1, 2020. Management has determined that these changes will not have a material impact on the Company’s condensed consolidated financial statements. However, should the Company be required to record a goodwill impairment charge in future periods, the amount recorded may differ compared to any amounts that might be recorded under current practice.

In August 2018, the FASB issued changes which modify the disclosure requirements for fair value measurements. The amendments in this update remove the requirement to disclose the amount of, and reasons for, transfers between Level 1 and Level 2 of the fair value hierarchy; the policy for timing of transfers between levels; and the valuation processes for Level 3 fair value measurements. The changes require disclosure of changes in unrealized gains and losses for the period included in other comprehensive income (loss) for recurring Level 3 fair value measurements held at the end of the reporting period and the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements. The changes become effective for the Company on January 1, 2020. Other than required expanded disclosures, the adoption of these changes will not have a material impact on the Company's condensed consolidated financial statements.

In August 2018, the FASB issued changes which modify the disclosure requirements for employers that sponsor defined benefit pension or other post-retirement plans. The changes remove the requirements to disclose: amounts in accumulated other comprehensive income (loss) expected to be recognized as components of net periodic benefit cost over the next fiscal year; the amount and timing of plan assets expected to be returned to the employer; and the effects of a one-percentage point change in assumed health care cost trend rates. The update also requires disclosure of an explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period. The changes become effective for the Company on January 1, 2021. Management does not believe these changes will have a material impact on its condensed consolidated financial statements.

3. Acquisitions and Dispositions

Clean Earth
On June 28, 2019, the Company acquired 100% of the outstanding stock of Clean Earth, one of the largest U.S. providers of environmental services for a variety of contaminated materials including soils, dredged material and hazardous waste, for an enterprise valuation of approximately \$625 million on a cash free, debt free basis. The Company transferred approximately \$628 million of cash consideration, subject to post-closing adjustments, and agreed to reimburse the sellers for any usage of assumed net operating losses in a post-closing period for up to five years, the present value of which is estimated at approximately \$8 million. Clean Earth provides solutions that analyze, treat, document and recycle waste streams generated by multiple end-markets such as infrastructure, chemicals, aerospace and defense, non-public/private development, medical, industrial and dredging. Clean Earth treatment processes include thermal desorption, dredged material stabilization, bioremediation, physical treatment/screen and chemical fixation. Clean Earth operates 27 permitted facilities in the U.S. and maintains a portfolio of more than 200 scarce and difficult-to-replicate permits with a 100% permit renewal success rate to date. In addition, Clean Earth owns 9 Resource Conservation and Recovery Act (RCRA) Part B Permits which include 6 Treatment, Storage and Disposal Facility (TSDF) permits that enable the Company to process complex and highly recurring hazardous waste streams. Clean Earth is expected to generate approximately \$300 million of full-year revenue in 2019.

The fair value recorded for the assets acquired and liabilities assumed for Clean Earth is as follows:

(In millions)	Preliminary Valuation June 28, 2019
Cash and cash equivalents (a)	\$ 42.8
Trade accounts receivable, net	63.7
Other receivables	0.8
Other current assets	8.7
Property, plant and equipment	75.6
Right-of-use assets	14.4
Goodwill	313.8
Intangible assets	261.1
Other assets	4.0
Accounts payable	(23.0)
Acquisition consideration payable (a)	(39.2)
Other current liabilities	(20.5)
Net deferred taxes liabilities	(51.2)
Operating lease liabilities	(11.1)
Other liabilities (b)	(11.9)
Total identifiable net assets of Clean Earth	\$ 628.0

(a) Acquisition consideration payable represents a portion of the cash consideration not paid out until July 2019.

(b) Includes \$2.8 million of fair value related to a contingent consideration liability resulting from a prior Clean Earth acquisition.

The goodwill is attributable to strategic benefits, including enhanced operational and financial scale and product and market diversification that the Company expects to realize. The Company expects \$16.3 million of goodwill to be deductible for income tax purposes.

The following table details the preliminary valuation of identifiable intangible assets and amortization periods for Clean Earth:

(Dollars in millions)	Weighted-Average Amortization Period	Preliminary Valuation June 28, 2019
Permits and rights	18 years	\$ 176.1
Customer relationships	6 years	33.4
Air rights	Usage based	25.6
Trade names	11.5 years	26.0
Total identifiable intangible assets of Clean Earth		\$ 261.1

The Company valued the identifiable intangible assets using an income-based approach that utilized either the multi-period excess earnings method or the relief from royalty method. The purchase price allocation for Clean Earth is not final and the fair value of intangible assets and goodwill may vary significantly from those reflected in the Company's condensed consolidated financial statements at June 30, 2019.

The three and six months ended June 30, 2019 include Clean Earth direct acquisition costs of \$12.0 million and \$12.5 million, respectively, which are included in Selling, general and administrative expenses in the Company's Condensed Consolidated Statements of Operations. In addition to the acquisition-related costs reflected in the Company's Condensed Consolidated Statements of Operations, the debt issuance costs associated with the issuance of debt to fund the acquisition are reflected, net of amortization subsequent to the acquisition date, as Long-term debt on the Company's Condensed Consolidated Balance Sheets. The Company's acquisition of Clean Earth closed on June 28, 2019 and revenues and operating income for the three and six months ended June 30, 2019 for the Harsco Clean Earth Segment are immaterial.

The pro forma information below gives effect to the Clean Earth acquisition as if it had been completed on January 1, 2018 (the "pro forma period"). The pro forma information is not necessarily indicative of the Company's results of operations had the acquisition been completed on the above date, nor is it necessarily indicative of future results. The pro forma information does not reflect any cost savings from operating efficiencies or synergies that could result from the acquisition and does not reflect the additional revenue opportunities following the acquisition. The pro forma information below includes adjustments to reflect additional depreciation and amortization expense based on the estimated fair value and useful lives of intangible assets and fixed assets acquired; includes additional interest expense of approximately \$9.2 million and \$18.2 million for the three and six months ended June 30, 2019, respectively and \$9.0 million and \$17.9 million for the three and six months ended

June 30, 2018, respectively, on the acquisition related borrowings used to finance the Clean Earth acquisition; and excludes certain directly attributable transaction costs and historic Clean Earth interest expense. These pro forma adjustments are subject to change as additional analysis is performed. The values assigned to the assets acquired and liabilities assumed are based on preliminary valuations and are subject to change as the Company obtains additional information during the measurement period.

(In millions)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Pro forma revenues	\$ 420.0	\$ 410.1	\$ 813.5	\$ 792.8
Pro forma net income (including discontinued operations)	24.8	37.8	39.1	43.0

Altek

In May 2018, the Company acquired Altek Europe Holdings Limited and its affiliated entities (collectively, "Altek"), a U.K.-based manufacturer of market-leading products that enable aluminum producers and recyclers to manage and efficiently extract value from critical byproduct streams, reduce byproduct generation and improve operating productivity. The Company acquired Altek, on a debt and cash free basis, for a purchase price of £45 million (approximately \$60 million) in cash, with the potential for up to £25 million (approximately \$33 million) in additional contingent consideration through 2021 subject to the future financial performance of Altek. The cash consideration transferred included payments of \$57.4 million, inclusive of normal working capital adjustments. In addition, the Company recognized contingent consideration with an initial fair value of \$12.1 million as of the acquisition date. Altek's revenues and operating results have been included in the results of the Harsco Environmental Segment. Inclusion of pro forma financial information for this transaction is not necessary as the acquisition is immaterial to the Company's results of operations.

The initial fair value of contingent consideration was estimated using a probability simulation model which uses assumptions and estimates to forecast a range of outcomes for the contingent consideration. Key inputs to the model include projected earnings before interest, tax, depreciation and amortization; the discount rate; the projection risk neutralization rate; and volatility, which are Level 3 data. The Company will assess these assumptions and estimates on a quarterly basis as additional data impacting the assumptions is obtained. Any changes in the fair value of contingent consideration related to updated assumptions and estimates will be recognized in the Consolidated Statements of Operations during the period in which the change occurs.

The fair value recorded for the assets acquired and liabilities assumed for Altek is as follows:

(In millions)	Final Valuation		
	June 30 2018	Measurement Period Adjustments (b)	March 31 2019
Cash and cash equivalents	\$ 1.7	\$ —	\$ 1.7
Net working capital	(1.5)	0.2	(1.3)
Property, plant and equipment	3.3	—	3.3
Intangible assets	52.5	0.2	52.7
Goodwill	20.9	1.6	22.5
Net deferred tax liabilities	(8.5)	—	(8.5)
Other liabilities	(0.3)	—	(0.3)
Total identifiable net assets of Altek	<u>\$ 68.1</u>	<u>\$ 2.0</u>	<u>\$ 70.1</u>

(b) The measurement period adjustments did not have a material impact on the Company's previously reported operating results.

The following table reflects the changes in the fair value of contingent consideration:

(In thousands)	Contingent Consideration
Balance at December 31, 2018	\$ 8,420
Fair value adjustment (c)	(3,511)
Foreign currency translation	(68)
Balance at June 30, 2019	\$ 4,841

(c) The fair value adjustment resulted from the decreased probability of Altek achieving cumulative financial and non-financial performance goals within the required time frame. This amount is recorded in Other expenses, net on the Company's Condensed Consolidated Statements of Operations.

Harsco Industrial Segment

On May 8, 2019, the Company entered into a definitive agreement to sell AXC to Chart Industries, Inc. for \$592 million in cash, subject to post-closing adjustments. The Company completed the sale of AXC on July 1, 2019. The final value of the transaction, transaction expenses and the anticipated net gain on the sale are being finalized. Also, in May 2019, the Company announced the intent to divest the remainder of the businesses in the Harsco Industrial Segment, IKG and PK. The sale of these businesses is expected to occur within one year. The disposal of the former Harsco Industrial Segment represents a strategic shift and accelerates the transformation of the Company's portfolio of businesses into a leading provider of environmental solutions and services.

The former Harsco Industrial Segment's balance sheet positions as of June 30, 2019 and December 31, 2018 are presented as Assets held-for-sale and Liabilities of assets held-for-sale in the Company's Condensed Consolidated Balance Sheets and are summarized as follows:

(in thousands)	June 30 2019	December 31 2018
Trade accounts receivable, net	\$ 53,789	\$ 44,786
Other receivables	333	412
Inventories	20,407	16,926
Current portion of contract assets	15,352	12,124
Other current assets	1,558	984
Property, plant and equipment, net	39,337	37,107
Right-of-use assets, net	17,822	—
Goodwill	6,839	6,839
Intangible assets, net	10,058	10,618
Deferred income tax assets	498	563
Other assets	189	204
Total assets	\$ 166,182	\$ 130,563
Accounts payable	\$ 21,415	\$ 24,426
Accrued compensation	4,988	7,385
Current portion of advances on contracts	2,792	1,910
Current portion of operating lease liabilities	2,872	—
Other current liabilities	6,010	5,689
Operating lease liabilities	15,180	—
Other liabilities	369	555
Total liabilities	\$ 53,626	\$ 39,965

The Harsco Industrial Segment has historically been a separate reportable segment with primary operations in North America and Latin America. In accordance with U.S. GAAP, the results of the former Harsco Industrial Segment are presented as discontinued operations and, as such, have been excluded from both continuing operations and segment results for the three and six months ended June 30, 2019 and 2018. Certain key selected financial information included in net income from discontinued operations for the former Harsco Industrial Segment is as follows:

(In millions)	Three Months Ended June 30		Six Months Ended June 30	
	2019	2018	2019	2018
Amounts directly attributable to the former Harsco Industrial Segment:				
Total revenues	\$ 116,796	\$ 92,065	\$ 234,182	\$ 175,663
Cost of products sold	85,319	66,640	173,014	127,365
Income before income taxes	9,882	11,251	24,074	21,075
Additional amounts allocated to the former Harsco Industrial Segment:				
Selling, general and administrative expenses (d)	\$ 3,527	\$ —	\$ 3,527	\$ —
Interest expense (e)	7,005	4,295	11,237	8,257

(d) The Company has allocated directly attributable transaction costs to discontinued operations.

(e) The Company has allocated interest expense, including a portion of the amount reclassified into income for the Company's interest rate swaps, amortization of deferred financing costs, and the impact of interest rate swap terminations, all of which were directly associated with the mandatory repayment of the Company's Term Loan Facility, resulting from the AXC disposal, as part of discontinued operations.

The Company has retained corporate overhead expenses previously allocated to the Harsco Industrial Segment of \$1.4 million and \$2.8 million for both the three and six months ended June 30, 2018 and 2019, respectively, as part of Selling, general and administrative expenses on the Company's Condensed Consolidated Statements of Operations.

The following is selected financial information included on the Company's Condensed Consolidated Statements of Cash Flows attributable to the former Harsco Industrial Segment:

(In millions)	Six Months Ended	
	June 30	
	2019	2018
Non-cash operating items		
Depreciation and amortization	\$ 3,301	\$ 3,737
Cash flows from investing activities		
Purchases of property, plant and equipment	5,221	4,003

4. Accounts Receivable and Inventories

Accounts receivable consist of the following:

(In thousands)	June 30 2019	December 31 2018
Trade accounts receivable	\$ 344,268	\$ 251,013
Less: Allowance for doubtful accounts	(10,911)	(4,586)
Trade accounts receivable, net	\$ 333,357	\$ 246,427
Other receivables (a)	\$ 53,019	\$ 53,770

(a) Other receivables include insurance claims, employee receivables, tax claims and other miscellaneous items not included in Trade accounts receivable, net.

The provision (benefit) for doubtful accounts related to trade accounts receivable was as follows:

(In thousands)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Provision (benefit) for doubtful accounts related to trade accounts receivable (b)	\$ 5,433	\$ (125)	\$ 5,423	\$ (208)

(b) The increase in the provision for doubtful accounts primarily resulted from a \$5.4 million provision for doubtful accounts in the Harsco Environmental Segment related to a customer in the U.K. entering administration during the second quarter of 2019. The Company continues to provide services to the customer and continues to collect on post-administration invoices timely while the customer seeks a buyer for their operations. Depending on the outcome of any potential transactions, there could be an impact on the Company's results of operations, cash flows and asset valuations in the future, which may be material in any one period.

Inventories consist of the following:

(In thousands)	June 30 2019	December 31 2018
Finished goods	\$ 12,731	\$ 11,892
Work-in-process	14,447	20,839
Raw materials and purchased parts	80,432	61,547
Stores and supplies	26,280	21,907
Total inventories	\$ 133,890	\$ 116,185

During 2016, the Company recognized an initial estimated forward loss provision related to the contracts with the federal railway system of Switzerland ("SBB") of \$45.1 million. The Company recorded an additional forward loss provision of \$1.8 million during 2018. At June 30, 2019, the entire remaining estimated forward loss provision of \$6.6 million is included as Other current liabilities on the Company's Condensed Consolidated Balance Sheets. The estimated forward loss provision represents the Company's best estimate based on currently available information. It is possible that the Company's overall estimate of costs to complete these contracts may increase, which would result in an additional estimated forward loss provision at such time, but the Company is unable to estimate any further possible loss or range of loss at this time. There are a number of key events expected to occur in 2019, including the finalization of the manufacturing designs for certain of the vehicles, and which could affect the cost estimates. Any adjustment to the cost estimates would be recorded when new information becomes available and could have a material impact on the Company's results of operations in that period.

The Company recognized \$5.9 million and \$7.5 million of revenues for the contracts with SBB at zero margin, on an over time basis, utilizing a cost-to-cost method for the three months ended June 30, 2019 and 2018, respectively; and \$10.6 million and \$15.5 million for the six months ended June 30, 2019 and 2018, respectively. For the three and six months ended June 30, 2019 and 2018, consolidated product revenue gross margins were not significantly impacted by the revenue recognized under the SBB contracts. The Company has substantially completed the first contract and is approximately 33% complete on the second contract with SBB as of June 30, 2019.

5. Property, Plant and Equipment

Property, plant and equipment consists of the following:

(In thousands)	June 30 2019	December 31 2018
Land	\$ 30,427	\$ 10,143
Land improvements	18,713	15,961
Buildings and improvements	180,640	163,037
Machinery and equipment	1,558,713	1,470,620
Uncompleted construction	61,750	36,968
Gross property, plant and equipment	1,850,243	1,696,729
Less: Accumulated depreciation	(1,299,572)	(1,263,936)
Property, plant and equipment, net	\$ 550,671	\$ 432,793

6. Leases

The Company leases certain property and equipment under noncancelable lease agreements. The Company determines if a contract or arrangement contains a lease at inception. All leases are evaluated and classified as either an operating or finance lease. A lease is classified as a finance lease if any of the following criteria are met: (i) ownership of the underlying asset transfers to the Company by the end of the lease term; (ii) the lease contains an option to purchase the underlying asset that the Company is reasonably expected to exercise; (iii) the lease term is for a major part of the remaining economic life of the underlying asset; (iv) the present value of the sum of lease payments and any residual value guaranteed by the Company equals or exceeds substantially all of the fair value of the underlying asset; or (v) the underlying asset is of a specialized nature that it is expected to have no alternative use to the lessor at the end of the lease term. A lease that does not meet any of the criteria to be classified as a finance lease is classified as an operating lease.

Operating leases are included as Right-of-use assets, net, Current portion of operating lease liabilities, and Operating lease liabilities on the Company's Condensed Consolidated Balance Sheets. ROU assets and operating lease liabilities are recognized based on the present value of the future lease payments over the lease term at the commencement date. As most of the Company's leases do not provide an implicit rate for use in determining the present value of future payments, the Company uses an incremental borrowing rate. This incremental borrowing rate reflects the creditworthiness of the Company for a lending period commensurate to the term of the lease and the standard lending practices related to such loans in the respective jurisdiction where the underlying assets are located. ROU assets also include any lease payments made and exclude any lease incentives and initial direct costs incurred. Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term, including rent abatement periods and rent holidays.

Finance leases are included as Property, plant and equipment, net; Current maturities of long-term debt and Long-term debt on the Company's Condensed Consolidated Balance Sheets. Finance lease costs are split between depreciation expense related to the asset and interest expense on the lease liability, using the effective rate charged by the lessor.

The Company has lease agreements with both lease and non-lease components, which the Company has elected to account for as a single lease component. Additionally, the Company has elected not to record short-term leases, those with expected terms of twelve months or less, on the Company's Condensed Consolidated Balance Sheets. Certain lease agreements include fixed escalations, while others include rental payments adjusted periodically for inflation. There are no material residual value guarantees or material restrictive covenants. The Company's leases, excluding short-term leases, have remaining terms of less than one year to 24.3 years, some of which include options to extend for up to 20 years, and some of which include options to terminate within one year.

The components of lease expense were as follows:

(In thousands)	Three Months Ended June 30 2019	Six Months Ended June 30 2019
Finance leases:		
Amortization expense	\$ 312	\$ 586
Interest on lease liabilities	37	41
Operating leases	3,435	7,127
Short-term leases	4,818	9,388
Variable lease expense	—	221
Total lease expense from continuing operations	\$ 8,602	\$ 17,363

Supplemental cash flow information related to leases was as follows:

(In thousands)	Six Months Ended June 30 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Cash flows from operating activities - Operating leases	\$ 6,743
Cash flows from financing activities - Finance leases	637
Right-of-use assets obtained in exchange for lease obligations:	
Operating leases (a)	\$ 50,696
Finance leases	1,692

(a) Includes ROU assets of approximately \$34 million that were recorded upon adoption at January 1, 2019 and \$14.4 million that were recorded upon the acquisition of Clean Earth. See Note 2, Recently Adopted and Recently Issued Accounting Standards, and Note 3, Acquisitions and Dispositions, for additional information.

Supplemental balance sheet information related to leases was as follows:

(In thousands)	June 30 2019
Operating Leases:	
Operating lease right-of-use assets	\$ 44,145
Other current liabilities	12,960
Operating lease liabilities	31,440
Finance Leases:	
Property, plant and equipment, net	\$ 2,356
Current maturities of long-term debt	1,216
Long-term debt	1,171

Supplemental additional information related to leases is as follows:

(In thousands)	June 30 2019
Other information:	
Weighted average remaining lease term - Operating leases (in years)	5.00
Weighted average remaining lease term - Finance leases (in years)	3.03
Weighted average discount rate - Operating leases	6.1%
Weighted average discount rate - Finance leases	4.3%

Maturities of lease liabilities were as follows:

(In thousand)	Operating Leases	Finance Leases
Year Ending December 31st:		
2019 (excluding the six months ended June 30, 2019)	\$ 8,391	\$ 626
2020	13,387	913
2021	9,838	667
2022	5,999	216
2023	4,320	100
After 2023	13,634	26
Total lease payments	55,569	2,548
Less imputed interest	(11,169)	(161)
Total	<u>\$ 44,400</u>	<u>\$ 2,387</u>

As previously disclosed, under then in effect lease accounting in accordance with U.S. GAAP, future minimum payments under operating leases with noncancelable terms were as follows as of December 31, 2018:

(In thousands) (b)	2019	2020	2021	2022	2023	After 2023
	\$ 10,761	8,938	6,235	4,602	3,083	17,170

(b) These amounts do not include operating lease obligations of Clean Earth as of December 31, 2018.

As of June 30, 2019, the Company has additional operating leases for property and equipment that have not yet commenced with estimated ROU assets and lease liabilities of approximately \$1 million to be recognized upon the anticipated lease commencements in the third quarter of 2019.

7. Goodwill and Other Intangible Assets

The following table reflects the changes in carrying amounts of goodwill by segment for the six months ended June 30, 2019:

(In thousands)	Harsco Environmental Segment	Harsco Clean Earth Segment	Harsco Rail Segment	Consolidated Totals
Balance at December 31, 2018	\$ 391,687	\$ —	\$ 13,026	\$ 404,713
Changes to goodwill (a)	—	313,806	—	313,806
Foreign currency translation	(792)	—	—	(792)
Balance at June 30, 2019	<u>\$ 390,895</u>	<u>\$ 313,806</u>	<u>\$ 13,026</u>	<u>\$ 717,727</u>

(a) The changes to goodwill related to the acquisition of Clean Earth. See Note 3, Acquisitions and Dispositions, for additional information.

The Company tests for goodwill impairment annually, or more frequently if indicators of impairment exist, or if a decision is made to dispose of a business. The Company performs the annual goodwill impairment test as of October 1 and monitors for triggering events on an ongoing basis. The Company determined that, as of June 30, 2019, no interim goodwill impairment testing was necessary.

Intangible assets, net on the Company's Condensed Consolidated Balance Sheets consist of the following:

(In thousands)	June 30, 2019		December 31, 2018	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Customer related	\$ 154,835	\$ 94,593	\$ 122,379	\$ 93,580
Permits	176,121	—	—	—
Technology related	34,920	3,690	35,831	2,681
Trade names	31,542	858	5,565	681
Air rights	25,584	—	—	—
Patents	262	171	2,598	2,503
Other	3,817	1,081	4,215	1,936
Total	<u>\$ 427,081</u>	<u>\$ 100,393</u>	<u>\$ 170,588</u>	<u>\$ 101,381</u>

Amortization expense for intangible assets was as follows:

(In thousands)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Amortization expense for intangible assets	\$ 1,901	\$ 1,197	\$ 3,840	\$ 2,027

The estimated amortization expense for the next five fiscal years based on current intangible assets is as follows:

(In thousands)	2019	2020	2021	2022	2023
Estimated amortization expense (b)	\$ 18,700	\$ 29,500	\$ 26,250	\$ 23,000	\$ 23,000

(b) These estimated amortization expense amounts do not reflect the potential effect of future foreign currency exchange fluctuations.

8. Debt and Credit Agreements

During June 2019, the Company completed a private placement of \$500.0 million principal amount of senior unsecured notes (the "Notes"). The Notes are due July 31, 2027 and bear interest at a fixed rate of 5.75%, which is payable on January 31 and July 31 of each year, beginning on January 31, 2020. The Notes are fully and unconditionally guaranteed, jointly and severally, by all of the wholly owned domestic subsidiaries of the Company that guarantee the Senior Secured Credit Facility. The indenture governing the Notes contains provisions that (i) allow the Company to redeem some or all of the Notes prior to maturity; (ii) require the Company to offer to repurchase all of the Notes upon a change in control; and (iii) require adherence to certain covenants which are generally less restrictive than those included in the Company's Senior Secured Credit Facility. The Notes were used, together with borrowings under the Company's Revolving Credit Facility, to fund the acquisition of Clean Earth. See Note 3, Acquisitions and Dispositions, for additional information.

Additionally, during June 2019, the Company amended the existing Senior Secured Credit Facility to, among other things, increase the borrowing capacity of the Revolving Credit Facility by \$200 million to a total of \$700 million, extend the maturity date of the Revolving Credit Facility until June 2024 and increase the maximum net debt to consolidated adjusted earnings before interest, tax, depreciation and amortization ratio from 3.5 to 4.0. During the second quarter of 2019, \$0.7 million of expenses were recognized related to the amended Senior Secured Credit Facility.

The Company has capitalized approximately \$11 million of fees related to the issuance of the Notes and the amendment of the Revolving Credit Facility, of which \$9.5 million was paid as of June 30, 2019.

In addition, during the second quarter of 2019, the Company recognized \$6.7 million of expenses for fees and other costs related to bridge financing commitments that the Company arranged in the event that the Notes were not issued prior to the acquisition of Clean Earth. Because the Notes were issued prior to completion of the Clean Earth acquisition, the bridge financing commitments were not utilized.

In July 2019, the Company made a required prepayment of \$320.9 million on the \$550 million Term Loan Facility, using proceeds from the sale of AXC. As a result of this prepayment, the Company expects to write off approximately \$5 million of previously recorded deferred financing costs during July 2019. The prepayment was used to satisfy the remaining quarterly principal payment requirements under the Term Loan Facility and further reduce amounts outstanding.

Long-term debt consists of the following:

(In thousands)	June 30 2019	December 31 2018
Senior Secured Credit Facilities:		
Term Loan Facility	\$ 539,065	\$ 541,788
Revolving Credit Facility	302,000	62,000
5.75% Notes, due 2027	500,000	—
Other financing payable (including finance leases) in varying amounts due principally through 2019	2,773	1,606
Total debt obligations	1,343,838	605,394
Less: deferred financing costs	(23,155)	(13,243)
Total debt obligations, net of deferred financing costs	1,320,683	592,151
Less: current maturities of long-term debt	(6,840)	(6,489)
Long-term debt	\$ 1,313,843	\$ 585,662

9. Employee Benefit Plans

Defined Benefit Pension Plans Net Periodic Pension Cost (Benefit) (In thousands)	Three Months Ended			
	June 30			
	U.S. Plans		International Plans	
	2019	2018	2019	2018
Service costs	\$ 10	\$ 11	\$ 357	\$ 408
Interest costs	2,651	2,390	5,548	5,442
Expected return on plan assets	(2,593)	(3,017)	(9,319)	(10,696)
Recognized prior service costs	—	—	65	(37)
Recognized loss	1,405	1,302	3,577	3,690
Settlement/curtailment losses	129	—	—	—
Defined benefit pension plans net periodic pension cost (benefit)	\$ 1,602	\$ 686	\$ 228	\$ (1,193)

Defined Benefit Pension Plans Net Periodic Pension Cost (Benefit) (In thousands)	Six Months Ended			
	Jun 30			
	U.S. Plans		International Plans	
	2019	2018	2019	2018
Service costs	\$ 20	\$ 21	\$ 713	\$ 794
Interest costs	5,302	4,781	11,212	11,114
Expected return on plan assets	(5,186)	(6,034)	(18,836)	(21,841)
Recognized prior service costs	—	—	131	(76)
Recognized loss	2,810	2,604	7,230	7,530
Settlement/curtailment losses	129	166	—	—
Defined benefit pension plans net periodic pension cost (benefit)	\$ 3,075	\$ 1,538	\$ 450	\$ (2,479)

Company Contributions (In thousands)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Defined benefit pension plans (U.S.)	\$ 2,011	\$ 2,067	\$ 3,490	\$ 3,351
Defined benefit pension plans (International)	3,131	3,239	12,401	12,973
Multiemployer pension plans	483	519	1,004	1,020
Defined contribution pension plans	2,969	2,747	6,359	5,582

The Company's estimate of expected contributions to be paid during the remainder of 2019 for the U.S. and international defined benefit pension plans are \$5.0 million and \$7.8 million, respectively.

10. Income Taxes

Income tax expense related to continuing operations for the three and six months ended June 30, 2019 was \$4.0 million and \$5.2 million, respectively. Income tax benefit related to continuing operations for the three months ended June 30, 2018 was \$0.5 million and income tax expense related to continuing operations for the six months ended June 30, 2018 was \$5.7 million. Changes in income tax expense (benefit) during the periods presented primarily relate to a change in mix of taxable income and an \$8.3 million income tax benefit arising from the release of adjustments to certain existing deferred tax asset valuation allowances as the result of the Altek acquisition in 2018 not recurring in 2019.

An income tax benefit from an uncertain tax position may be recognized when it is more likely than not that the position will be sustained upon examination, based on technical merits, including resolutions of any related appeals or litigation processes. The reserve for uncertain tax positions at June 30, 2019 was \$4.5 million, including interest and penalties. Within the next twelve months, it is reasonably possible that up to \$0.1 million of unrecognized income tax benefits will be recognized upon settlement of tax examinations and the expiration of various statutes of limitations.

11. Commitments and Contingencies

Environmental

The Company is involved in a number of environmental remediation investigations and cleanups and, along with other companies, has been identified as a “potentially responsible party” for certain byproduct disposal sites. While each of these matters is subject to various uncertainties, it is probable that the Company will agree to make payments toward funding certain of these activities, and it is possible that some of these matters will be decided unfavorably to the Company. The Company has evaluated its potential liability, and its financial exposure is dependent upon such factors as the continuing evolution of environmental laws and regulatory requirements, the availability and application of technology, the allocation of cost among potentially responsible parties, the years of remedial activity required and the remediation methods selected. Other than set forth herein the Company did not have any material accruals or record any material expenses related to environmental matters during the periods presented.

The Company evaluates its liability for future environmental remediation costs on a quarterly basis. Although actual costs to be incurred at identified sites in future periods may vary from the estimates (given inherent uncertainties in evaluating environmental exposures), the Company does not expect that any costs that are reasonably possible to be incurred by the Company in connection with environmental matters in excess of the amounts accrued would have a material adverse effect on the Company's financial condition, results of operations or cash flows.

As previously disclosed, the Company has had ongoing meetings with the Supreme Council for Environment in Bahrain (“SCE”) over processing a byproduct (“salt cakes”) stored at the Al Hafeerah site. The Company's Bahrain operations that produced the salt cakes has ceased operations and are owned under a strategic venture for which its strategic venture partner owns a 35% minority interest. An Environmental Impact Assessment and Technical Feasibility Study were approved by the SCE during the first quarter of 2018. The Company has previously established a reserve of \$7.0 million, which represents the Company's best estimate of the ultimate costs to be incurred to resolve this matter. The Company continues to evaluate this reserve and any future change in estimated costs could be material to the Company's results of operations in any one period.

On July 27, 2018, Brazil's Federal and Rio de Janeiro State Public Prosecution Offices (MPF and MPE) filed a Civil Public Action against one of the Company's customers (CSN), the Company's Brazilian subsidiary, the Municipality of Volta Redonda, Brazil, and the Instituto Estadual do Ambiente (local environmental protection agency) seeking the implementation of various measures to limit and reduce the accumulation of customer-owned slag at the site in Brazil. On August 6, 2018, the 3rd Federal Court in Volta Redonda granted the MPF and MPE an injunction against the same parties requiring, among other things, CSN and the Company's Brazilian subsidiary to limit the volume of slag sent to the site. Because the customer owns the site and the slag located on the site, the Company believes that complying with this injunction is the steel producer's responsibility. On March 18, 2019, the Court issued an order fining the Company 5,000 Brazilian real per day (or approximately \$1,300 per day) and CSN 20,000 Brazilian real per day until the requirements of the injunction are met. This fine is not yet currently being enforced, and the Company is appealing the fine and the underlying injunction. Both the Company and CSN continue to have discussions with the governmental authorities on the injunction and the possible resolution of the underlying case. The Company does not believe that a loss relating to this matter is probable or estimable at this point.

On October 19, 2018, local environmental authorities issued an enforcement action against the Company concerning the Company's operations at a customer site in Ijmuiden, Netherlands. The enforcement action alleges violations of the Company's environmental permit at the site, which restricts the release of any visible dust emissions. The enforcement action ordered the Company to cease all violations of the permit by October 31, 2018. The authorities have issued fines of approximately \$0.5 million, with the possibility of additional fines for any future violations. The Company is vigorously contesting the enforcement action and fines and is also working with its customer to ensure the control of emissions. The Company has contractual indemnity rights from its customer, should it be required to pay the assessed fines.

On June 13, 2019, the Pennsylvania Department of Environmental Protection (“PA DEP”) indicated to the Company and a landowner who received processed slag from the Company that it plans to require action to bring the landowner's site into compliance and to assess a civil penalty against the Company and the landowner. The landowner received the processed slag from the Company for use as construction material, one of the approved uses under the Company's applicable permit, but the PA DEP alleges that the landowner failed to properly use the slag as construction material. The Company is working with the landowner and PA DEP to determine the most effective way to address PA DEP's concerns about the site and has established a \$0.4 million reserve, which represents the Company's best estimate of the costs to bring the landowner's site into compliance.

Brazilian Tax Disputes

The Company is involved in a number of tax disputes with federal, state and municipal tax authorities in Brazil. These disputes are at various stages of the legal process, including the administrative review phase and the collection action phase, and include assessments of fixed amounts of principal and penalties, plus interest charges that increase at statutorily determined amounts per month and are assessed on the aggregate amount of the principal and penalties. In addition, the losing party, at the collection action or court of appeals phase, could be subject to a charge to cover statutorily mandated legal fees, which are generally calculated as a percentage of the total assessed amounts due, inclusive of penalty and interest. Many of the claims relate to value-added ("ICMS"), services and social security tax disputes. The largest proportion of the assessed amounts relate to ICMS claims filed by the State Revenue Authorities from the State of São Paulo, Brazil (the "SPRA"), encompassing the period from January 2002 to May 2005.

In October 2009, the Company received notification of the SPRA's final administrative decision regarding the levying of ICMS in the State of São Paulo in relation to services provided to a customer in the State between January 2004 and May 2005. As of June 30, 2019, the principal amount of the tax assessment from the SPRA with regard to this case is approximately \$2 million, with penalty, interest and fees assessed to date increasing such amount by an additional \$22 million. On June 4, 2018, the Appellate Court of the State of Sao Paulo ruled in favor of the SPRA but ruled that the assessed penalty should be reduced to approximately \$2 million. After calculating the interest accrued on the penalty, the Company estimates that this ruling reduces the current overall potential liability for this case to approximately \$9 million. The Company has appealed the ruling in favor of the SPRA to the Superior Court of Justice. Due to multiple court precedents in the Company's favor, as well as the Company's ability to appeal, the Company does not believe a loss is probable.

Another ICMS tax case involving the SPRA refers to the tax period from January 2002 to December 2003. In December 2018, the administrative tribunal hearing the case upheld the Company's liability. The Company has appealed to the judicial phase. The aggregate amount assessed by the tax authorities in August 2005 was \$6.6 million (the amounts with regard to this claim are valued as of the date of the assessment since it has not yet reached the collection phase), composed of a principal amount of \$1.6 million, with penalty and interest assessed through that date increasing such amount by an additional \$5.0 million. On December 6, 2018, the administrative tribunal reduced the applicable penalties to \$1.2 million. After calculating the interest accrued on the current penalty, the Company estimates that this ruling reduces the current overall liability for this case to approximately \$10 million. All such amounts include the effect of foreign currency translation. Due to multiple court precedents in the Company's favor the Company does not believe a loss is probable.

The Company continues to believe that sufficient coverage for these claims exists as a result of the indemnification obligations of the Company's customer and such customer's pledge of assets in connection with the October 2009 notice, as required by Brazilian law.

The Company intends to continue its practice of vigorously defending itself against these tax claims under various alternatives, including judicial appeal. The Company will continue to evaluate its potential liability with regard to these claims on a quarterly basis; however, it is not possible to predict the ultimate outcome of these tax-related disputes in Brazil. No loss provision has been recorded in the Company's condensed consolidated financial statements for the disputes described above because the loss contingency is not deemed probable, and the Company does not expect that any costs that are reasonably possible to be incurred by the Company in connection with Brazilian tax disputes would have a material adverse effect on the Company's financial condition, results of operations or cash flows.

Brazilian Labor Disputes

The Company is subject to ongoing collective bargaining and individual labor claims in Brazil through the Harsco Environmental Segment which allege, among other things, the Company's failure to pay required amounts for overtime and vacation at certain sites. The Company is vigorously defending itself against these claims; however, litigation is inherently unpredictable, particularly in foreign jurisdictions. While the Company does not currently expect that the ultimate resolution of these claims will have a material adverse effect on the Company's financial condition, results of operations or cash flows, it is not possible to predict the ultimate outcome of these labor-related disputes. As of June 30, 2019 and December 31, 2018, the Company has established reserves of \$6.7 million and \$7.1 million, respectively, on the Company's Condensed Consolidated Balance Sheets for amounts considered to be probable and estimable.

Customer Disputes

The Company may, in the normal course of business, become involved in commercial disputes with subcontractors or customers. Although results of operations and cash flows for a given period could be adversely affected by a negative outcome in these or other lawsuits, claims or proceedings, management believes that the ultimate outcome of any ongoing matters will not have a material adverse effect on the Company's financial condition, results of operations or cash flows.

Lima Refinery Litigation

On April 8, 2016, Lima Refining Company filed a lawsuit against the Company in the District Court of Harris County, Texas related to a January 2015 explosion at an oil refinery operated by Lima Refining Company. The action seeks approximately \$317 million plus interest in property damages, lost profits and business interruption damages. The action alleges the explosion occurred because of a defect in a heat exchange cooler manufactured by Hammco Corporation ("Hammco") in 2009, prior to the Company's acquisition of Hammco in 2014. The Company is vigorously contesting the allegations against it. The Company has both an indemnity right from the sellers of Hammco and liability insurance coverage under various primary and excess policies that the Company believes will be available, if necessary, to cover substantially all such liability that might ultimately be incurred in the above action. As a result, the Company believes the situation will not result in a net unreimbursed loss.

Other

The Company is named as one of many defendants (approximately 90 or more in most cases) in legal actions in the U.S. alleging personal injury from exposure to airborne asbestos over the past several decades. In their suits, the plaintiffs have named as defendants, among others, many manufacturers, distributors and installers of numerous types of equipment or products that allegedly contained asbestos.

The Company believes that the claims against it are without merit. The Company has never been a producer, manufacturer or processor of asbestos fibers. Any asbestos-containing part of a Company product used in the past was purchased from a supplier and the asbestos encapsulated in other materials such that airborne exposure, if it occurred, was not harmful and is not associated with the types of injuries alleged in the pending actions.

At June 30, 2019, there were approximately 17,131 pending asbestos personal injury actions filed against the Company. Of those actions, approximately 16,582 were filed in the New York Supreme Court (New York County), approximately 118 were filed in other New York State Supreme Court Counties and approximately 431 were filed in courts located in other states.

The complaints in most of those actions generally follow a form that contains a standard damages demand of \$20 million or \$25 million, regardless of the individual plaintiff's alleged medical condition, and without identifying any specific Company product.

At June 30, 2019, approximately 16,550 of the actions filed in New York Supreme Court (New York County) were on the Deferred/Inactive Docket created by the court in December 2002 for all pending and future asbestos actions filed by persons who cannot demonstrate that they have a malignant condition or discernible physical impairment. The remaining approximately 32 cases in New York County are pending on the Active or In Extremis Docket created for plaintiffs who can demonstrate a malignant condition or physical impairment.

The Company has liability insurance coverage under various primary and excess policies that the Company believes will be available, if necessary, to substantially cover any liability that might ultimately be incurred in the asbestos actions referred to above. The costs and expenses of the asbestos actions are being paid by the Company's insurers.

In view of the persistence of asbestos litigation in the U.S., the Company expects to continue to receive additional claims in the future. The Company intends to continue its practice of vigorously defending these claims and cases. At June 30, 2019, the Company has obtained dismissal in approximately 28,200 cases by stipulation or summary judgment prior to trial.

It is not possible to predict the ultimate outcome of asbestos-related actions in the U.S. due to the unpredictable nature of this litigation, and no loss provision has been recorded in the Company's condensed consolidated financial statements because a loss contingency is not deemed probable or estimable. Despite this uncertainty, and although results of operations and cash flows for a given period could be adversely affected by asbestos-related actions, the Company does not expect that any costs that are reasonably possible to be incurred by the Company in connection with asbestos litigation would have a material adverse effect on the Company's financial condition, results of operations or cash flows.

The Company is subject to various other claims and legal proceedings covering a wide range of matters that arose in the ordinary course of business. In the opinion of management, all such matters are adequately covered by insurance or by established reserves, and, if not so covered, are without merit or are of such kind, or involve such amounts, as would not have a material adverse effect on the financial position, results of operations or cash flows of the Company.

Insurance liabilities are recorded when it is probable that a liability has been incurred for a particular event and the amount of loss associated with the event can be reasonably estimated. Insurance reserves have been estimated based primarily upon actuarial calculations and reflect the undiscounted estimated liabilities for ultimate losses, including claims incurred but not reported. Inherent in these estimates are assumptions that are based on the Company's history of claims and losses, a detailed analysis of existing claims with respect to potential value, and current legal and legislative trends. If actual claims differ from those projected by management, changes (either increases or decreases) to insurance reserves may be required and would be recorded through income in the period the change was determined. When a recognized liability is covered by third-party insurance, the Company records an insurance claim receivable to reflect the covered liability. Insurance claim receivables are included in Other receivables on the Company's Condensed Consolidated Balance Sheets. See Note 1, Summary of Significant Accounting Policies, to the Consolidated Financial Statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2018 for additional information on Accrued insurance and loss reserves.

12. Reconciliation of Basic and Diluted Shares

(In thousands, except per share amounts)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Income (loss) from continuing operations attributable to Harsco Corporation common stockholders	\$ (2,852)	\$ 31,110	\$ 7,622	\$ 41,613
Weighted-average shares outstanding:				
Weighted-average shares outstanding - basic	80,328	80,861	80,119	80,756
Dilutive effect of stock-based compensation	—	2,782	1,955	2,838
Weighted-average shares outstanding - diluted	80,328	83,643	82,074	83,594
Earnings (loss) from continuing operations per common share, attributable to Harsco Corporation common stockholders:				
Basic	\$ (0.04)	\$ 0.38	\$ 0.10	\$ 0.52
Diluted	\$ (0.04)	\$ 0.37	\$ 0.09	\$ 0.50

The following average outstanding stock-based compensation units were not included in the computation of diluted earnings per share because the effect was antidilutive:

(In thousands)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Restricted stock units	443	—	—	—
Stock appreciation rights	1,919	283	389	489
Performance share units	685	—	116	—

13. Derivative Instruments, Hedging Activities and Fair Value

Derivative Instruments and Hedging Activities

The Company uses derivative instruments, including foreign currency exchange forward contracts, interest rate swaps and cross-currency interest rate swaps ("CCIRs"), to manage certain foreign currency and interest rate exposures. Derivative instruments are viewed as risk management tools by the Company and are not used for trading or speculative purposes. All derivative instruments are recorded on the Company's Condensed Consolidated Balance Sheets at fair value. The accounting for changes in the fair value of derivatives depends on the intended use of the derivative, whether the Company has elected to designate a derivative in a hedging relationship and apply hedge accounting and whether the hedging relationship has satisfied the criteria necessary to apply hedge accounting. Derivatives designated and qualifying as a hedge of the exposure to variability in expected future cash flows, or other types of forecasted transactions, are considered cash flow hedges. Hedge accounting generally provides for the matching of the timing of gain or loss recognition on the hedging instrument with the recognition of the earnings effect of the hedged forecasted transactions in a cash flow hedge. The Company may enter into derivative contracts that are intended to economically hedge certain of its risk, even though hedge accounting does not apply or the Company elects not to apply hedge accounting.

The Company primarily applies the market approach for recurring fair value measurements and endeavors to utilize the best available information. Accordingly, the Company utilizes valuation techniques that maximize the use of observable inputs, such as forward rates, interest rates, the Company's credit risk and counterparties' credit risks, and which minimize the use of unobservable inputs. The Company is able to classify fair value balances based on the ability to observe those inputs. Foreign currency exchange forward contracts, interest rate swaps and CCIRs are based upon pricing models using market-based inputs (Level 2). Model inputs can be verified and valuation techniques do not involve significant management judgment.

The fair value of outstanding derivative contracts recorded as assets and liabilities on the Company's Condensed Consolidated Balance Sheets was as follows:

(In thousands)	Balance Sheet Location	Fair Value of Derivatives Designated as Hedging Instruments	Fair Value of Derivatives Not Designated as Hedging Instruments	Total Fair Value
June 30, 2019				
Asset derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current assets	\$ 2,855	\$ 4,261	\$ 7,116
Total		<u>\$ 2,855</u>	<u>\$ 4,261</u>	<u>\$ 7,116</u>
Liability derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current liabilities	\$ 36	\$ 797	\$ 833
Interest rate swaps	Other current liabilities	1,227	—	1,227
Interest rate swaps	Other liabilities	4,631	—	4,631
Total		<u>\$ 5,894</u>	<u>\$ 797</u>	<u>\$ 6,691</u>
December 31, 2018				
Asset derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current assets	\$ 2,970	\$ 589	\$ 3,559
Interest rate swaps	Other current assets	1,331	—	1,331
Interest rate swaps	Other assets	128	—	\$ 128
Total		<u>\$ 4,429</u>	<u>\$ 589</u>	<u>\$ 5,018</u>
Liability derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current liabilities	\$ 24	\$ 2,910	\$ 2,934
Interest rate swaps	Other liabilities	1,849	—	1,849
Total		<u>\$ 1,873</u>	<u>\$ 2,910</u>	<u>\$ 4,783</u>

All of the Company's derivatives are recorded on the Company's Condensed Consolidated Balance Sheets at gross amounts and not offset. All of the Company's interest rate swaps, CCIRs and certain foreign currency exchange forward contracts are transacted under International Swaps and Derivatives Association ("ISDA") documentation. Each ISDA master agreement permits the net settlement of amounts owed in the event of default. The Company's derivative assets and liabilities subject to enforceable master netting arrangements resulted in a net liability of \$1.5 million and \$0.1 million at June 30, 2019 and December 31, 2018, respectively.

The effect of derivative instruments on the Company's Condensed Consolidated Statements of Operations and Condensed Consolidated Statements of Comprehensive Income:

Derivatives Designated as Hedging Instruments

(In thousands)	Amount Recognized in Other Comprehensive Income ("OCI") on Derivatives		Location of Amount Reclassified from Accumulated OCI into Income	Amount Reclassified from Accumulated OCI into Income - Effective Portion or Equity	
	Three Months Ended			Three Months Ended	
	June 30			June 30	
	2019	2018		2019	2018
Foreign currency exchange forward contracts	\$ 669	\$ 1,539	Product revenues/Cost of services sold	\$ (389)	\$ 103
Interest rate swaps	—	—	Income from discontinued businesses	2,741	—
Interest rate swaps	(4,327)	2,071	Interest expense	(271)	(235)
Cross-currency interest rate swaps (a)	54	93	Interest expense	303	377
	<u>\$ (3,604)</u>	<u>\$ 3,703</u>		<u>\$ 2,384</u>	<u>\$ 245</u>

(In thousands)	Amount Recognized in Other Comprehensive Income ("OCI") on Derivatives		Location of Amount Reclassified from Accumulated OCI into Income	Amount Reclassified from Accumulated OCI into Income - Effective Portion or Equity	
	Six Months Ended			Six Months Ended	
	June 30			June 30	
	2019	2018		2019	2018
Foreign currency exchange forward contracts	\$ (43)	\$ 1,779	Product revenues/Cost of services sold	\$ (421)	\$ (109)
Foreign currency exchange forward contracts (b)	—	—	Retained earnings	—	(1,520)
Interest rate swaps	—	—	Income from discontinued businesses	2,741	—
Interest rate swaps	(7,636)	5,381	Interest expense	(572)	(235)
Cross-currency interest rate swaps (a)	2	—	Interest expense	617	648
	<u>\$ (7,677)</u>	<u>\$ 7,160</u>		<u>\$ 2,365</u>	<u>\$ (1,216)</u>

(a) Amounts represent changes in foreign currency translation related to balances in Accumulated other comprehensive loss.

(b) The Company has adopted the new revenue recognition standard utilizing the modified retrospective transition method, including use of practical expedients. See Note 2, Recently Adopted and Recently Issued Accounting Standards, for additional information.

The location and amount of gain (loss) recognized on the Company's Condensed Consolidated Statements of Operations:

(in thousands)	Three Months Ended						
	June 30						
	2019			2018			
	Product Revenues	Cost of Services Sold	Interest Expense	Income From Discontinued Businesses	Product Revenues	Cost of Services Sold	Interest Expense
Total amounts of income and expense line items presented in the statement of financial performance in which the effects of cash flow hedges are recorded	\$ 112,895	\$ 186,840	\$ (6,103)	\$ 9,936	\$ 94,199	\$ 187,393	\$ (5,681)
Interest rate swaps:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	—	—	271	—	—	—	235
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income as a result that a forecasted transaction is no longer probable of occurring	—	—	—	(2,741)	—	—	—
Foreign exchange contracts:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	433	(44)	—	—	(103)	—	—
Amount excluded from effectiveness testing recognized in earnings based on changes in fair value	238	—	—	—	—	12	—
Cross-currency interest rate swaps:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	—	—	(303)	—	—	—	(377)

(in thousands)	Six Months Ended						
	June 30						
	2019			2018			
	Product Revenues	Cost of Services Sold	Interest Expense	Income From Discontinued Businesses	Product Revenues	Cost of Services Sold	Interest Expense
Total amounts of income and expense line items presented in the statement of financial performance in which the effects of cash flow hedges are recorded	\$ 213,277	\$ 368,711	\$ (11,610)	\$ 23,686	\$ 174,429	\$ 379,068	\$ (11,271)
Interest rate swaps:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	—	—	572	—	—	—	235
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income as a result that a forecasted transaction is no longer probable of occurring	—	—	—	(2,741)	—	—	—
Foreign exchange contracts:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	465	(44)	—	—	109	—	—
Amount excluded from effectiveness testing recognized in earnings based on changes in fair value	316	—	—	—	—	(7)	—
Cross-currency interest rate swaps:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	—	—	(617)	—	—	—	(648)

Derivatives Not Designated as Hedging Instruments

(In thousands)	Location of Gain Recognized in Income on Derivatives	Amount of Gain Recognized in Income on Derivatives (c)			
		Three Months Ended		Six Months Ended	
		June 30		June 30	
		2019	2018	2019	2018
Foreign currency exchange forward contracts	Cost of services and products sold	\$ 2,770	\$ 15,731	\$ 5,094	\$ 10,265

(c) These gains offset amounts recognized in cost of services and products sold principally as a result of intercompany or third party foreign currency exposures.

Foreign Currency Exchange Forward Contracts

The Company conducts business in multiple currencies and, accordingly, is subject to the inherent risks associated with foreign exchange rate movements. Foreign currency-denominated assets and liabilities are translated into U.S. dollars at the exchange rates existing at the respective balance sheet dates, and income and expense items are translated at the average exchange rates during the respective periods.

The Company uses derivative instruments to hedge cash flows related to foreign currency fluctuations. Foreign currency exchange forward contracts outstanding are part of a worldwide program to minimize foreign currency exchange operating income and balance sheet exposure by offsetting foreign currency exposures of certain future payments between the Company and various subsidiaries, suppliers or customers. The unsecured contracts are with major financial institutions. The Company may be exposed to credit loss in the event of non-performance by the contract counterparties. The Company evaluates the creditworthiness of the counterparties and does not expect default by them. Foreign currency exchange forward contracts are used to hedge commitments, such as foreign currency debt, firm purchase commitments and foreign currency cash flows for certain export sales transactions.

Changes in the fair value of derivatives used to hedge foreign currency denominated balance sheet items are reported directly in earnings, along with offsetting transaction gains and losses on the items being hedged. Derivatives used to hedge forecasted cash flows associated with foreign currency commitments may be accounted for as cash flow hedges, as deemed appropriate, if the criteria for hedge accounting are met. Gains and losses on derivatives designated as cash flow hedges are deferred in Accumulated other comprehensive loss, a separate component of equity, and reclassified to earnings in a manner that matches the timing of the earnings impact of the hedged transactions. The ineffective portion of all hedges, if any, is recognized currently in earnings.

The recognized gains and losses offset amounts recognized in cost of services and products sold principally as a result of intercompany or third party foreign currency exposures. At June 30, 2019 and December 31, 2018, the notional amounts of foreign currency exchange forward contracts were \$460.2 million and \$423.9 million, respectively. These contracts are primarily denominated in British pounds sterling and Euros and mature through October 2021.

In addition to foreign currency exchange forward contracts, the Company designates certain loans as hedges of net investments in international subsidiaries. The Company recorded pre-tax net losses of \$5.5 million and \$0.7 million for the three and six months ended June 30, 2019, respectively, and pre-tax net losses of \$16.1 million and \$6.6 million for the three and six months ended June 30, 2018, respectively, in Accumulated other comprehensive loss.

Interest Rate Swaps

The Company uses interest rate swaps in conjunction with certain variable rate debt issuances in order to secure a fixed interest rate. Changes in the fair value attributed to the effect of the swaps' interest spread and changes in the credit worthiness of the counter-parties are recorded in Accumulated other comprehensive loss.

In January 2017 and February 2018, the Company entered into a series of interest rate swaps that cover the period from 2018 through 2022 and had the effect of converting \$300.0 million of the Term Loan Facility from floating-rate to fixed-rate. The fixed rates provided by the swaps replace the adjusted LIBOR rate in the interest calculation, ranging from 2.12% for 2019 to 3.12% for 2022.

During June 2019, the Company effected the early termination of interest rate swaps that covered the period from 2019 through 2022 and had the effect of converting \$100.0 million of the Term Loan Facility from floating-rate to fixed-rate. This termination was conducted as a result of the Company's new Notes offering and required repayment of a portion of the Term Loan Facility with proceeds from the AXC disposal. The Company paid \$2.8 million and recognized a loss of \$2.7 million related to these terminations in Income from discontinued businesses on the Company's Condensed Consolidated Statements of Operations. The total notional of the Company's interest rate swaps is \$200.0 million as of June 30, 2019.

Cross-Currency Interest Rate Swaps

The Company may use CCIRs in conjunction with certain debt issuances in order to secure a fixed local currency interest rate. Under these CCIRs, the Company receives interest based on a fixed or floating U.S. dollar rate and pays interest on a fixed local currency rate based on the contractual amounts in dollars and the local currency, respectively. At maturity, there is also the payment of principal amounts between currencies. Changes in the fair value attributed to the effect of the swaps' interest spread and changes in the credit worthiness of the counter-parties are recorded in Accumulated other comprehensive loss. Changes in value attributed to the effect of foreign currency fluctuations are recorded on the Company's Condensed Consolidated Statements of Operations and offset currency fluctuation effects on the debt principal. The Company had no outstanding CCIRs at June 30, 2019.

Fair Value of Other Financial Instruments

The carrying amounts of cash and cash equivalents, accounts receivable, accounts payable, accrued liabilities and short-term borrowings approximate fair value due to the short-term maturities of these assets and liabilities. At June 30, 2019 and December 31, 2018, the total fair value of long-term debt (excluding deferred financing costs), including current maturities, was \$1,361.1 million and \$592.0 million, respectively, compared with a carrying value of \$1,343.8 million and \$605.4 million, respectively. Fair values for debt are based on pricing models using market-based inputs (Level 2) for similar issues or on the current rates offered to the Company for debt of the same remaining maturities.

14. Review of Operations by Segment

(In thousands)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Revenues From Continuing Operations (a)				
Harsco Environmental	\$ 269,338	\$ 272,320	\$ 530,650	\$ 537,043
Harsco Clean Earth	—	—	—	—
Harsco Rail	81,560	67,552	150,150	127,230
Corporate	—	35	—	74
Total Revenues From Continuing Operations	\$ 350,898	\$ 339,907	\$ 680,800	\$ 664,347
Operating Income (Loss) From Continuing Operations (a)				
Harsco Environmental	\$ 27,577	\$ 35,661	\$ 52,074	\$ 63,396
Harsco Clean Earth	—	—	—	—
Harsco Rail	9,443	8,618	14,832	10,570
Corporate	(19,221)	(6,215)	(29,283)	(13,174)
Total Operating Income From Continuing Operations	\$ 17,799	\$ 38,064	\$ 37,623	\$ 60,792
Depreciation and Amortization (a)				
Harsco Environmental	\$ 28,497	\$ 28,632	\$ 57,202	\$ 57,717
Harsco Clean Earth	—	—	—	—
Harsco Rail	1,209	1,039	2,376	2,103
Corporate	1,417	1,665	2,769	3,014
Total Depreciation and Amortization	\$ 31,123	\$ 31,336	\$ 62,347	\$ 62,834
Capital Expenditures (a)				
Harsco Environmental	\$ 45,095	\$ 24,423	\$ 74,258	\$ 49,599
Harsco Clean Earth	—	—	—	—
Harsco Rail	6,365	2,088	10,281	2,518
Corporate	287	172	1,440	376
Total Capital Expenditures	\$ 51,747	\$ 26,683	\$ 85,979	\$ 52,493

(a) The Company's acquisition of Clean Earth closed on June 28, 2019. Revenues and operating income for the three and six months ended June 30, 2019 for the Harsco Clean Earth Segment are immaterial. The operating results of the former Harsco Industrial Segment has been reflected as discontinued operations in the Company's Condensed Consolidated Statement of Operations for all periods presented. See Note 3, Acquisitions and Dispositions, for additional details.

Reconciliation of Segment Operating Income to Income From Continuing Operations Before Income Taxes and Equity Income

(In thousands)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Segment operating income	\$ 37,020	\$ 44,279	\$ 66,906	\$ 73,966
General Corporate expense	(19,221)	(6,215)	(29,283)	(13,174)
Operating income from continuing operations	17,799	38,064	37,623	60,792
Interest income	591	577	1,124	1,070
Interest expense	(6,103)	(5,681)	(11,610)	(11,271)
Unused debt commitment and amendment fees	(7,435)	—	(7,435)	—
Loss on early extinguishment of debt	—	(1,034)	—	(1,034)
Defined benefit pension income (expense)	(1,472)	904	(2,810)	1,743
Income from continuing operations before income taxes and equity income	\$ 3,380	\$ 32,830	\$ 16,892	\$ 51,300

15. Revenue Recognition

The Company recognizes revenues to depict the transfer of promised services and products to customers in an amount that reflects the consideration the Company expects to receive in exchange for those services or products. Service revenues include the Harsco Clean Earth Segment and the service components of the Harsco Environmental and Harsco Rail Segments. Product revenues include portions of the Harsco Environmental and Harsco Rail Segments.

A summary of the Company's revenues by primary geographical markets as well as by key product and service groups is as follows:

	Three Months Ended				
	June 30, 2019				
(In thousands)	Harsco Environmental Segment	Harsco Clean Earth Segment	Harsco Rail Segment	Corporate	Consolidated Totals
Primary Geographical Markets (a) (b):					
North America	\$ 78,112	\$ —	\$ 65,278	\$ —	\$ 143,390
Western Europe	98,478	—	10,538	—	109,016
Latin America (c)	36,272	—	773	—	37,045
Asia-Pacific	35,779	—	4,971	—	40,750
Middle East and Africa	15,742	—	—	—	15,742
Eastern Europe	4,955	—	—	—	4,955
Total Revenues	<u>\$ 269,338</u>	<u>\$ —</u>	<u>\$ 81,560</u>	<u>\$ —</u>	<u>\$ 350,898</u>
Key Product and Service Groups (a):					
On-site services and material logistics, product quality improvement and resource recovery for iron, steel and metals manufacturing; value-added environmental solutions for industrial co-products; as well as aluminum dross and scrap processing systems	\$ 269,338	\$ —	\$ —	\$ —	\$ 269,338
Environmental solutions for contaminated materials, hazardous waste and dredged materials	—	—	—	—	—
Railway track maintenance services and equipment	—	—	81,560	—	81,560
Total Revenues	<u>\$ 269,338</u>	<u>\$ —</u>	<u>\$ 81,560</u>	<u>\$ —</u>	<u>\$ 350,898</u>

Three Months Ended
June 30, 2018

(In thousands)	Harsco Environmental Segment	Harsco Clean Earth Segment	Harsco Rail Segment	Corporate	Consolidated Totals
Primary Geographical Markets (a) (b):					
North America	\$ 79,862	\$ —	\$ 47,547	\$ 35	\$ 127,444
Western Europe	97,410	—	13,041	—	110,451
Latin America (c)	37,388	—	1,331	—	38,719
Asia-Pacific	37,788	—	5,633	—	43,421
Middle East and Africa	12,150	—	—	—	12,150
Eastern Europe	7,722	—	—	—	7,722
Total Revenues	\$ 272,320	\$ —	\$ 67,552	\$ 35	\$ 339,907
Key Product and Service Groups (a):					
On-site services and material logistics, product quality improvement and resource recovery for iron, steel and metals manufacturing; value- added environmental solutions for industrial co-products; as well as aluminum dross and scrap processing systems	\$ 272,320	\$ —	\$ —	\$ —	\$ 272,320
Environmental solutions for contaminated materials, hazardous waste and dredged materials	—	—	—	—	—
Railway track maintenance services and equipment	—	—	67,552	—	67,552
General Corporate	—	—	—	35	35
Total Revenues	\$ 272,320	\$ —	\$ 67,552	\$ 35	\$ 339,907

Six Months Ended
June 30, 2019

(In thousands)	Harsco Environmental Segment	Harsco Clean Earth Segment	Harsco Rail Segment	Corporate	Consolidated Totals
Primary Geographical Markets (a) (b):					
North America	\$ 151,461	\$ —	\$ 115,643	\$ —	\$ 267,104
Western Europe	196,699	—	20,551	—	217,250
Latin America (c)	73,263	—	1,364	—	74,627
Asia-Pacific	69,917	—	12,592	—	82,509
Middle East and Africa	29,657	—	—	—	29,657
Eastern Europe	9,653	—	—	—	9,653
Total Revenues	\$ 530,650	\$ —	\$ 150,150	\$ —	\$ 680,800
Key Product and Service Groups (a):					
On-site services and material logistics, product quality improvement and resource recovery for iron, steel and metals manufacturing; as well as value- added environmental solutions for industrial co-products	\$ 530,650	\$ —	\$ —	\$ —	\$ 530,650
Environmental solutions for contaminated materials, hazardous waste and dredged materials	—	—	—	—	—
Railway track maintenance services and equipment	—	—	150,150	—	150,150
Total Revenues	\$ 530,650	\$ —	\$ 150,150	\$ —	\$ 680,800

Six Months Ended

June 30, 2018

(In thousands)	Harsco Environmental Segment	Harsco Clean Earth Segment	Harsco Rail Segment	Corporate	Consolidated Totals
Primary Geographical Markets (a) (b):					
North America	\$ 150,927	\$ —	\$ 87,952	\$ 74	\$ 238,953
Western Europe	194,331	—	27,761	—	222,092
Latin America (c)	78,846	—	2,164	—	81,010
Asia-Pacific	74,009	—	9,353	—	83,362
Middle East and Africa	23,703	—	—	—	23,703
Eastern Europe	15,227	—	—	—	15,227
Total Revenues	\$ 537,043	\$ —	\$ 127,230	\$ 74	\$ 664,347
Key Product and Service Groups (a):					
On-site services and material logistics, product quality improvement and resource recovery for iron, steel and metals manufacturing; as well as value-added environmental solutions for industrial co-products	\$ 537,043	\$ —	\$ —	\$ —	\$ 537,043
Environmental solutions for contaminated materials, hazardous waste and dredged materials	—	—	—	—	—
Railway track maintenance services and equipment	—	—	127,230	—	127,230
General Corporate	—	—	—	74	74
Total Revenues	\$ 537,043	\$ —	\$ 127,230	\$ 74	\$ 664,347

(a) The Company's acquisition of Clean Earth closed on June 28, 2019. Revenues and operating income for the three and six months ended June 30, 2019 for the Harsco Clean Earth Segment are immaterial. The operating results of the former Harsco Industrial Segment have been reflected as discontinued operations in the Company's Condensed Consolidated Statement of Operations for all periods presented. See Note 3, Acquisitions and Dispositions, for additional details.

(b) Revenues are attributed to individual countries based on the location of the facility generating the revenue.

(c) Includes Mexico.

The Company may receive payments in advance of earning revenue, which are treated as Advances on contracts on the Company's Condensed Consolidated Balance Sheets. The Company may recognize revenue in advance of being able to contractually invoice the customer, which is treated as Contract assets on the Company's Condensed Consolidated Balance Sheets. Contract assets are transferred to Trade accounts receivable, net when right to payment becomes unconditional. Contract assets and Contract liabilities are reported as a net position, on a contract-by-contract basis, at the end of each reporting period. These instances are primarily related to the Harsco Rail Segment.

The Company had Contract assets totaling \$8.2 million and \$12.1 million at June 30, 2019 and December 31, 2018, respectively. The decrease is due principally to the transfer of contract assets to accounts receivable in excess of additional contract assets recognized during the six months ended June 30, 2019, primarily in the Harsco Rail Segment. The Company had Advances on contracts totaling \$55.4 million and \$67.1 million at June 30, 2019 and December 31, 2018, respectively. The decrease is due principally to the recognition of revenue on previously received advances on contracts in excess of receipts of new advances on contracts during the period, primarily in the Harsco Rail Segment. During the three and six months ended June 30, 2019, the Company recognized approximately \$19 million and approximately \$37 million of revenue related to amounts previously included in Advances on contracts.

At June 30, 2019, the Harsco Environmental Segment had remaining, fixed, unsatisfied performance obligations where the expected contract duration exceeds one year totaling \$124.2 million. Of this amount, \$42.6 million is expected to be fulfilled by June 30, 2020, \$31.1 million by June 30, 2021, \$24.2 million by June 30, 2022, \$21.3 million by June 30, 2023 and the remainder thereafter. These amounts exclude any variable fees, fixed fees subject to indexation and any performance obligations expected to be satisfied within one year. The decrease from December 31, 2018 is primarily due to changes in foreign currency exchange rates.

At June 30, 2019, the Harsco Rail Segment had remaining, fixed, unsatisfied performance obligations where the expected contract duration exceeds one year totaling \$202.7 million. Of this amount, \$93.3 million is expected to be fulfilled by June 30, 2020, \$61.9 million by June 30, 2021, \$34.4 million by June 30, 2022, \$13.1 million by June 30, 2023. These amounts exclude any variable fees, fixed fees subject to indexation and any performance obligations expected to be satisfied within one year.

16. Other (Income) Expenses, Net

The major components of this Condensed Consolidated Statements of Operations caption are as follows:

(In thousands)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Employee termination benefit costs	\$ 997	\$ 769	\$ 3,516	\$ 2,174
Other costs to exit activities	1,192	(25)	2,347	227
Impaired asset write-downs	—	104	214	104
Contingent consideration adjustments	(3,880)	—	(3,511)	—
Net gains	—	(1,097)	(2,271)	(1,097)
Other	(26)	(765)	(269)	(758)
Other (income) expenses, net	\$ (1,717)	\$ (1,014)	\$ 26	\$ 650

17. Components of Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss is included on the Company's Condensed Consolidated Statements of Equity. The components of Accumulated other comprehensive loss, net of the effect of income taxes, and activity for the six months ended June 30, 2018 and 2019 was as follows:

(In thousands)	Components of Accumulated Other Comprehensive Income (Loss) - Net of Tax				Total
	Cumulative Foreign Exchange Translation Adjustments	Effective Portion of Derivatives Designated as Hedging Instruments	Cumulative Unrecognized Actuarial Losses on Pension Obligations	Unrealized Gain (Loss) on Marketable Securities	
Balance at December 31, 2017	\$ (111,567)	\$ 808	\$ (435,840)	\$ 17	\$ (546,582)
Adoption of new accounting standard (a)	—	(1,520)	—	—	(1,520)
Other comprehensive income (loss) before reclassifications	(36,205) ^(b)	5,482 ^(c)	10,015 ^(b)	(27)	(20,735)
Amounts reclassified from accumulated other comprehensive loss, net of tax	—	97	9,611	—	9,708
Total other comprehensive income (loss)	(36,205)	5,579	19,626	(27)	(11,027)
Other comprehensive income attributable to noncontrolling interests	1,240	—	—	—	1,240
Other comprehensive income (loss) attributable to Harsco Corporation	(34,965)	5,579	19,626	(27)	(9,787)
Balance at June 30, 2018	\$ (146,532)	\$ 4,867	\$ (416,214)	\$ (10)	\$ (557,889)

(In thousands)	Components of Accumulated Other Comprehensive Income (Loss) - Net of Tax				Total
	Cumulative Foreign Exchange Translation Adjustments	Effective Portion of Derivatives Designated as Hedging Instruments	Cumulative Unrecognized Actuarial Losses on Pension Obligations	Unrealized Gain (Loss) on Marketable Securities	
Balance at December 31, 2018	\$ (159,810)	\$ 1,389	\$ (408,655)	\$ (31)	\$ (567,107)
Adoption of new accounting standard (d)	—	—	(21,429)	—	(21,429)
Other comprehensive income (loss) before reclassifications	2,775 ^(b)	(5,893) ^(c)	2,192 ^(b)	25	(901)
Amounts reclassified from accumulated other comprehensive loss, net of tax	(2,271)	1,722	9,579	—	9,030
Total other comprehensive income (loss)	504	(4,171)	11,771	25	8,129
Other comprehensive income attributable to noncontrolling interests	178	—	—	—	178
Other comprehensive income (loss) attributable to Harsco Corporation	682	(4,171)	11,771	25	8,307
Balance at June 30, 2019	\$ (159,128)	\$ (2,782)	\$ (418,313)	\$ (6)	\$ (580,229)

(a) Represents the opening balance sheet adjustment to retained earnings related to the adoption of the revenue recognition standard adopted by the Company on January 1, 2018.

(b) Principally foreign currency fluctuation.

(c) Net change from periodic revaluations.

(d) Represents the adoption of the new accounting standard on January 1, 2019 related to stranded tax effects from the Tax Act. See Note 2, Recently Adopted and Recently Issued Accounting Standards, for more information.

Amounts reclassified from Accumulated other comprehensive loss are as follows:

(In thousands)	Three Months Ended		Six Months Ended		Affected Caption on the Company's Condensed Consolidated Statements of Operations
	June 30 2019	June 30 2018	June 30 2019	June 30 2018	
Recognition of cumulative foreign currency translation adjustments:					
Gain on substantial liquidation of subsidiary (e)	\$ —	\$ —	\$ (2,271)	\$ —	Other (income) expenses, net
Amortization of cash flow hedging instruments:					
Foreign currency exchange forward contracts	\$ (433)	\$ 103	\$ (465)	\$ (109)	Product revenues
Foreign currency exchange forward contracts	44	—	44	—	Cost of services sold
Cross-currency interest rate swaps	303	377	617	648	Interest expense
Interest rate swaps	(271)	(235)	(572)	(235)	Interest expense
Interest rate swaps	2,741	—	2,741	—	Income from discontinued businesses
Total before tax	2,384	245	2,365	304	
Tax expense	(599)	(57)	(643)	(207)	
Total reclassification of cash flow hedging instruments, net of tax	\$ 1,785	\$ 188	\$ 1,722	\$ 97	
Amortization of defined benefit pension items (f):					
Recognized losses	\$ 4,982	\$ 4,992	\$ 10,040	\$ 10,134	Defined benefit pension income (expense)
Recognized prior-service costs	65	(37)	131	(76)	Defined benefit pension income (expense)
Settlement/curtailment losses	129	—	129	166	Defined benefit pension income (expense)
Total before tax	5,176	4,955	10,300	10,224	
Tax benefit	(379)	(288)	(721)	(613)	
Total reclassification of defined benefit pension items, net of tax	\$ 4,797	\$ 4,667	\$ 9,579	\$ 9,611	

(e) No tax impact.

(f) These accumulated other comprehensive loss components are included in the computation of net periodic pension costs. See Note 9, Employee Benefit Plans, for additional details.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with the accompanying unaudited condensed consolidated financial statements as well as the audited consolidated financial statements of Harsco Corporation (the "Company"), including the notes thereto, included in the Company's Annual Report on Form 10-K for the year ended December 31, 2018 which includes additional information about the Company's critical accounting policies, contractual obligations, practices and the transactions that support the financial results, and provides a more comprehensive summary of the Company's outlook, trends and strategies for 2019 and beyond.

Certain amounts included in Item 2 of this Quarterly Report on Form 10-Q are rounded in millions and all percentages are calculated based on actual amounts. As a result, minor differences may exist due to rounding.

Forward-Looking Statements

The nature of the Company's business and the many countries in which it operates subject it to changing economic, competitive, regulatory and technological conditions, risks and uncertainties. In accordance with the "safe harbor" provisions of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, the Company provides the following cautionary remarks regarding important factors that, among others, could cause future results to differ materially from the results contemplated by forward-looking statements, including the expectations and assumptions expressed or implied herein. Forward-looking statements contained herein could include, among other things, statements about management's confidence in and strategies for performance; expectations for new and existing products, technologies and opportunities; and expectations regarding growth, sales, cash flows, and earnings. Forward-looking statements can be identified by the use of such terms as "may," "could," "expect," "anticipate," "intend," "believe," "likely," "estimate," "plan" or other comparable terms.

Factors that could cause actual results to differ, perhaps materially, from those implied by forward-looking statements include, but are not limited to: (1) changes in the worldwide business environment in which the Company operates, including general economic conditions; (2) changes in currency exchange rates, interest rates, commodity and fuel costs and capital costs; (3) changes in the performance of equity and bond markets that could affect, among other things, the valuation of the assets in the Company's pension plans and the accounting for pension assets, liabilities and expenses; (4) changes in governmental laws and regulations, including environmental, occupational health and safety, tax and import tariff standards and amounts; (5) market and competitive changes, including pricing pressures, market demand and acceptance for new products, services and technologies; (6) the Company's inability or failure to protect its intellectual property rights from infringement in one or more of the many countries in which the Company operates; (7) failure to effectively prevent, detect or recover from breaches in the Company's cybersecurity infrastructure; (8) unforeseen business disruptions in one or more of the many countries in which the Company operates due to political instability, civil disobedience, armed hostilities, public health issues or other calamities; (9) disruptions associated with labor disputes and increased operating costs associated with union organization; (10) the seasonal nature of the Company's business; (11) the Company's ability to successfully enter into new contracts and complete new acquisitions or strategic ventures in the time-frame contemplated, or at all; (12) the integration of the Company's strategic acquisitions, including the acquisition of CEHI Acquisition Corporation and Subsidiaries ("Clean Earth"); (13) potential severe volatility in the capital markets; (14) failure to retain key management and employees of Clean Earth; (15) the amount and timing of repurchases of the Company's common stock, if any; (16) the outcome of any disputes with customers, contractors and subcontractors; (17) the financial condition of the Company's customers, including the ability of customers (especially those that may be highly leveraged and those with inadequate liquidity) to maintain their credit availability; (18) implementation of environmental remediation matters; (19) risk and uncertainty associated with intangible assets; and (20) other risk factors listed from time to time in the Company's SEC reports. A further discussion of these, along with other potential risk factors, can be found in Part I, Item 1A, "Risk Factors," of the Company's Annual Report on Form 10-K for the year ended December 31, 2018 and Part II, Item 1A, Risk Factors herein. The Company cautions that these factors may not be exhaustive and that many of these factors are beyond the Company's ability to control or predict. Accordingly, forward-looking statements should not be relied upon as a prediction of actual results. The Company undertakes no duty to update forward-looking statements except as may be required by law.

Executive Overview

The Company is a diversified, multinational provider of environmental solutions and services as well as engineered products serving global industries that are fundamental to worldwide economic growth and infrastructure development. The Company's operations consist of three reportable segments: Harsco Environmental, Harsco Clean Earth and Harsco Rail. In general, each of the Company's segments are among the market leaders in their respective sectors. The Harsco Environmental Segment operates primarily under long-term contracts, providing critical services and support to the steelmaking process; and environmental and zero waste solutions for manufacturing by-products within the metals industry. The Harsco Clean Earth Segment provides environmental services for a variety of contaminated materials including soils, dredged material and hazardous waste with the ultimate goal of third-party beneficial reuse. The Harsco Rail Segment is a provider of highly engineered maintenance equipment, after-market parts and safety and diagnostic systems which support railroad and transit customers worldwide. The Company has locations in approximately 30 countries, including the U.S. The Company was incorporated in 1956.

In June 2019, the Company completed the previously announced acquisition of Clean Earth from Compass Diversified Holdings for approximately \$628 million in cash, subject to post-closing adjustments. Clean Earth operates 27 permitted facilities in the U.S. and maintains a portfolio of more than 200 scarce and difficult-to-replicate permits with a 100% permit renewal success rate to date. In addition, Clean Earth owns 9 Resource Conservation and Recovery Act (RCRA) Part B Permits which include 6 Treatment, Storage and Disposal Facility (TSDF) permits that enable the Company to process complex and highly recurring hazardous waste streams. Clean Earth is expected to generate approximately \$300 million of full-year revenue in 2019. The results of Clean Earth will be reflected in the Harsco Clean Earth Segment, which is a new reportable segment of the Company.

Also in June 2019, the Company completed a private placement of \$500.0 million principal amount of senior unsecured notes (the "Notes"). The Notes are due July 31, 2027 and bear interest, which is payable on January 31 and July 31 of each year, at a fixed rate of 5.75%. The bonds were issued at par and the proceeds were used, together with borrowings under the Company's Revolving Credit Facility, to fund the acquisition of Clean Earth. The Company also amended the existing Senior Secured Credit Facility to increase the borrowing capacity of the Revolving Credit Facility by \$200 million to a total of \$700 million, extend the maturity date of the Revolving Credit Facility until June 2024 and increase the net debt to consolidated adjusted earnings before interest, tax, depreciation and amortization ("EBITDA") ratio covenant from 3.5 to 4.0. Refer to Liquidity and Capital Resources for additional information pertaining to the Notes and amendment of the Senior Secured Credit Facility.

In May 2019, the Company entered into a definitive agreement to sell the Harsco Industrial Air-X-Changers business ("AXC") to Chart Industries, Inc. for \$592 million in cash, subject to post-closing adjustments and announced the intent to divest the remainder of the businesses in the Harsco Industrial Segment, Harsco Industrial IKG and Harsco Industrial Patterson-Kelley. The Company completed the sale of AXC on July 1, 2019 and the sale of the remaining businesses is expected to occur within one year. Additionally, these disposals represent a strategic shift and accelerates the transformation of the Company's portfolio of businesses into a leading provider of environmental solutions and services. As a result of these disposals (i) the carrying value of assets and liabilities of the Harsco Industrial Segment have been classified as Assets-held-for-sale and Liabilities of assets-held-for-sale on the Company's Condensed Consolidated Balance Sheets; (ii) the operating results of the Harsco Industrial Segment, costs directly related to the disposals and an allocation of interest expense associated with mandatory debt repayments required as a result of the disposals have been reflected in the Company's Condensed Consolidated Statements of Operations as discontinued operations for all periods presented; and (iii) all disclosures have been updated to reflect these changes.

Additionally, in May 2019, the former Harsco Metals & Minerals Segment was rebranded as the Harsco Environmental Segment. This new name and visual identity more closely align with the Company's increased focus on providing environmental services and product offerings to help customers drive business performance and growth as well as achieve sustainability and environmental goals.

Highlights from the second quarter and six months ended June 30, 2019 included (refer to the discussion of segment and consolidated results included within Results of Operations below, as well as Liquidity and Capital Resources, for additional information pertaining to the key drivers impacting these highlights):

- Revenues for both the second quarter and six months ended June 30, 2019 increased approximately 3% compared with the second quarter and six months ended June 30, 2018. The primary drivers for these increases were strong maintenance-of-way equipment and after-market part sales in the Harsco Rail Segment; modestly higher demand for mill services in certain jurisdictions along with new service contracts and the Altek acquisition in the Harsco Environmental Segment; offset by the impact of foreign currency translation.

- Operating income from continuing operations for the second quarter and six months ended June 30, 2019 decreased approximately 53% and approximately 38%, respectively, compared with the second quarter and six months ended June 30, 2018. The primary drivers for these decreases were approximately \$15 million of transaction related costs associated principally with the Clean Earth acquisition during the six months ended June 30, 2019, most of which were incurred during the second quarter, and lower operating results in the Harsco Environmental Segment resulting from a \$5.4 million provision for doubtful accounts related to a customer in the U.K. entering administration during the second quarter of 2019, decreased services demand in North America, lower nickel and scrap prices, the continued integration of the Altek acquisition and the impact of foreign currency translation. These decreases were partially offset by higher operating results in the Harsco Rail Segment primarily due to strong maintenance-of-way equipment and after-market part sales. Additionally, the Clean Earth acquisition was completed on June 28, 2019 and operating income for the three and six months ended June 30, 2019 for the Harsco Clean Earth Segment are immaterial.
- Diluted loss per common share from continuing operations attributable to Harsco Corporation for the second quarter of 2019 were \$0.04, a decrease of approximately 111% compared with the second quarter of 2018. Diluted earnings per common share from continuing operations attributable to Harsco Corporation for the six months ended June 30, 2019 were \$0.09, a decrease of approximately 82% compared with the six months ended June 30, 2018. In addition to the factors noted above for revenue and operating income from continuing operations, the primary drivers of these decreases were finance related costs associated with the Clean Earth acquisition and Term Loan Facility amendment, and increased defined benefit pension expense.
- Cash flows from operating activities for the six months ended June 30, 2019 were \$5.4 million, a decrease of \$41.3 million compared with the six months ended June 30, 2018. The primary drivers for this decrease were lower net income, including approximately \$15 million of transaction related costs associated principally with the Clean Earth acquisition, and unfavorable changes in working capital.

Looking forward, the Company maintains a positive outlook across all businesses. The Company's view for the remainder of 2019 and beyond is supported by the below factors, which should be considered in the context of other risks, trends and strategies in the Company's Annual Report on Form 10-K for the year ended December 31, 2018:

- Customers served by the Harsco Environmental Segment have benefited from an improvement in global steel production. For 2019, (i) steel production and consumption are expected to increase modestly, resulting in improved demand for mill services in most major regions; (ii) new site (contract) contributions are expected to outpace site exits; and (iii) continued operational savings are expected to provide incremental value and offset inflationary costs. Additionally, revenues for 2019 will be positively impacted by demand for aluminum dross and scrap processing systems and the inclusion of a full year of results for Altek. These benefits will be offset by investments to support growth and foreign exchange translation impacts. Also, global steel production may be affected by recently announced cuts in output levels, including in the Eurozone and North America, and by various trade discussions, the continuation or culmination of which may reduce growth expectations.
- As noted, a U.K.-based customer in the Harsco Environmental Segment entered administration, resulting in the Company recording a \$5.4 million provision for doubtful accounts, related to pre-administration receivables, during the second quarter of 2019. The Company continues to provide services to the customer and continues to collect on post-administration invoices timely while the customer seeks a buyer for their operations. Depending on the outcome of any potential transactions, there could be an impact on the Company's results of operations, cash flows and asset valuations in the future, which may be material in any one period.
- The Harsco Clean Earth Segment is anticipated to generate approximately \$300 million in revenue for the full-year of 2019, in a U.S. addressable market of approximately \$8 billion. The Harsco Clean Earth Segment has an estimated operating backlog of approximately 3 million tons, which represents approximately two-thirds of a full-year processing cycle. The Company expects to achieve approximately \$10 million in annual synergies by the end of 2020 and expects the Harsco Clean Earth Segment to be accretive to diluted earnings per common share for 2020.
- The Harsco Rail Segment has experienced continued improvement in demand for maintenance-of-way equipment from North American railroads following a period of decreased demand in recent years. The Harsco Rail Segment has also benefited from continued growth, market penetration and investment in foreign markets to increase international equipment sales as well as after-market parts and Protran Technology products. Additionally, the Harsco Rail Segment has undertaken a number of strategic actions over the past two years to improve manufacturing processes. As previously disclosed, the Company began to consolidate and centralize North American manufacturing and distribution into one facility, allowing for improved efficiency and better service to customers. The capital investment to complete this program and other expenditures will continue through 2019. The annualized savings anticipated from this latest action are approximately \$7 million, with a portion of these benefits expected to materialize in the second-half of 2019. The net impact of such costs and savings will not have a significant impact on 2019 operating results.

- The Company anticipates higher selling, general and administrative costs across all Segments as well as increased research and development spending in the Harsco Rail Segment, necessary to support anticipated volume increases and the Company's strategic growth initiatives. In addition, the Company anticipates that corporate spending will increase in 2019 in order to support the Company's strategic growth initiatives.
- Net periodic pension cost ("NPPC") will increase by approximately \$9 million during 2019, which will primarily be reflected in the caption Defined benefit pension (income) expense on the consolidated statement of operations. The increase is primarily the result of lower plan asset values at December 31, 2018.

Results of Operations

Segment Results

(In millions, except percentages)	Three Months Ended		Six Months Ended	
	June 30		Jun 30	
	2019	2018	2019	2018
Revenues (a):				
Harsco Environmental	\$ 269.3	\$ 272.3	\$ 530.7	\$ 537.0
Harsco Clean Earth	—	—	—	—
Harsco Rail	81.6	67.6	150.2	127.2
Total Revenues	\$ 350.9	\$ 339.9	\$ 680.8	\$ 664.3
Operating Income (Loss) (a):				
Harsco Environmental	\$ 27.6	\$ 35.7	\$ 52.1	\$ 63.4
Harsco Clean Earth	—	—	—	—
Harsco Rail	9.4	8.6	14.8	10.6
Corporate	(19.2)	(6.2)	(29.3)	(13.2)
Total Operating Income:	\$ 17.8	\$ 38.1	\$ 37.6	\$ 60.8
Operating Margins (a):				
Harsco Environmental	10.2%	13.1%	9.8%	11.8%
Harsco Clean Earth	—	—	—	—
Harsco Rail	11.6	12.8	9.9	8.3
Consolidated Operating Margin	5.1%	11.2%	5.5%	9.2%

(a) The Company's acquisition of Clean Earth closed on June 28, 2019. Revenues and operating income for the three and six months ended June 30, 2019 for the Harsco Clean Earth Segment are immaterial. The operating results of the former Harsco Industrial Segment has been reflected as discontinued operations in the Company's Condensed Consolidated Statement of Operations for all periods presented.

Harsco Environmental Segment:

Significant Effects on Revenues (In millions)	June 30, 2019	
	Three Months Ended	Six Months Ended
Revenues — 2018	\$ 272.3	\$ 537.0
Impact of foreign currency translation.	(9.6)	(25.8)
Net effects of price/volume changes, primarily attributable to volume changes.	5.9	15.0
Effect of Altek acquisition.	3.0	7.4
Net impact of new and lost contracts.	(2.4)	(3.2)
Other.	0.1	0.3
Revenues — 2019	\$ 269.3	\$ 530.7

Factors Positively Affecting Operating Income:

- Overall steel production by customers under services contracts, in certain jurisdictions, including the impact of new and exited contracts, increased modestly for the second quarter and six months ended June 30, 2019 compared with the same periods in the prior year.
- Operating results for the second quarter and six months ended June 30, 2019 were positively affected by net positive contingent consideration adjustments related to the Altek acquisition of approximately \$4 million.
- Operating income was positively affected by a \$2.3 million gain during the first quarter of 2019 related to the recognition of a foreign currency cumulative translation adjustment resulting from the substantial liquidation of a subsidiary.
- One-time costs associated with the Altek acquisition of approximately \$1 million for both the second quarter and first six months of 2018 which did not repeat during 2019.

Factors Negatively Impacting Operating Income:

- The Company recorded a provision for doubtful accounts of \$5.4 million related to a U.K. customer that entered administration during the second quarter of 2019.
- Operating results for the second quarter and six months ended June 30, 2019 were negatively impacted by decreased profitability in the Company's nickel-related sites partially due to decreased nickel and scrap prices. Nickel prices decreased 10% and 11% for the second quarter and six months ended June 30, 2019, respectively, compared with the same periods in the prior year.
- Lower profitability within our North American operations, partially due to decreased steel production by customers under service contracts and the impact of lower commodity prices as noted above.
- Operating results for the second quarter and six months ended June 30, 2019 were also negatively impacted by costs associated with the continued integration and scaling of the Altek business acquired during 2018 including amortization expenses associated with intangible assets recognized as part of the acquisition.
- Foreign currency translation decreased operating income by \$1.0 million and \$2.6 million for the second quarter and six months ended June 30, 2019, respectively, compared with the same periods in the prior year.
- Operating results for the second quarter and first six months of 2018 were positively affected by a \$3.2 million adjustment to previously accrued amounts related to the disposal of certain slag material in Latin America due to obtaining the necessary permits.

Harsco Clean Earth Segment:

The Company's acquisition of Clean Earth closed on June 28, 2019. Revenues and operating income for the three and six months ended June 30, 2019 for the Harsco Clean Earth Segment are immaterial.

Harsco Rail Segment:

Significant Effects on Revenues (In millions)	June 30, 2019	
	Three Months Ended	Six Months Ended
Revenues — 2018	\$ 67.6	\$ 127.2
Net effect of price/volume changes, primarily attributable to volume changes.	14.9	25.3
Impact of foreign currency translation.	(0.9)	(2.3)
Revenues — 2019	\$ 81.6	\$ 150.2

Factors Positively Affecting Operating Income:

- Improved demand for machine sales increased operating income during the second quarter and six months ended June 30, 2019 compared with the same periods in the prior year.
- A favorable mix and increased demand for after-market part sales increased operating income during the second quarter and six months ended June 30, 2019 compared with the same periods in the prior year.
- Results for the six months ended June 30, 2018 included an additional forward contract loss provision related to the Company's first of two contracts with the federal railway system of Switzerland of \$1.8 million, for which costs to complete exceeded originally estimated costs.

Factors Negatively Impacting Operating Income:

- Lower contract service volumes decreased operating income in the second quarter and six months ended June 30, 2019 compared with the same periods in the prior year.
- Increased selling, general and administrative expenses for the second quarter and six months ended June 30, 2019, primarily related to higher compensation expense to support and execute the Company's growth strategy.
- Operating income was negatively impacted by one-time costs associated with the initiative to improve manufacturing efficiency, including the consolidation of U.S. manufacturing and distribution into one facility. These costs decreased operating income by \$1.2 million and \$3.8 million during the second quarter and six months ended June 30, 2019, respectively, compared with the same periods in the prior year.

Harsco Industrial Segment:

The operating results of the former Harsco Industrial Segment have been reflected as discontinued operations in the Company's Condensed Consolidated Statement of Operations for all periods presented.

Consolidated Results

(In millions, except per share amounts)	June 30			
	Three Months Ended		Six Months Ended	
	2019	2018	2019	2018
Total revenues	\$ 350.9	\$ 339.9	\$ 680.8	\$ 664.3
Cost of services and products sold	266.2	252.2	517.4	502.9
Selling, general and administrative expenses	67.5	49.6	123.9	98.2
Research and development expenses	1.1	1.0	1.9	1.8
Other (income) expenses, net	(1.7)	(1.0)	—	0.7
Operating income from continuing operations	17.8	38.1	37.6	60.8
Interest income	0.6	0.6	1.1	1.1
Interest expense	(6.1)	(5.7)	(11.6)	(11.3)
Unused debt commitment and amendment fees	(7.4)	—	(7.4)	—
Loss on early extinguishment of debt	—	(1.0)	—	(1.0)
Defined benefit pension income (expense)	(1.5)	0.9	(2.8)	1.7
Income tax (expense) benefit	(4.0)	0.5	(5.2)	(5.7)
Income (loss) from continuing operations	(0.6)	33.3	11.7	45.6
Income from discontinued operations	11.5	9.4	21.7	16.7
Net income	10.9	42.7	33.5	62.3
Total other comprehensive income	3.6	(17.2)	8.1	(11.0)
Total comprehensive income	14.5	25.5	41.6	51.3
Diluted earnings (loss) per common share from continuing operations attributable to Harsco Corporation common stockholders	(0.04)	0.37	0.09	0.50
Effective income tax rate for continuing operations	118.2%	(1.5)%	30.9%	11.1%

Comparative Analysis of Consolidated Results
Revenues

Revenues for the second quarter of 2019 increased \$11.0 million or 3.2% from the second quarter of 2018. Revenues for the first six months of 2019 increased \$16.5 million or 2.5% from the first six months of 2018. Foreign currency translation decreased revenues by approximately \$10 million and approximately \$28 million for the second quarter and six months ended June 30, 2019, respectively, compared with the same periods in the prior year. Refer to the discussion of segment results above for information pertaining to factors positively affecting and negatively impacting revenues.

Cost of Services and Products Sold

Cost of services and products sold for the second quarter of 2019 increased \$14.0 million or 5.5% from the second quarter of 2018. Cost of services and products sold for the first six months of 2019 increased \$14.5 million or 2.9% from the first six months ended 2018. The changes in cost of services and products sold was attributable to the following significant items:

(In millions)	June 30, 2019	
	Three Months Ended	Six Months Ended
Increased costs due to changes in revenues (exclusive of the effects of foreign currency translation and including fluctuations in commodity costs included in selling prices).	\$ 24.2	\$ 40.0
Impact of foreign currency translation.	(9.1)	(23.6)
Other.	(1.1)	(1.9)
Total change in cost of services and products sold — 2019 vs. 2018	\$ 14.0	\$ 14.5

Selling, General and Administrative Expenses

Selling, general and administrative expenses for the second quarter of 2019 increased \$17.9 million or 36.1% from the second quarter of 2018. Selling, general and administrative expenses for the first six months ended of 2019 increased \$25.7 million or 26.2% from the first six months of 2018. These increases were primarily related to approximately \$15 million of transaction related costs primarily associated with the Clean Earth acquisition, a \$5.4 million provision for doubtful accounts related to the Harsco Environmental Segment customer in the U.K. entering administration and the inclusion of selling, general and administrative expenses associated with the Altek acquisition which occurred in May 2018.

Other (Income) Expenses, Net

The major components of this Condensed Consolidated Statements of Operations caption are as follows:

(In thousands)	Three Months Ended		Six Months Ended	
	June 30		June 30	
	2019	2018	2019	2018
Employee termination benefit costs	\$ 997	\$ 769	\$ 3,516	\$ 2,174
Other costs to exit activities	1,192	(25)	2,347	227
Impaired asset write-downs	—	104	214	104
Contingent consideration adjustments	(3,880)	—	(3,511)	—
Net gains	—	(1,097)	(2,271)	(1,097)
Other	(26)	(765)	(269)	(758)
Other (income) expenses, net	\$ (1,717)	\$ (1,014)	\$ 26	\$ 650

Interest Expense

Interest expense during the second quarter and six months of 2019 increased by \$0.4 million and \$0.3 million, respectively, compared with the second quarter and the first six months of 2018. These increases primarily relate to modestly higher average borrowings under the Company's Senior Secured Credit Facility.

Unused Debt Commitment and Amendment Fees

During the second quarter of 2019, the Company recognized \$6.7 million of expenses for fees and other costs related to the unused bridge financing commitment that the Company arranged in the event that the Notes were not issued prior to the acquisition of Clean Earth. Additionally, the Company recognized \$0.7 million of expenses related to the amendment of the Term Loan Facility.

Loss on Early Extinguishment of Debt

In June 2018, the Company amended the existing Senior Secured Credit Facility in order to, among other things, reduce the interest rate applicable to the Term Loan Facility and to increase the limit of the Revolving Credit Facility. As a result, a charge of \$1.0 million was recorded during the second quarter of 2018 consisting principally of fees associated with the transaction and the write-off of unamortized deferred financing costs.

Defined Benefit Pension Income (Expense)

Defined benefit pension expense for the second quarter of 2019 was \$1.5 million, compared with defined benefit pension income of \$0.9 million for the second quarter of 2018. Defined benefit pension expense for the first six months of 2019 was \$2.8 million, compared with defined benefit pension income of \$1.7 million for the first six months of 2018. These changes are primarily the result of lower plan asset values at December 31, 2018.

Income Tax (Expense) Benefit

Income tax expense related to continuing operations for the second quarter and the first six months of 2019 was \$4.0 million and \$5.2 million, respectively, compared with an income tax benefit related to continuing operations of \$0.5 million for the second quarter of 2018 and income tax expense related to continuing operations of \$5.7 million for the first six months of 2018. Changes in income tax expense (benefit) during the periods presented primarily relate to a change in mix of taxable income and an \$8.3 million income tax benefit arising from the release of adjustments to certain existing deferred tax asset valuation allowances as the result of the Altek acquisition in 2018 not recurring in 2019.

Income (Loss) from Continuing Operations

Loss from continuing operations was \$0.6 million and income from continuing operations was \$11.7 million for the second quarter and the first six months of 2019, respectively, compared with income from continuing operations of \$33.3 million and \$45.6 million, respectively, in the second quarter and the first six months of 2018. The primary driver for these decreases were approximately \$15 million of transaction related costs principally associated with the Clean Earth acquisition; \$7.4 million of unused debt commitment and amendment fees; lower operating results in the Harsco Environmental Segment resulting from a \$5.4 million provision for doubtful accounts related to a customer in the U.K. entering administration; decreased steel mill volumes in the U.S.; lower nickel prices and the impact of foreign currency translation; and an \$8.3 million income tax benefit arising from the adjustment to certain existing deferred tax asset valuation allowances as a result of the Altek acquisition in the second quarter of 2018 that did not repeat. These decreases were partially offset by higher operating results in the Harsco Rail Segment primarily due to strong maintenance-of-way equipment sales. Additionally, the Clean Earth acquisition was completed on June 28, 2019 and contributed no operating income from continuing operations for the periods presented.

Income from Discontinued Operations

The operating results of the former Harsco Industrial Segment has been reflected as discontinued operations in the Company's Condensed Consolidated Statement of Operations for all periods presented. See Note 3, Acquisitions and Dispositions, in Part I, Item 1, Financial Statements.

Total Other Comprehensive Income (Loss)

Total other comprehensive income was \$3.6 million and \$8.1 million in the second quarter and the first six months of 2019, compared with total other comprehensive loss of \$17.2 million and \$11.0 million, respectively, in the second quarter and first six months of 2018. The primary driver of these increases was that the strengthening of the U.S. dollar against certain currencies during the second quarter and first six months of 2019, including foreign currency translation of cumulative unrecognized actuarial losses on the Company's pension obligations, was less than the strengthening of the U.S. dollar in the second quarter and first six months of 2018. This was partially offset by unrealized cash flow hedge losses for the second quarter and first six months of 2019 compared to unrealized cash flow hedge gains for the same periods in the prior year.

Liquidity and Capital Resources

During June 2019, the Company completed the Notes offering. The Notes have an aggregate principal amount of \$500.0 million and are due July 31, 2027. The Notes are fully and unconditionally guaranteed, jointly and severally, by all of the wholly owned domestic subsidiaries of the Company that guarantee the Senior Secured Credit Facility. Interest on the Notes accrues at the rate of 5.75% per annum and is payable semi-annually in arrears on January 31 and July 31 of each year, beginning on January 31, 2020. The indenture governing the Notes contains provisions that (i) allow the Company to redeem some or all of the Notes prior to maturity; (ii) require the Company to offer to repurchase all of the Notes upon a change in control; and (iii) require adherence to certain covenants which are generally less restrictive than those included in the Revolving Credit Facility. The Notes were used, together with borrowings under the Company's Revolving Credit Facility, to fund the acquisition of Clean Earth.

Additionally, during June 2019, the Company amended the existing Senior Secured Credit Facility to, among other things, increase the borrowing capacity of the Revolving Credit Facility by \$200 million to a total of \$700 million, extend the maturity date of the Revolving Credit Facility until June 2024 and increase the maximum net debt to consolidated adjusted EBITDA ratio from 3.5 to 4.0. During the second quarter of 2019, \$0.7 million of expenses were recognized related to the amended Senior Secured Credit Facility.

The Company has capitalized approximately \$11 million of fees related to the issuance of the Notes and the amendment of the Revolving Credit Facility, of which \$9.5 million was paid as of June 30, 2019.

In addition, during the second quarter of 2019, the Company recognized \$6.7 million of expenses for fees and other costs related to bridge financing commitments that the Company arranged in the event that the Notes were not issued prior to the acquisition of Clean Earth. Because the Notes were issued prior to completion of the Clean Earth acquisition, the bridge financing commitments were not utilized.

In July 2019, the Company made a required prepayment of \$320.9 million on the \$550 million Term Loan Facility, using proceeds from the sale of AXC. As a result of this prepayment, the Company expects to write off approximately \$5 million of previously recorded deferred financing costs during July 2019. The prepayment was used to satisfy the remaining quarterly principal payment requirements under the Term Loan Facility and further reduce amounts outstanding.

Cash Flow Summary

The Company has sufficient financial liquidity and borrowing capacity to support the strategies within each of its businesses. The Company currently expects operational and business needs to be met by cash provided by operations, supplemented with borrowings from time to time due to historical patterns of seasonal cash flow and for the funding of various projects. The Company regularly assesses capital needs in the context of operational trends and strategic initiatives.

The Company's cash flows from operating, investing and financing activities, as reflected on the Company's Condensed Consolidated Statements of Cash Flows, are summarized in the following table:

(In millions)	Six Months Ended	
	June 30	
	2019	2018
Net cash provided (used) by:		
Operating activities	\$ 5.4	\$ 46.7
Investing activities	(677.5)	(112.7)
Financing activities	714.3	70.6
Effect of exchange rate changes on cash and cash equivalents, including restricted cash	(0.2)	(3.7)
Net change in cash and cash equivalents, including restricted cash	\$ 41.9	\$ 0.9

Net cash provided by operating activities — Net cash provided by operating activities in the first six months of 2019 was \$5.4 million, a decrease of \$41.3 million from net cash provided by operating activities in the first six months of 2018. The primary drivers for this decrease were lower net income, including approximately \$15 million of transaction related costs principally associated with the Clean Earth acquisition, and unfavorable changes in working capital.

Net cash used by investing activities — Net cash used by investing activities in the first six months of 2019 was \$677.5 million, an increase of \$564.8 million from the net cash used by investing activities in the first six months of 2018. The increase was primarily due to the Clean Earth acquisition and an increase in capital expenditures, primarily in the Company's Harsco Environmental Segment in the first six months of 2019, compared with the first six months of 2018.

Net cash provided by financing activities — Net cash provided by financing activities in the first six months of 2019 was \$714.3 million, an increase of \$643.7 million from net cash provided by financing activities in the first six months of 2018. The change was primarily due to net cash borrowings of \$737.1 million in the first six months of 2019 compared with net cash borrowings of \$78.7 million in the six months of 2018; partially offset by the payment of employee taxes related to stock-based compensation vesting and the payment of deferred financing costs. The increase in net cash borrowings was primarily related to proceeds from the Notes offering which was used to acquire Clean Earth and pay related transaction costs.

Sources and Uses of Cash

The Company's principal sources of liquidity are cash provided by operations and borrowings under the Senior Secured Credit Facility, augmented by cash proceeds from asset sales. In addition, the Company has other bank credit facilities available throughout the world. The Company expects to continue to utilize all of these sources to meet future cash requirements for operations and growth initiatives.

Summary of Senior Secured Credit Facility Borrowings:

(In millions)	June 30 2019	December 31 2018
By type:		
Revolving Credit Facility	\$ 302.0	\$ 62.0
Term Loan Facility	539.1	541.8
Total	\$ 841.1	\$ 603.8
By classification:		
Current	\$ 5.4	\$ 5.4
Long-term	835.6	598.3
Total	\$ 841.1	\$ 603.8

(In millions)	June 30, 2019			
	Facility Limit	Outstanding Balance	Outstanding Letters of Credit	Available Credit
Multi-year revolving credit facility	\$ 700.0	\$ 302.0	\$ 30.4	\$ 367.6

Debt Covenants

The Senior Secured Credit Facility contains a consolidated net debt to consolidated adjusted EBITDA ratio covenant, which is not to exceed 4.0 to 1.0, and a minimum consolidated adjusted EBITDA to consolidated interest charges ratio covenant, which is not to be less than 3.0 to 1.0. At June 30, 2019, the Company was in compliance with these covenants, as the total net debt to adjustment EBITDA ratio was 3.4 to 1.0 and total interest coverage ratio was 9.8 to 1.0. Based on balances and covenants in effect at June 30, 2019, the Company could increase net debt by \$233.6 million and remain in compliance with these debt covenants. The Company expects to continue to remain in compliance with these debt covenants.

Cash Management

The Company has various cash management systems throughout the world that centralize cash in various bank accounts where it is economically justifiable and legally permissible to do so. These centralized cash balances are then redeployed to other operations to reduce short-term borrowings and to finance working capital needs or capital expenditures. Due to the transitory nature of cash balances, they are normally invested in bank deposits that can be withdrawn at will or in very liquid short-term bank time deposits and government obligations. The Company's policy is to use the largest banks in the various countries in which the Company operates. The Company monitors the creditworthiness of banks and when appropriate will adjust banking operations to reduce or eliminate exposure to less creditworthy banks.

At June 30, 2019, the Company's consolidated cash and cash equivalents included \$61.8 million held by non-U.S. subsidiaries. At June 30, 2019, less than 1% of the Company's consolidated cash and cash equivalents had regulatory restrictions that would preclude the transfer of funds with and among subsidiaries. Non-U.S. subsidiaries also held \$24.5 million of cash and cash equivalents in consolidated strategic ventures. The strategic venture agreements may require strategic venture partner approval to transfer funds with and among subsidiaries. While the Company's remaining non-U.S. cash and cash equivalents can be transferred with and among subsidiaries, the majority of these non-U.S. cash balances will be used to support the ongoing working capital needs and continued growth of the Company's non-U.S. operations.

Recently Adopted and Recently Issued Accounting Standards

Information on recently adopted and recently issued accounting standards is included in Note 2, Recently Adopted and Recently Issued Accounting Standards, in Part I, Item 1, Financial Statements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risks have not changed significantly from those disclosed in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of June 30, 2019, an evaluation was performed, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures pursuant to Rule 13a-15 under the Securities and Exchange Act of 1934, as amended (the "Exchange Act"). Based upon that evaluation, such officers concluded that the Company's disclosure controls and procedures are effective to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act (1) is recorded, processed, summarized, and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and (2) is accumulated and communicated to the Company's management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow for timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

The Company adopted changes issued by the Financial Accounting Standards Board related to accounting for leases, which required the implementation of new accounting processes, which changed the Company's internal controls over lease accounting. The Company has completed the design of these controls and they have been implemented as of March 31, 2019.

On June 28, 2019, the Company acquired CEHI Acquisition Corporation and Subsidiaries ("Clean Earth"). As a result, the Company is currently integrating Clean Earth's operations into its overall system of internal control over financial reporting. Under the guidelines established by the Securities and Exchange Commission, companies are permitted to exclude acquisitions from their assessment of internal control over financial reporting during the first year of acquisition. Accordingly, the Company expects to exclude Clean Earth from the assessment of internal control over financial reporting for 2019.

Other than the foregoing, there were no changes in the Company's internal control over financial reporting during the Company's most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II — OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

Information on legal proceedings is included in Note 11, Commitments and Contingencies, in Part I, Item 1, Financial Statements.

ITEM 1A. RISK FACTORS

On June 28, 2019, the Company completed the previously announced acquisition of CEHI Acquisition Corporation and Subsidiaries ("Clean Earth"), a leader in processing specialty waste and hazardous and non-hazardous waste from Compass Diversified Holdings for approximately \$628 million in cash, subject to post-closing adjustments. See Note 3, Acquisitions and Dispositions, in Part I, Item I, Financial Statements, for additional information. Set forth below are risk and uncertainties, related to Clean Earth, that could materially and adversely affect the Company's results of operations, financial condition, liquidity and cash flows. The risks set forth below should be read in conjunction with those described in Part I, Item IA, "Risk Factors," of the Company's Annual Report on Form 10-K for the year ended December 31, 2018.

If the Harsco Clean Earth Segment is unable to obtain or renew its operating permits or license agreements with regulatory bodies, its business would be adversely affected.

The Harsco Clean Earth Segment's facilities operate using permits and licenses issued by various regulatory bodies at various local, state and federal government levels. Failure to obtain permits and licenses necessary to operate these facilities on a timely basis or failure to renew or maintain compliance with its permits, licenses and site lease agreements on a timely basis could prevent or restrict the Company's ability to provide certain services, resulting in a material adverse effect on its business. There can be no assurance that the Company will continue to be successful in obtaining timely permit or license applications approval, maintaining compliance with its permits, licenses and lease agreements and obtaining timely license renewals.

If the Harsco Clean Earth Segment fails to comply with applicable environmental laws and regulations, its business could be adversely affected.

The regulatory framework governing the Harsco Clean Earth Segment's business is extensive. The Company could be held liable if its operations cause contamination of air, groundwater or soil or expose its employees or the public to contamination. The Company may be held liable for damage caused by conditions that existed before it acquired the assets, business or operations involved. Also, it may be liable if it generates, transports or arranges for the transportation, disposal or treatment of hazardous substances that cause environmental contamination at facilities operated by others, or if a predecessor generated, transported, or made such arrangements and the Company is a successor. Liability for environmental damage could have a material adverse effect on the Company's financial condition, results of operations and cash flows. The Company may also be held liable for the mishandling of waste streams resulting from the misrepresentations by a customer as to the nature of such waste streams.

Stringent regulations of federal, state, local or provincial governments have a substantial impact on the Harsco Clean Earth Segment's contaminated soil, dredge material and solid and hazardous waste treatment, storage, disposal and beneficial use activities. Many complex laws, rules, orders and regulatory interpretations govern environmental protection, health, safety, noise, visual impact, odor, land use, zoning, transportation and related matters. The Company also may be subject to laws concerning the protection of certain marine and bird species, their habitats, and wetlands. It may incur substantial costs in order to conduct its operations in compliance with these environmental laws and regulations. Changes in environmental laws or regulations or changes in the enforcement or interpretation of existing laws, regulations or permitted activities may require the Company to make significant capital or other expenditures, to modify existing operating licenses or permits, or obtain additional approvals or limit operations. New environmental laws or regulations that raise compliance standards or require changes in operating practices or technology may impose significant costs and/or limit the Company's operations.

The Harsco Clean Earth Segment's revenue is primarily generated as a result of requirements imposed on its customers under federal, state, local and provincial laws and regulations to protect public health and the environment. If requirements to comply with laws and regulations governing management of contaminated soils, dredge material, and hazardous wastes were relaxed or less vigorously enforced at the federal, state, and local levels, demand for the Harsco Clean Earth Segment's services could materially decrease and its revenues and earnings could be reduced.

If the Harsco Clean Earth Segment fails to maintain safe worksites, it may be subject to significant operating risks and hazards.

The Harsco Clean Earth Segment operates facilities that accept, process and/or treat materials provided by its customers. These facilities may be inherently dangerous workplaces. If serious accidents or fatalities occur or its safety record was to deteriorate, it may be ineligible to bid on certain work, and existing service arrangements could be terminated. Further, regulatory changes implemented by the Occupational Safety and Health Administration could impose additional costs on the Company. Adverse experience with hazards and claims could result in liabilities caused by, among other things, injury or death to persons, which could have a negative effect on the Company's reputation with its existing or potential new customers and its prospects for future business.

The waste management industry, in which the Harsco Clean Earth Segment is a participant, is subject to various economic, business, and regulatory risks.

The future operating results of the Harsco Clean Earth Segment may be affected by such factors as its ability to utilize its facilities and workforce profitably in the face of intense price competition, maintain or increase market share during periods of economic contraction or industry consolidation, realize benefits from cost reduction programs, invest in new technologies for treatment of various waste streams, generate incremental volumes of waste to be handled through the Harsco Clean Earth Segment's facilities from existing and acquired sales offices and service centers, obtain sufficient volumes of waste at prices which produce revenue sufficient to offset the operating costs of its facilities and minimize downtime and disruptions of operations.

The Harsco Clean Earth Segment is also cyclical to the extent that it is dependent upon outdoor construction which may be limited due to colder weather, and dredging which may be limited due to environmental restrictions in certain waterways in the Northeastern United States. If those cyclical industries slow significantly, the business that the Harsco Clean Earth Segment receives from them would likely decrease.

The Harsco Clean Earth Segment's insurance policies do not cover all losses, costs, or liabilities that it may experience.

The Harsco Clean Earth Segment maintains insurance coverage, but these policies do not cover all of its potential losses, costs, or liabilities. The Company could suffer losses for uninsurable or uninsured risks or in amounts in excess of its existing insurance coverage which would significantly affect its financial performance. For example, the Company's pollution legal liability insurance excludes costs related to fines, penalties, or assessments. The Company's insurance policies also have deductibles and self-retention limits that could expose it to significant financial expense. The Company's ability to obtain and maintain adequate insurance may be affected by conditions in the insurance market over which it has no control. The occurrence of an event that is not fully covered by insurance could have a material adverse effect on Clean Earth's business, financial condition, and results of operations. In addition, the Harsco Clean Earth Segment's business requires that it maintain various types of insurance. If such insurance is not available or not available on economically acceptable terms, the Clean Earth Segment's and our businesses could be materially and adversely affected.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

On May 2, 2018, the Company announced that the Board of Directors adopted a share repurchase program authorizing the Company to repurchase up to \$75,000,000 of outstanding shares of the Company's common stock through April 24, 2021. The Company did not purchase any shares of common stock under this program during the quarter ended June 30, 2019. The approximate dollar value of shares that may yet be purchased under the share repurchase program is \$44,989,369. When and if appropriate, repurchases are made in open market transactions, depending on market conditions. Share repurchases may not occur and may be discontinued at any time.

ITEM 6. EXHIBITS

The following exhibits are included as part of this report by reference:

Exhibit Number	Description
2.1	Stock Purchase Agreement, dated as of May 8, 2019, by and between Calrissian Holdings, LLC, CEHI Acquisition Corporation, the holders of stock and options in CEHI Acquisition Corporation, Compass Group Diversified Holdings LLC and, solely for the purposes of Section 9(r) thereof, the Company (incorporated by reference to Exhibit 2.1 to the Form 8-K filed by the Company with the SEC on May 13, 2019) (File No.: 001-03970).
2.2	Asset Purchase Agreement, dated as of May 8, 2019, by and among the Company, E&C FinFan, Inc. and, solely with respect to Section 11.19 thereof, Chart Industries, Inc. (incorporated by reference to Exhibit 2.2 to the Form 8-K filed by the Company with the SEC on May 13, 2019) (File No.: 001-03970).
4.1	Indenture, dated June 28, 2019, by and among Harsco Corporation, the subsidiary guarantors named therein and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.1 to the Form 8-K filed by the Company with the SEC on July 5, 2019) (File No.: 001-03970).
4.2	Form of 5.75% Senior Notes due 2027 (included as part of Exhibit 4.1 above).
10.1	Amendment No. 4, dated June 28, 2019, among Harsco Corporation, the subsidiaries of the Company party thereto, Citibank N.A., as administrative agent and collateral agent, and the lenders party thereto (incorporated by reference to Exhibit 10.1 to the Form 8-K filed by the Company with the SEC on July 5, 2019) (File No.: 001-03970).
31.1	Certification Pursuant to Rule 13a-14(a) or 15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (Chairman, President and Chief Executive Officer).
31.2	Certification Pursuant to Rule 13a-14(a) or 15d-14(a), as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (Chief Financial Officer).
32	Certifications Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chairman, President and Chief Executive Officer and Chief Financial Officer).
101.Def	Definition Linkbase Document
101.Pre	Presentation Linkbase Document
101.Lab	Labels Linkbase Document
101.Cal	Calculation Linkbase Document
101.Sch	Schema Document
101.Ins	Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.

SIGNATURES

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

HARSCO CORPORATION

(Registrant)

DATE	July 31, 2019	/s/ PETER F. MINAN
		Peter F. Minan
		<i>Senior Vice President and Chief Financial Officer</i>
		(On behalf of the registrant and as Principal Financial Officer)

DATE	July 31, 2019	/s/ SAMUEL C. FENICE
		Samuel C. Fenice
		<i>Vice President and Corporate Controller</i>
		(Principal Accounting Officer)

HARSCO CORPORATION
CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, F. Nicholas Grasberger, III, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Harsco Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

July 31, 2019

/s/ F. NICHOLAS GRASBERGER III

F. Nicholas Grasberger III

Chairman, President and Chief Executive Officer

HARSCO CORPORATION
CERTIFICATION PURSUANT TO RULE 13a-14(a) OR 15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Peter F. Minan, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Harsco Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

July 31, 2019

/s/ PETER F. MINAN

Peter F. Minan

Senior Vice President and Chief Financial Officer

HARSCO CORPORATION
CERTIFICATIONS PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Harsco Corporation (the "Company") on Form 10-Q for the period ending June 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of our knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

July 31, 2019

/s/ F. NICHOLAS GRASBERGER III

F. Nicholas Grasberger III

Chairman, President and Chief Executive Officer

/s/ PETER F. MINAN

Peter F. Minan

Senior Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to Harsco Corporation and will be retained by Harsco Corporation and furnished to the Securities and Exchange Commission or its staff upon request.