

**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 September 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 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"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>
		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 October 15, 2019
Common stock, par value \$1.25 per share	78,608,410

HARSCO CORPORATION
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PART I — FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

**HARSCO CORPORATION
CONDENSED CONSOLIDATED BALANCE SHEETS (Unaudited)**

(In thousands)	September 30 2019	December 31 2018
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 75,458	\$ 64,260
Restricted cash	2,461	2,886
Trade accounts receivable, net	310,662	246,427
Insurance claim receivable	195,000	30,000
Other receivables	24,343	23,770
Inventories	149,984	116,185
Current portion of contract assets	13,670	12,130
Current portion of assets held-for-sale	42,368	75,232
Other current assets	62,442	34,144
Total current assets	876,388	605,034
Property, plant and equipment, net	550,073	432,793
Right-of-use assets, net	47,662	—
Goodwill	725,106	404,713
Intangible assets, net	301,100	69,207
Deferred income tax assets	11,661	48,551
Assets held-for-sale	28,659	55,331
Other assets	17,842	17,238
Total assets	\$ 2,558,491	\$ 1,632,867
LIABILITIES		
Current liabilities:		
Short-term borrowings	\$ 7,417	\$ 10,078
Current maturities of long-term debt	2,540	6,489
Accounts payable	165,570	124,984
Accrued compensation	40,394	50,201
Income taxes payable	102,041	2,634
Insurance liabilities	205,721	40,774
Current portion of advances on contracts	46,813	29,407
Current portion of operating lease liabilities	12,145	—
Current portion of liabilities of assets held-for-sale	15,203	39,410
Other current liabilities	128,790	113,019
Total current liabilities	726,634	416,996
Long-term debt	764,254	585,662
Insurance liabilities	19,730	19,575
Retirement plan liabilities	176,791	213,578
Advances on contracts	344	37,675
Operating lease liabilities	32,772	—
Liabilities of assets held-for-sale	5,274	555
Other liabilities	81,432	45,450
Total liabilities	1,807,231	1,319,491
COMMITMENTS AND CONTINGENCIES		

(In thousands)	September 30 2019	December 31 2018
HARSCO CORPORATION STOCKHOLDERS' EQUITY		
Preferred stock	—	—
Common stock	143,396	141,842
Additional paid-in capital	198,007	190,597
Accumulated other comprehensive loss	(587,759)	(567,107)
Retained earnings	1,784,871	1,298,752
Treasury stock	(832,775)	(795,821)
Total Harsco Corporation stockholders' equity	705,740	268,263
Noncontrolling interests	45,520	45,113
Total equity	751,260	313,376
Total liabilities and equity	\$ 2,558,491	\$ 1,632,867

See accompanying notes to unaudited condensed consolidated financial statements.

HARSCO CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
(In thousands, except per share amounts)				
Revenues from continuing operations:				
Service revenues	\$ 316,667	\$ 224,196	\$ 784,190	\$ 714,114
Product revenues	106,488	127,367	319,765	301,796
Total revenues	423,155	351,563	1,103,955	1,015,910
Costs and expenses from continuing operations:				
Cost of services sold	239,519	174,937	608,230	554,005
Cost of products sold	71,970	82,139	220,634	205,941
Selling, general and administrative expenses	63,197	51,049	187,104	149,257
Research and development expenses	1,341	1,344	3,210	3,171
Other expenses, net	383	335	409	985
Total costs and expenses	376,410	309,804	1,019,587	913,359
Operating income from continuing operations	46,745	41,759	84,368	102,551
Interest income	445	575	1,569	1,645
Interest expense	(12,819)	(5,620)	(24,429)	(16,891)
Unused debt commitment and amendment fees; and loss on early extinguishment of debt	(158)	(125)	(7,593)	(1,159)
Defined benefit pension income (expense)	(1,356)	934	(4,166)	2,677
Income from continuing operations before income taxes and equity income	32,857	37,523	49,749	88,823
Income tax expense	(12,601)	(11,054)	(17,814)	(16,750)
Equity income of unconsolidated entities, net	81	—	151	—
Income from continuing operations	20,337	26,469	32,086	72,073
Discontinued operations:				
Gain on sale of discontinued business	527,980	—	527,980	—
Income from discontinued businesses	272	10,866	23,958	32,099
Income tax expense related to discontinued businesses	(110,732)	(2,684)	(112,701)	(7,233)
Income from discontinued operations	417,520	8,182	439,237	24,866
Net income	437,857	34,651	471,323	96,939
Less: Net income attributable to noncontrolling interests	(2,506)	(1,804)	(6,633)	(5,795)
Net income attributable to Harsco Corporation	\$ 435,351	\$ 32,847	\$ 464,690	\$ 91,144
Amounts attributable to Harsco Corporation common stockholders:				
Income from continuing operations, net of tax	\$ 17,831	\$ 24,665	\$ 25,453	\$ 66,278
Income from discontinued operations, net of tax	417,520	8,182	439,237	24,866
Net income attributable to Harsco Corporation common stockholders	\$ 435,351	\$ 32,847	\$ 464,690	\$ 91,144
Weighted-average shares of common stock outstanding	79,666	80,950	79,966	80,821
Basic earnings per common share attributable to Harsco Corporation common stockholders:				
Continuing operations	\$ 0.22	\$ 0.30	\$ 0.32	\$ 0.82
Discontinued operations	5.24	0.10	5.49	0.31
Basic earnings per share attributable to Harsco Corporation common stockholders	\$ 5.46	\$ 0.41 ^(a)	\$ 5.81	\$ 1.13
Diluted weighted-average shares of common stock outstanding	81,110	83,879	81,749	83,690
Diluted earnings per common share attributable to Harsco Corporation common stockholders:				
Continuing operations	\$ 0.22	\$ 0.29	\$ 0.31	\$ 0.79
Discontinued operations	5.15	0.10	5.37	0.30
Diluted earnings per share attributable to Harsco Corporation common stockholders	\$ 5.37	\$ 0.39	\$ 5.68	\$ 1.09

(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 September 30	
	2019	2018
Net income	\$ 437,857	\$ 34,651
Other comprehensive income (loss):		
Foreign currency translation adjustments, net of deferred income taxes of \$(1,834) and \$(91) in 2019 and 2018, respectively	(22,780)	(3,952)
Net gain (loss) on cash flow hedging instruments, net of deferred income taxes of \$54 and \$(306) in 2019 and 2018, respectively	(314)	502
Pension liability adjustments, net of deferred income taxes of \$(340) and \$(289) in 2019 and 2018, respectively	13,880	4,668
Unrealized gain (loss) on marketable securities, net of deferred income taxes of \$2 and \$(3) in 2019 and 2018, respectively	(6)	8
Total other comprehensive income (loss)	(9,220)	1,226
Total comprehensive income	428,637	35,877
Less: Comprehensive income attributable to noncontrolling interests	(821)	(432)
Comprehensive income attributable to Harsco Corporation	\$ 427,816	\$ 35,445

(In thousands)	Nine Months Ended September 30	
	2019	2018
Net income	\$ 471,323	\$ 96,939
Other comprehensive income (loss):		
Foreign currency translation adjustments, net of deferred income taxes of \$(2,086) and \$(1,043) in 2019 and 2018, respectively	(22,276)	(40,157)
Net gain (loss) on cash flow hedging instruments, net of deferred income taxes of \$1,195 and \$(2,191) in 2019 and 2018, respectively	(4,485)	6,081
Pension liability adjustments, net of deferred income taxes of \$(1,061) and \$(902) in 2019 and 2018, respectively	25,651	24,294
Unrealized gain (loss) on marketable securities, net of deferred income taxes of \$(6) and \$5 in 2019 and 2018, respectively	19	(19)
Total other comprehensive loss	(1,091)	(9,801)
Total comprehensive income	470,232	87,138
Less: Comprehensive income attributable to noncontrolling interests	(4,768)	(3,183)
Comprehensive income attributable to Harsco Corporation	\$ 465,464	\$ 83,955

See accompanying notes to unaudited condensed consolidated financial statements.

HARSCO CORPORATION
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)

(In thousands)	Nine Months Ended September 30	
	2019	2018
Cash flows from operating activities:		
Net income	\$ 471,323	\$ 96,939
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	89,681	92,324
Amortization	11,941	7,620
Deferred income tax expense	11,500	1,996
Equity income of unconsolidated entities, net	(151)	—
Dividends from unconsolidated entities	125	88
Gain on sale from discontinued business	(527,980)	—
Loss on early extinguishment of debt	5,314	—
Other, net	2,187	2,485
Changes in assets and liabilities:		
Accounts receivable	(12,395)	(29,022)
Inventories	(43,477)	(18,852)
Contract assets	(5,269)	(10,427)
Right-of-use assets	11,204	—
Accounts payable	5,615	17,547
Accrued interest payable	7,398	(15)
Accrued compensation	(12,802)	(10,438)
Advances on contracts	(17,067)	(12,339)
Operating lease liabilities	(10,919)	—
Retirement plan liabilities, net	(18,800)	(28,743)
Income taxes payable - Gain on sale of discontinued business	102,940	—
Other assets and liabilities	(20,339)	(14,149)
Net cash provided by operating activities	50,029	95,014
Cash flows from investing activities:		
Purchases of property, plant and equipment	(147,071)	(91,302)
Purchases of businesses, net of cash acquired	(623,495)	(56,389)
Proceeds from sale of business	599,685	—
Proceeds from sales of assets	7,560	9,096
Purchase of intangible assets	(1,246)	—
Net payments from settlement of foreign currency forward exchange contracts	1,453	3,244
Payments for interest rate swap terminations	(2,758)	—
Net cash used by investing activities	(165,872)	(135,351)
Cash flows from financing activities:		
Short-term borrowings, net	(1,417)	(543)
Current maturities and long-term debt:		
Additions	781,987	128,158
Reductions	(604,616)	(75,104)
Dividends paid to noncontrolling interests	(3,103)	(5,446)
Sale of noncontrolling interests	4,026	477
Common stock acquired for treasury	(25,752)	—
Stock-based compensation - Employee taxes paid	(11,202)	(3,685)
Deferred financing costs	(11,073)	(537)
Net cash provided by financing activities	128,850	43,320
Effect of exchange rate changes on cash and cash equivalents, including restricted cash	(2,234)	(4,641)
Net increase (decrease) in cash and cash equivalents, including restricted cash	10,773	(1,658)
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	\$ 77,919	\$ 64,551
Supplementary cash flow information:		
Change in accrual for purchases of property, plant and equipment included in accounts payable	\$ 5,917	\$ 7,075

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	141,812	(765,695)	185,512	1,219,992	(557,889)	42,421	266,153
Adoption of new accounting standards				1			1
Net income				32,847		1,804	34,651
Cash dividends declared:							
Noncontrolling interests						(13)	(13)
Total other comprehensive income, net of deferred income taxes of \$(689)					2,598	(1,372)	1,226
Stock appreciation rights exercised, net 5,085 shares	10	(72)	(10)				(72)
Vesting of restricted stock units and other stock grants, net 12,730 shares	15	2	(15)				2
Amortization of unearned portion of stock-based compensation, net of forfeitures			2,443				2,443
Balances, September 30, 2018	\$ 141,837	\$ (765,765)	\$ 187,930	\$ 1,252,840	\$ (555,291)	\$ 42,840	\$ 304,391

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
Net income				435,351		2,506	437,857
Strategic venture exit						(3,694)	(3,694)
Total other comprehensive income, net of deferred income taxes of \$(2,118)					(7,530)	(1,690)	(9,220)
Stock appreciation rights exercised, net 103 shares		(1)					(1)
Vesting of restricted stock units and other stock grants, net 984 shares	2	(19)	(2)				(19)
Treasury shares repurchased, 1,417,556 shares		(25,752)					(25,752)
Amortization of unearned portion of stock-based compensation, net of forfeitures			2,975				2,975
Balances, September 30, 2019	<u>\$ 143,396</u>	<u>\$ (832,775)</u>	<u>\$ 198,007</u>	<u>\$ 1,784,871</u>	<u>\$ (587,759)</u>	<u>\$ 45,520</u>	<u>\$ 751,260</u>

(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 specialty waste processing and beneficial reuse solutions for hazardous wastes, contaminated materials and dredged volumes from Compass Diversified Holdings for \$628 million in cash. 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

On July 1, 2019, the Company completed the previously announced sale of the Harsco Industrial Air-X-Changers business ("AXC") for \$600 million in cash. In addition, during May 2019, the Company announced the intent to divest the remainder of the businesses in the Harsco Industrial Segment, Harsco Industrial IKG ("IKG") and Harsco Industrial Patterson-Kelley ("PK"). The sale of the remaining businesses is expected to occur within one year of the announcement date. 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 the remaining 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, an allocation of interest expense associated with mandatory debt repayments required as a result of the disposals and the write-off of deferred financing costs resulting from the mandatory repayment 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 does not believe these changes will have a material impact on its 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 specialty waste processing and beneficial reuse solutions for hazardous wastes, contaminated materials and dredged volumes, for an enterprise valuation of approximately \$625 million on a cash free, debt free basis, subject to normal working capital adjustments. The Company transferred approximately \$628 million of cash consideration 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 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	Measurement Period Adjustments (a)	September 30, 2019
Cash and cash equivalents (b)	\$ 42.8	\$ (39.2)	\$ 3.6
Trade accounts receivable, net	63.7	(0.5)	63.2
Other receivables	0.8	1.3	2.1
Other current assets	8.7	(1.4)	7.3
Property, plant and equipment	75.6	2.2	77.8
Right-of-use assets	14.4	6.9	21.3
Goodwill	313.8	14.4	328.2
Intangible assets	261.1	(18.9)	242.2
Other assets	4.0	(3.0)	1.0
Accounts payable	(23.0)	—	(23.0)
Acquisition consideration payable (b)	(39.2)	39.2	—
Other current liabilities	(18.0)	(1.5)	(19.5)
Net deferred taxes liabilities	(51.2)	4.5	(46.7)
Operating lease liabilities	(11.1)	(4.0)	(15.1)
Other liabilities (c)	(6.5)	(0.3)	(6.8)
Total identifiable net assets of Clean Earth	\$ 635.9	\$ (0.3)	\$ 635.6

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

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

(c) 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, as well as 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 through 2033.

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		
		Preliminary Valuation June 28, 2019	Measurement Period Adjustments (d)	September 30, 2019
Permits	18 years	\$ 176.1	\$ (6.0)	\$ 170.1
Customer relationships	8 years	33.4	(12.9)	20.5
Air rights	Usage based	25.6	—	25.6
Trade names	11.5 years	26.0	—	26.0
Total identifiable intangible assets of Clean Earth		\$ 261.1	\$ (18.9)	\$ 242.2

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

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 September 30, 2019.

The three and nine months ended September 30, 2019 include Clean Earth direct acquisition costs of \$2.0 million and \$14.5 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 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. See Note 11, Debt and Credit Agreements, for additional information.

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 \$18.2 million for the nine months ended September 30, 2019 and \$9.1 million and \$27.0 million for the three and nine months ended September 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		Nine Months Ended	
	September 30		September 30	
	2018	2019	2018	
Pro forma revenues	\$ 422.7	\$ 1,236.2	\$ 1,215.5	
Pro forma net income (including discontinued operations) (e)	32.0	477.5	77.0	

(e) Pro forma net income for the three and nine months ended September 30, 2019 includes a \$417.5 million after-tax gain on the sale of AXC.

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 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 (f)	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	\$ 68.1	\$ 2.0	\$ 70.1

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

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 on the Consolidated Statements of Operations during the period in which the change occurs. 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 (g)	(4,417)
Foreign currency translation	(213)
Balance at September 30, 2019	\$ 3,790

(g) 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

In the quarter ended September 30, 2019, the Company completed the previously announced sale of AXC to Chart Industries, Inc. for \$600 million in cash and recorded a net gain of approximately \$418 million after tax. 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 of the announcement date. 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.

The former Harsco Industrial Segment's balance sheet positions as of September 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)	September 30, 2019(h)	December 31 2018
Trade accounts receivable, net	\$ 18,508	\$ 44,786
Other receivables	101	412
Inventories	21,994	16,926
Current portion of contract assets	—	12,124
Other current assets	1,225	984
Property, plant and equipment, net	22,093	37,107
Right-of-use assets, net	6,389	—
Goodwill	—	6,839
Intangible assets, net	—	10,618
Deferred income tax assets	—	563
Other assets	178	204
Total assets	\$ 70,488	\$ 130,563

(in thousands)	September 30, 2019(h)	December 31 2018
Accounts payable	\$ 8,401	\$ 24,426
Accrued compensation	2,073	7,385
Current portion of advances on contracts	718	1,910
Current portion of operating lease liabilities	1,513	—
Other current liabilities	2,499	5,689
Operating lease liabilities	4,959	—
Other liabilities	315	555
Total liabilities	\$ 20,478	\$ 39,965

(h) The decrease from December 31, 2018 is primarily related to the sale of AXC.

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 nine months ended September 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 September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
Amounts directly attributable to the former Harsco Industrial Segment:				
Total revenues	\$ 39,855	\$ 93,912	\$ 274,037	\$ 269,575
Cost of products sold	28,174	69,750	201,188	197,115
Gain on sale from discontinued business	527,980	—	527,980	—
Income from discontinued business	803	11,291	24,877	32,366
Additional amounts allocated to the former Harsco Industrial Segment:				
Selling, general and administrative expenses (i)	\$ 1,994	\$ —	\$ 5,521	\$ —
Interest expense (j)	—	4,084	11,237	12,341
Loss on early extinguishment of debt (k)	5,314	—	5,314	—

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

(j) 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 \$2.7 million related to interest rate swap terminations which occurred during the nine months ended September 30, 2019, all of which were directly attributed with the mandatory repayment of the Company's Term Loan Facility, resulting from the AXC disposal, as part of discontinued operations.

(k) The Company has allocated the \$5.3 million write-off of deferred financing costs to discontinued operations as it is directly attributed to the mandatory repayment of the Term Loan Facility that resulted from the AXC disposal.

The Company has retained corporate overhead expenses previously allocated to the Harsco Industrial Segment of \$0.7 million and \$3.4 million for the three and nine months ended 2019, respectively, and \$1.4 million and 4.2 million for the three and nine months ended September 30, 2018, 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)	Nine Months Ended September 30	
	2019	2018
Non-cash operating items		
Depreciation and amortization	\$ 3,301	\$ 5,708
Cash flows from investing activities		
Purchases of property, plant and equipment	6,151	5,894

4. Accounts Receivable and Inventories

Accounts receivable consist of the following:

(In thousands)	September 30 2019	December 31 2018
Trade accounts receivable	\$ 322,201	\$ 251,013
Less: Allowance for doubtful accounts	(11,539)	(4,586)
Trade accounts receivable, net	<u>\$ 310,662</u>	<u>\$ 246,427</u>
Insurance claim receivable (a)	<u>\$ 195,000</u>	<u>\$ 30,000</u>
Other receivables (b)	<u>\$ 24,343</u>	<u>\$ 23,770</u>

(a) Relates to the Lima Refinery litigation. See Note 11, Commitments and Contingencies, for additional information.

(b) Other receivables include, 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		Nine Months Ended	
	September 30		September 30	
	2019	2018	2019	2018
Provision (benefit) for doubtful accounts related to trade accounts receivable (c)	\$ 1,116	\$ 12	\$ 6,539	\$ (196)

(c) The increase in the provision for doubtful accounts primarily resulted from a \$0.8 million and \$6.2 million provision for doubtful accounts in the Harsco Environmental Segment recorded in the three months and nine months ended September 30, 2019, respectively, related to a customer in the U.K. entering administration. 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)	September 30 2019	December 31 2018
Finished goods	\$ 13,499	\$ 11,892
Work-in-process	12,394	20,839
Raw materials and purchased parts	99,394	61,547
Stores and supplies	24,697	21,907
Total inventories	<u>\$ 149,984</u>	<u>\$ 116,185</u>

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 September 30, 2019, the entire remaining estimated forward loss provision of \$6.4 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. 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 \$5.7 million and \$5.0 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 September 30, 2019 and 2018, respectively; and \$16.4 million and \$20.4 million for the nine months ended September 30, 2019 and 2018, respectively. For the three and nine months ended September 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 37% complete on the second contract with SBB as of September 30, 2019.

5. Property, Plant and Equipment

Property, plant and equipment consists of the following:

(In thousands)	September 30 2019	December 31 2018
Land	\$ 30,262	\$ 10,143
Land improvements	17,187	15,961
Buildings and improvements	176,557	163,037
Machinery and equipment	1,480,295	1,470,620
Uncompleted construction	70,900	36,968
Gross property, plant and equipment	1,775,201	1,696,729
Less: Accumulated depreciation	(1,225,128)	(1,263,936)
Property, plant and equipment, net	<u>\$ 550,073</u>	<u>\$ 432,793</u>

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 31.1 years, some of which include options to extend for up to 10 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 September 30 2019	Nine Months Ended September 30 2019
Finance leases:		
Amortization expense	\$ 325	\$ 911
Interest on lease liabilities	27	68
Operating leases	4,391	11,518
Short-term leases	6,619	16,006
Variable lease expense	140	361
Total lease expense from continuing operations	\$ 11,502	\$ 28,864

Supplemental cash flow information related to leases was as follows:

(In thousands)	Nine Months Ended September 30 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Cash flows from operating activities - Operating leases	\$ 10,881
Cash flows from financing activities - Finance leases	953
Right-of-use assets obtained in exchange for lease obligations:	
Operating leases (a)	\$ 57,607
Finance leases	1,671

(a) Includes ROU assets of approximately \$34 million that were recorded upon adoption at January 1, 2019 and \$21.3 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)	September 30 2019
Operating Leases:	
Operating lease right-of-use assets	\$ 47,662
Current portion of operating lease liabilities	12,145
Operating lease liabilities	32,772
Finance Leases:	
Property, plant and equipment, net	\$ 2,346
Current maturities of long-term debt	1,125
Long-term debt	1,144

Supplemental additional information related to leases is as follows:

(In thousands)	September 30 2019
Other information:	
Weighted average remaining lease term - Operating leases (in years)	9.89
Weighted average remaining lease term - Finance leases (in years)	2.99
Weighted average discount rate - Operating leases	4.3%
Weighted average discount rate - Finance leases	4.5%

Maturities of lease liabilities were as follows:

(In thousand)	Operating Leases	Finance Leases
Year Ending December 31st:		
2019 (excluding the nine months ended September 30, 2019)	\$ 4,192	\$ 298
2020	13,564	893
2021	10,077	653
2022	6,242	423
2023	4,430	140
After 2023	25,907	34
Total lease payments	64,412	2,441
Less: Imputed interest	(19,495)	(172)
Total	<u>\$ 44,917</u>	<u>\$ 2,269</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 September 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 fourth quarter of 2019.

7. Goodwill and Other Intangible Assets

The following table reflects the changes in carrying amounts of goodwill by segment for the nine months ended September 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)	—	328,215	—	328,215
Foreign currency translation	(7,822)	—	—	(7,822)
Balance at September 30, 2019	<u>\$ 383,865</u>	<u>\$ 328,215</u>	<u>\$ 13,026</u>	<u>\$ 725,106</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 September 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)	September 30, 2019		December 31, 2018	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Customer related	\$ 140,441	\$ 95,360	\$ 122,379	\$ 93,580
Permits	170,258	2,347	—	—
Technology related	33,919	4,411	35,831	2,681
Trade names	31,428	1,499	5,565	681
Air rights	26,139	140	—	—
Patents	240	160	2,598	2,503
Other	3,680	1,088	4,215	1,936
Total	\$ 406,105	\$ 105,005	\$ 170,588	\$ 101,381

Amortization expense for intangible assets was as follows:

(In thousands)	Three Months Ended		Nine Months Ended	
	September 30		September 30	
	2019	2018	2019	2018
Amortization expense for intangible assets	\$ 5,668	\$ 1,943	\$ 9,508	\$ 3,969

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)	\$ 15,750	\$ 23,500	\$ 22,250	\$ 22,000	\$ 22,000

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

8. Debt and Credit Agreements

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. The remainder of the proceeds from the sale were used to pay down the Company's Revolving Credit Facility. As a result of this prepayment, the Company wrote off \$5.3 million of previously recorded deferred financing costs on the Condensed Consolidated Statement of Operations as discontinued operations for the three and nine months ended September 30, 2019. The prepayment was used to satisfy the remaining quarterly principal payment requirements under the Term Loan Facility and further reduce amounts outstanding.

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. As of September 30, 2019, \$0.8 million of expenses were recognized related to the amended Senior Secured Credit Facility.

The Company has capitalized \$11.4 million of fees related to the issuance of the Notes and the amendment of the Revolving Credit Facility, of which \$11.1 million has been paid as of September 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.

Long-term debt consists of the following:

(In thousands)	September 30 2019	December 31 2018
Senior Secured Credit Facilities:		
Term Loan Facility	\$ 218,188	\$ 541,788
Revolving Credit Facility	57,000	62,000
5.75% Notes, due 2027	500,000	—
Other financing payable (including finance leases) in varying amounts due principally through 2019	8,973	1,606
Total debt obligations	784,161	605,394
Less: deferred financing costs	(17,367)	(13,243)
Total debt obligations, net of deferred financing costs	766,794	592,151
Less: current maturities of long-term debt	(2,540)	(6,489)
Long-term debt	<u>\$ 764,254</u>	<u>\$ 585,662</u>

9. Employee Benefit Plans

(In thousands)	Three Months Ended			
	September 30			
	U.S. Plans		International Plans	
	2019	2018	2019	2018
Defined Benefit Pension Plans Net Periodic Pension Cost (Benefit)				
Service costs	\$ 10	\$ 10	\$ 344	\$ 401
Interest costs	2,637	2,391	5,168	5,498
Expected return on plan assets	(2,602)	(3,017)	(8,671)	(10,820)
Recognized prior service costs	—	—	61	(37)
Recognized loss	1,395	1,302	3,326	3,737
Defined benefit pension plans net periodic pension cost (benefit)	<u>\$ 1,440</u>	<u>\$ 686</u>	<u>\$ 228</u>	<u>\$ (1,221)</u>

(In thousands)	Nine Months Ended			
	Sept 30			
	U.S. Plans		International Plans	
	2019	2018	2019	2018
Defined Benefit Pension Plans Net Periodic Pension Cost (Benefit)				
Service costs	\$ 30	\$ 31	\$ 1,057	\$ 1,195
Interest costs	7,939	7,172	16,380	16,612
Expected return on plan assets	(7,788)	(9,051)	(27,507)	(32,661)
Recognized prior service costs	—	—	192	(113)
Recognized loss	4,205	3,906	10,556	11,267
Settlement/curtailment losses	129	166	—	—
Defined benefit pension plans net periodic pension cost (benefit)	<u>\$ 4,515</u>	<u>\$ 2,224</u>	<u>\$ 678</u>	<u>\$ (3,700)</u>

(In thousands)	Three Months Ended		Nine Months Ended	
	September 30		September 30	
	2019	2018	2019	2018
Company Contributions				
Defined benefit pension plans (U.S.)	\$ 2,806	\$ 5,958	\$ 6,296	\$ 9,309
Defined benefit pension plans (International)	4,121	3,219	16,522	16,192
Multiemployer pension plans	527	492	1,531	1,512
Defined contribution pension plans	2,358	2,306	8,717	7,888

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 \$2.0 million and \$2.9 million, respectively.

10. Income Taxes

Income tax expense related to continuing operations for the three and nine months ended September 30, 2019 was \$12.6 million and \$17.8 million, respectively. Income tax expense related to continuing operations for the three and nine months ended September 30, 2018 was \$11.1 million and \$16.8 million, respectively. Income tax expense related to continuing operations for the three months ended September 30, 2019 compared with the three months ended September 30, 2018 increased due to a \$2.8 million valuation allowance adjustment against a deferred tax asset due to a lower projected income in a certain jurisdiction, partially offset by reduction in income. Income tax expense related to continuing operations for the nine months ended September 30, 2019 compared with the nine months ended September 30, 2018 increases primarily due to 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, and a \$2.8 million valuation allowance adjustment against a deferred tax asset due to a lower projected income in a certain jurisdiction, partially offset by reduction in income.

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 September 30, 2019 was \$4.4 million, including interest and penalties. Within the next twelve months, it is reasonably possible that no 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. 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 which the Company has recorded, 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 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.

On March 24, 2017, the Allegheny County Health Department ("ACHD") issued a notice of violation ("NOV") against the Company concerning the Company's operations at a customer site in Natrona, Pennsylvania. The Company has appealed, however civil penalties continue to accrue during the appeal process. The civil penalties sought by the regulators are currently estimated at less than \$0.1 million. The Company and its customer continue to consider possible avenues for potential resolution of the matter.

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 September 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 \$20 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 \$6.0 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

\$1.4 million, with penalty and interest assessed through that date increasing such amount by an additional \$4.6 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 the current overall liability for this case to be 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 September 30, 2019 and December 31, 2018, the Company has established reserves of \$5.9 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. In September 2019, the Company and Lima Refining Company agreed to settle the lawsuit for \$195 million. The settlement and legal costs are fully covered by insurance.

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 September 30, 2019, there were approximately 17,131 pending asbestos personal injury actions filed against the Company. Of those actions, approximately 16,587 were filed in the New York Supreme Court (New York County), approximately 117 were filed in other New York State Supreme Court Counties and approximately 427 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 September 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 37 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 September 30, 2019, the Company has obtained dismissal in approximately 28,216 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 Insurance claim receivable and 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		Nine Months Ended	
	September 30		September 30	
	2019	2018	2019	2018
Income from continuing operations attributable to Harsco Corporation common stockholders	\$ 17,831	\$ 24,665	\$ 25,453	\$ 66,278
Weighted-average shares outstanding:				
Weighted-average shares outstanding - basic	79,666	80,950	79,966	80,821
Dilutive effect of stock-based compensation	1,444	2,929	1,783	2,869
Weighted-average shares outstanding - diluted	81,110	83,879	81,749	83,690
Earnings (loss) from continuing operations per common share, attributable to Harsco Corporation common stockholders:				
Basic	\$ 0.22	\$ 0.30	\$ 0.32	\$ 0.82
Diluted	\$ 0.22	\$ 0.29	\$ 0.31	\$ 0.79

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		Nine Months Ended	
	September 30		September 30	
	2019	2018	2019	2018
Stock appreciation rights	599	75	460	349
Performance share units	265	—	166	—

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
September 30, 2019				
Asset derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current assets	\$ 3,587	\$ 12,715	\$ 16,302
Total		\$ 3,587	\$ 12,715	\$ 16,302
Liability derivatives (Level 2):				
Foreign currency exchange forward contracts	Other current liabilities	\$ —	\$ 752	\$ 752
Interest rate swaps	Other current liabilities	1,772	—	1,772
Interest rate swaps	Other liabilities	5,091	—	5,091
Total		\$ 6,863	\$ 752	\$ 7,615
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		\$ 4,429	\$ 589	\$ 5,018
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		\$ 1,873	\$ 2,910	\$ 4,783

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 \$1.7 million and \$0.1 million at September 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	
	September 30			September 30	
	2019	2018		2019	2018
Foreign currency exchange forward contracts	\$ 808	\$ (410)	Product revenues/Cost of services sold	\$ (512)	\$ (3)
Interest rate swaps	(930)	1,276	Interest expense	(76)	(367)
Cross-currency interest rate swaps (a)	51	—	Interest expense	291	312
	<u>\$ (71)</u>	<u>\$ 866</u>		<u>\$ (297)</u>	<u>\$ (58)</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	
	Nine Months Ended			Nine Months Ended	
	September 30			September 30	
	2019	2018		2019	2018
Foreign currency exchange forward contracts	\$ 765	\$ 1,369	Product revenues/Cost of services sold	\$ (933)	\$ (112)
Foreign currency exchange forward contracts (b)	—	—	Retained earnings	—	(1,520)
Interest rate swaps	—	—	Income from discontinued businesses	2,741	—
Interest rate swaps	(8,566)	6,657	Interest expense	(648)	(602)
Cross-currency interest rate swaps (a)	53	—	Interest expense	908	960
	<u>\$ (7,748)</u>	<u>\$ 8,026</u>		<u>\$ 2,068</u>	<u>\$ (1,274)</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						
	September 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	\$ 106,488	\$ 239,519	\$ (12,819)	\$ 272	\$ 127,367	\$ 174,937	\$ (5,620)
Interest rate swaps:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	—	—	76	—	—	—	367
Foreign exchange contracts:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	512	—	—	—	3	—	—
Amount excluded from effectiveness testing recognized in earnings based on changes in fair value	86	—	—	—	—	(108)	—
Cross-currency interest rate swaps:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	—	—	(291)	—	—	—	(312)

(in thousands)	Nine Months Ended						
	September 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	\$ 319,765	\$ 608,230	\$ (24,429)	\$ 23,958	\$ 301,796	\$ 554,005	\$ (16,891)
Interest rate swaps:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	—	—	648	—	—	—	602
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)	—	—	—

(in thousands)	Nine Months Ended						
	September 30						
	2019			2018			
	Product Revenues	Cost of Services Sold	Interest Expense	Income From Discontinued Businesses	Product Revenues	Cost of Services Sold	Interest Expense
Foreign exchange contracts:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	977	(44)	—	—	112	—	—
Amount excluded from effectiveness testing recognized in earnings based on changes in fair value	403	—	—	—	—	(116)	—
Cross-currency interest rate swaps:							
Amount of gain or (loss) reclassified from accumulated other comprehensive income into income	—	—	(908)	—	—	—	(960)

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		Nine Months Ended	
		September 30		September 30	
		2019	2018	2019	2018
Foreign currency exchange forward contracts	Cost of services and products sold	\$ 10,642	\$ 3,194	\$ 15,735	\$ 13,459

(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 September 30, 2019 and December 31, 2018, the notional amounts of foreign currency exchange forward contracts were \$464.4 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 \$3.0 million and \$3.7 million for the three and nine months ended September 30, 2019, respectively, and pre-tax net losses of \$0.8 million and \$7.5 million for the three and nine months ended September 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 September 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 September 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 September 30, 2019 and December 31, 2018, the total fair value of long-term debt (excluding deferred financing costs), including current maturities, was \$804.6 million and \$592.0 million, respectively, compared with a carrying value of \$784.2 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		Nine Months Ended	
	September 30		September 30	
	2019	2018	2019	2018
Revenues From Continuing Operations (a)				
Harsco Environmental	\$ 260,883	\$ 268,881	\$ 791,533	\$ 805,924
Harsco Clean Earth	87,639	—	87,639	—
Harsco Rail	74,633	82,682	224,783	209,912
Corporate	—	—	—	74
Total Revenues From Continuing Operations	\$ 423,155	\$ 351,563	\$ 1,103,955	\$ 1,015,910
Operating Income (Loss) From Continuing Operations (a)				
Harsco Environmental	\$ 32,794	\$ 29,338	\$ 84,868	\$ 92,734
Harsco Clean Earth	11,308	—	11,308	—
Harsco Rail	12,115	19,000	26,947	29,570
Corporate	(9,472)	(6,579)	(38,755)	(19,753)
Total Operating Income From Continuing Operations	\$ 46,745	\$ 41,759	\$ 84,368	\$ 102,551
Depreciation and Amortization (a)				
Harsco Environmental	\$ 27,308	\$ 29,007	\$ 84,510	\$ 86,724
Harsco Clean Earth	6,193	—	6,193	—
Harsco Rail	1,276	1,063	3,652	3,166
Corporate	1,197	1,332	3,966	4,346
Total Depreciation and Amortization	\$ 35,974	\$ 31,402	\$ 98,321	\$ 94,236
Capital Expenditures (a)				
Harsco Environmental	\$ 48,348	\$ 29,870	\$ 122,606	\$ 79,469
Harsco Clean Earth	3,204	—	3,204	—
Harsco Rail	3,280	2,748	13,561	5,266
Corporate	109	297	1,549	673
Total Capital Expenditures	\$ 54,941	\$ 32,915	\$ 140,920	\$ 85,408

(a) The Company's acquisition of Clean Earth closed on June 28, 2019. 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		Nine Months Ended	
	September 30		September 30	
	2019	2018	2019	2018
Segment operating income	\$ 56,217	\$ 48,338	\$ 123,123	\$ 122,304
General Corporate expense	(9,472)	(6,579)	(38,755)	(19,753)
Operating income from continuing operations	46,745	41,759	84,368	102,551
Interest income	445	575	1,569	1,645
Interest expense	(12,819)	(5,620)	(24,429)	(16,891)
Unused debt commitment and amendment fees; and loss on early extinguishment of debt	(158)	(125)	(7,593)	(1,159)
Defined benefit pension income (expense)	(1,356)	934	(4,166)	2,677
Income from continuing operations before income taxes and equity income	\$ 32,857	\$ 37,523	\$ 49,749	\$ 88,823

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:

(In thousands)	Three Months Ended				
	September 30, 2019				
	Harsco Environmental Segment	Harsco Clean Earth Segment	Harsco Rail Segment	Corporate	Consolidated Totals
Primary Geographical Markets (a) (b):					
North America	\$ 78,076	\$ 87,639	\$ 56,923	\$ —	\$ 222,638
Western Europe	93,426	—	10,409	—	103,835
Latin America (c)	35,127	—	551	—	35,678
Asia-Pacific	34,529	—	6,750	—	41,279
Middle East and Africa	15,302	—	—	—	15,302
Eastern Europe	4,423	—	—	—	4,423
Total Revenues	\$ 260,883	\$ 87,639	\$ 74,633	\$ —	\$ 423,155
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	\$ 260,883	\$ —	\$ —	\$ —	\$ 260,883
Specialty waste processing and beneficial reuse solutions for hazardous wastes, contaminated materials and dredged volumes	—	87,639	—	—	87,639
Railway track maintenance equipment; after-market parts; safety and diagnostic technology and contracting services	—	—	74,633	—	74,633
Total Revenues	\$ 260,883	\$ 87,639	\$ 74,633	\$ —	\$ 423,155
Three Months Ended					
September 30, 2018					
(In thousands)	Harsco Environmental Segment	Harsco Clean Earth Segment	Harsco Rail Segment	Corporate	Consolidated Totals
Primary Geographical Markets (a) (b):					
North America	\$ 78,844	\$ —	\$ 62,823	\$ —	\$ 141,667
Western Europe	97,411	—	10,720	—	108,131
Latin America (c)	36,165	—	1,130	—	37,295
Asia-Pacific	36,846	—	8,009	—	44,855
Middle East and Africa	12,370	—	—	—	12,370
Eastern Europe	7,245	—	—	—	7,245
Total Revenues	\$ 268,881	\$ —	\$ 82,682	\$ —	\$ 351,563
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	\$ 268,881	\$ —	\$ —	\$ —	\$ 268,881
Specialty waste processing and beneficial reuse solutions for hazardous wastes, contaminated materials and dredged volumes	—	—	—	—	—
Railway track maintenance equipment; after-market parts; safety and diagnostic technology and contracting services	—	—	82,682	—	82,682
General Corporate	—	—	—	—	—
Total Revenues	\$ 268,881	\$ —	\$ 82,682	\$ —	\$ 351,563

Nine Months Ended
September 30, 2019

(In thousands)	Harsco Environmental Segment	Harsco Clean Earth Segment	Harsco Rail Segment	Corporate	Consolidated Totals
Primary Geographical Markets (a) (b):					
North America	\$ 229,537	\$ 87,639	\$ 172,566	\$ —	\$ 489,742
Western Europe	290,125	—	30,960	—	321,085
Latin America (c)	108,390	—	1,915	—	110,305
Asia-Pacific	104,446	—	19,342	—	123,788
Middle East and Africa	44,959	—	—	—	44,959
Eastern Europe	14,076	—	—	—	14,076
Total Revenues	<u>\$ 791,533</u>	<u>\$ 87,639</u>	<u>\$ 224,783</u>	<u>\$ —</u>	<u>\$ 1,103,955</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 as well as value-added environmental solutions for industrial co-products	\$ 791,533	\$ —	\$ —	\$ —	\$ 791,533
Specialty waste processing and beneficial reuse solutions for hazardous wastes, contaminated materials and dredged volumes	—	87,639	—	—	87,639
Railway track maintenance equipment; after-market parts; safety and diagnostic technology and contracting services	—	—	224,783	—	224,783
Total Revenues	<u>\$ 791,533</u>	<u>\$ 87,639</u>	<u>\$ 224,783</u>	<u>\$ —</u>	<u>\$ 1,103,955</u>

Nine Months Ended
September 30, 2018

(In thousands)	Harsco Environmental Segment	Harsco Clean Earth Segment	Harsco Rail Segment	Corporate	Consolidated Totals
Primary Geographical Markets (a) (b):					
North America	\$ 229,771	\$ —	\$ 150,775	\$ 74	\$ 380,620
Western Europe	291,742	—	38,481	—	330,223
Latin America (c)	115,011	—	3,294	—	118,305
Asia-Pacific	110,855	—	17,362	—	128,217
Middle East and Africa	36,073	—	—	—	36,073
Eastern Europe	22,472	—	—	—	22,472
Total Revenues	<u>\$ 805,924</u>	<u>\$ —</u>	<u>\$ 209,912</u>	<u>\$ 74</u>	<u>\$ 1,015,910</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 as well as value-added environmental solutions for industrial co-products	\$ 805,924	\$ —	\$ —	\$ —	\$ 805,924
Specialty waste processing and beneficial reuse solutions for hazardous wastes, contaminated materials and dredged volumes	—	—	—	—	—
Railway track maintenance equipment; after-market parts; safety and diagnostic technology and contracting services	—	—	209,912	—	209,912
General Corporate	—	—	—	74	74
Total Revenues	<u>\$ 805,924</u>	<u>\$ —</u>	<u>\$ 209,912</u>	<u>\$ 74</u>	<u>\$ 1,015,910</u>

(a) The Company's acquisition of Clean Earth closed on June 28, 2019. 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 \$13.7 million and \$12.1 million at September 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 nine months ended September 30, 2019, primarily in the Harsco Rail Segment. The Company had Advances on contracts totaling \$47.2 million and \$67.1 million at September 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 nine months ended September 30, 2019, the Company recognized approximately \$17 million and approximately \$53 million of revenue related to amounts previously included in Advances on contracts. Additionally, during the three months ended September 30, 2019, the Company recognized revenue of \$0.8 million, in the Harsco Rail Segment, related to performance obligations partially satisfied in prior periods.

At September 30, 2019, the Harsco Environmental Segment had remaining, fixed, unsatisfied performance obligations where the expected contract duration exceeds one year totaling \$131.7 million. Of this amount, \$43.1 million is expected to be fulfilled by September 30, 2020, \$34.8 million by September 30, 2021, \$32.2 million by September 30, 2022, \$16.3 million by September 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 increase from December 31, 2018 is primarily due to the addition of new contracts.

At September 30, 2019, the Harsco Rail Segment had remaining, fixed, unsatisfied performance obligations where the expected contract duration exceeds one year totaling \$300.9 million. Of this amount, \$93.1 million is expected to be fulfilled by September 30, 2020, \$47.9 million by September 30, 2021, \$65.1 million by September 30, 2022, \$53.9 million by September 30, 2023, \$32.3 million by September 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 increase from December 31, 2018 is primarily attributable to a new contract with Europe's largest railway infrastructure manager, DB Netz AG.

16. Other Expenses, Net

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

(In thousands)	Three Months Ended		Nine Months Ended	
	September 30		September 30	
	2019	2018	2019	2018
Employee termination benefit costs	\$ 1,591	\$ 1,015	\$ 5,107	\$ 3,189
Other costs to exit activities	918	11	3,265	238
Impaired asset write-downs	129	—	343	104
Contingent consideration adjustments	(906)	412	(4,417)	412
Net gains	(1,353)	(1,262)	(3,624)	(2,359)
Other	4	159	(265)	(599)
Other expenses, net	\$ 383	\$ 335	\$ 409	\$ 985

Amounts reclassified from Accumulated other comprehensive loss are as follows:

(In thousands)	Three Months Ended		Nine Months Ended		Affected Caption on the Company's Condensed Consolidated Statements of Operations
	September 30 2019	September 30 2018	September 30 2019	September 30 2018	
Recognition of cumulative foreign currency translation adjustments:					
Gain on substantial liquidation of subsidiaries (e)	\$ (154)	\$ —	\$ (2,425)	\$ —	Other expenses, net
Loss on substantial liquidation of subsidiaries (e)	662	—	662	—	Gain on sale of discontinued business
Amortization of cash flow hedging instruments:					
Foreign currency exchange forward contracts	\$ (512)	\$ (3)	\$ (977)	\$ (112)	Product revenues
Foreign currency exchange forward contracts	—	—	44	—	Cost of services sold
Cross-currency interest rate swaps	291	312	908	960	Interest expense
Interest rate swaps	(76)	(367)	(648)	(602)	Interest expense
Interest rate swaps	—	—	2,741	—	Income from discontinued businesses
Total before tax	(297)	(58)	2,068	246	
Tax expense	(21)	(13)	(664)	(220)	
Total reclassification of cash flow hedging instruments, net of tax	\$ (318)	\$ (71)	\$ 1,404	\$ 26	
Amortization of defined benefit pension items (f):					
Recognized losses	\$ 4,721	\$ 5,039	\$ 14,761	\$ 15,173	Defined benefit pension income (expense)
Recognized prior-service costs	61	(37)	192	(113)	Defined benefit pension income (expense)
Settlement/curtailment losses	—	—	129	166	Defined benefit pension income (expense)
Total before tax	4,782	5,002	15,082	15,226	
Tax benefit	(340)	(289)	(1,061)	(902)	
Total reclassification of defined benefit pension items, net of tax	\$ 4,442	\$ 4,713	\$ 14,021	\$ 14,324	

(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; (13) potential severe volatility in the capital markets; (14) failure to retain key management and employees; (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, together with those described in Item 1A, "Risk Factors," of the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2019. 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 specialty waste processing and beneficial reuse solutions for hazardous wastes, contaminated materials and dredged volumes. 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.

On July 1, 2019, the Company completed the previously announced sale of the Harsco Industrial Air-X-Changers business ("AXC") for \$600 million in cash. This transaction resulted in a gain on sale of \$528.0 million pre-tax (or approximately \$418 million after tax) which has been recorded in the Company's Condensed Consolidated Statements of Operations as discontinued operations for the three and nine months ended September 30, 2019. Utilizing a portion of the proceeds from this transaction, the Company made a required prepayment and further reduced amounts outstanding under the Term Loan Facility in the amount of \$320.9 million. The remainder of the proceeds from the sale were used to pay down the Company's Revolving Credit Facility. As a result of this prepayment, the Company recorded a charge of \$5.3 million, related to the write-off of previously recorded deferred financing costs associated with the Term Loan Facility, in the Company's Condensed Consolidated Statements of Operations as discontinued operations for the three and nine months ended September 30, 2019.

On June 28, 2019, the Company completed the previously announced acquisition of Clean Earth from Compass Diversified Holdings for approximately \$628 million in cash. Clean Earth operates 27 permitted facilities in the U.S. and maintains a portfolio of more than 200 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 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 addition to the AXC sale noted above, during May 2019, the Company announced the intent to divest the remainder of the businesses in the Harsco Industrial Segment, Harsco Industrial IKG and Harsco Industrial Patterson-Kelley. The sale of these businesses is expected to occur within one year of the announcement date. 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 the remaining 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 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 third quarter and nine months ended September 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 the third quarter and nine months ended September 30, 2019 increased approximately 20% and 9%, respectively, compared with the third quarter and nine months ended September 30, 2018. The primary drivers for these increases were the acquisition of Clean Earth; new contract starts and the Altek acquisition in the Harsco Environmental Segment along with modestly higher mill services demand on a year-to-date basis; partially offset by the impact of foreign currency translation. Additionally, strong maintenance-of-way equipment sales in the Harsco Rail Segment increased revenues during the nine months ended September 30, 2019, though a strong third quarter ended September 30, 2018 and the timing of deliveries resulted in year-over-year revenue decreases for this segment for the third quarter.
- Operating income from continuing operations for the third quarter ended September 30, 2019 increased approximately 12% compared with the third quarter ended September 30, 2018. The primary drivers for this increase were the inclusion of Clean Earth operating results as well as new contracts starts and lower selling, general and administrative expenses in the Harsco Environmental Segment. These increases were partially offset by lower machine sales and spare part volumes in the Harsco Rail Segment related to a strong third quarter ended September 30, 2018 and incremental corporate strategic costs of approximately \$3 million related to the Company's strategic growth initiatives.
- Operating income from continuing operations for the nine months ended September 30, 2019 decreased approximately 18% compared with the nine months ended September 30, 2018. The primary drivers for this decrease were approximately \$17 million of strategic costs primarily related to the acquisition of Clean Earth; lower operating results in the Harsco Environmental Segment resulting from a \$6.2 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 and lower operating results in the Harsco Rail Segment attributable to lower contract services volumes, mix of after-market part sales, one-time costs associated with initiatives to improve manufacturing efficiency and increased selling, general and administrative costs to support strategic growth initiatives. These decreases were partially offset by the inclusion of Clean Earth operating results and strong maintenance-of-way equipment sales in the Harsco Rail Segment.
- Diluted earnings per common share from continuing operations attributable to Harsco Corporation for the third quarter and nine months ended September 30, 2019 were \$0.22 and \$0.31, respectively, a decrease of approximately 24% and approximately 61% compared with the third quarter and nine months ended September 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, increased interest expense and increased defined benefit pension expense.
- Cash flows from operating activities for the nine months ended September 30, 2019 were \$50.0 million, a decrease of \$45.0 million compared with the nine months ended September 30, 2018. The primary drivers for this decrease were lower net income (excluding the impacts of the AXC sale), including approximately \$17 million of strategic costs principally related to the Clean Earth acquisition.

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 together with those described in Item 1A, "Risk Factors," of the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2019:

- Operating results within the Harsco Environmental Segment are now expected to be consistent with prior year. For 2019, (i) new site (contract) contributions are expected to improve results; and (ii) 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 foreign exchange translation impacts, contract exits, investments to support growth and lower anticipated global steel production by customers as a result of recently announced cuts in output levels, including in the Eurozone and North America.
- As previously noted, a U.K.-based customer in the Harsco Environmental Segment entered administration, resulting in the Company recording a \$6.2 million provision for doubtful accounts, related to pre-administration receivables, primarily 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 its 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.

- As of the acquisition date, the Harsco Clean Earth Segment had an estimated operating backlog of approximately 3 million tons, which represented approximately two-thirds of a full-year processing cycle. The Company expects to achieve significant 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. The Company began to realize a portion of these benefits in the third quarter of 2019 and such benefits are expected to accelerate through the remainder of 2019 and into 2020. 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 as well as increased research and development spending in the Harsco Rail Segment, necessary to support anticipated volume increases. In addition, the Company anticipates that corporate spending will increase in 2019 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		Nine Months Ended	
	September 30		Sept 30	
	2019	2018	2019	2018
Revenues:				
Harsco Environmental	\$ 260.9	\$ 268.9	\$ 791.5	\$ 805.9
Harsco Clean Earth	87.6	—	87.6	—
Harsco Rail	74.6	82.7	224.8	209.9
Total Revenues	\$ 423.2	\$ 351.6	\$ 1,104.0	\$ 1,015.9
Operating Income (Loss):				
Harsco Environmental	\$ 32.8	\$ 29.3	\$ 84.9	\$ 92.7
Harsco Clean Earth	11.3	—	11.3	—
Harsco Rail	12.1	19.0	26.9	29.6
Corporate	(9.5)	(6.6)	(38.8)	(19.8)
Total Operating Income:	\$ 46.7	\$ 41.8	\$ 84.4	\$ 102.6
Operating Margins (a):				
Harsco Environmental	12.6%	10.9%	10.7%	11.5%
Harsco Clean Earth	12.9	—	12.9	—
Harsco Rail	16.2	23.0	12.0	14.1
Consolidated Operating Margin	11.0%	11.9%	7.6%	10.1%

Harsco Environmental Segment:

Significant Effects on Revenues (In millions)	September 30, 2019	
	Three Months Ended	Nine Months Ended
Revenues — 2018	\$ 268.9	\$ 805.9
Impact of foreign currency translation.	(8.4)	(34.2)
Net effects of price/volume changes, primarily attributable to volume changes.	(0.4)	14.6
Effect of Altek acquisition.	—	7.4
Net impact of new and lost contracts.	0.7	(2.6)
Other.	0.1	0.4
Revenues — 2019	\$ 260.9	\$ 791.5

Factors Positively Affecting Operating Income:

- Higher mill services demand in certain jurisdictions and new contract starts increased operating income during the third quarter and nine months ended September 30, 2019 compared with the same periods in the prior year.
- Operating results for the nine months ended September 30, 2019 were positively affected by contingent consideration adjustments related to the Altek acquisition of approximately \$4 million.
- Operating income for the nine months ended September 30, 2019 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.
- Lower selling, general and administrative expenses improved operating income by \$2.6 million and \$1.9 million during the third quarter and nine months ended September 30, 2019, respectively.
- One-time costs associated with the Altek acquisition of approximately \$1 million for both the third quarter and nine months ended September 30, 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 customer in the U.K. that entered administration during the second quarter of 2019 and subsequently increased such provision by \$0.8 million during the third quarter of 2019. This provision now represents a full write-off of pre-administration receivables.
- Operating results for the third quarter and nine months ended September 30, 2019 were negatively impacted by decreased stainless steel and ferrous scrap prices as well as the impact of contract exits.
- The impact of exited contracts decreased operating income during the third quarter and nine months ended September 30, 2019 compared with the same periods in the prior year.
- Lower profitability within the 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 third quarter and nine months ended September 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 \$0.7 million and \$3.2 million for the third quarter and nine months ended September 30, 2019, respectively, compared with the same periods in the prior year.
- Operating results for the nine months ended September 30, 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 acquired Clean Earth on June 28, 2019 and the operating results are reflected in the Harsco Clean Earth Segment, which is a new reportable segment of the Company. Revenues and operating income for the three months ended September 30, 2019 were \$87.6 million and \$11.3 million, respectively.

Harsco Rail Segment:

Significant Effects on Revenues (In millions)	September 30, 2019	
	Three Months Ended	Nine Months Ended
Revenues — 2018	\$ 82.7	\$ 209.9
Net effect of price/volume changes, primarily attributable to volume changes.	(7.2)	18.1
Impact of foreign currency translation.	(0.9)	(3.2)
Revenues — 2019	\$ 74.6	\$ 224.8

Factors Positively Affecting Operating Income:

- Improved demand for machine sales as well as a favorable mix and increased demand for after-market part sales increased operating income during the nine months ended September 30, 2019 compared with the same period in the prior year.
- Strong demand for Protran safety equipment increased operating income in the third quarter and nine months ended September 30, 2019 compared with the same periods in the prior year.
- Results for the nine months ended September 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:

- Machine and after-market parts sales decreased during the quarter ended September 30, 2019 compared with the same period in the prior year due to the timing of deliveries and an especially strong third quarter in the prior year.
- Lower contract service volumes decreased operating income in the nine months ended September 30, 2019 compared with the same period in the prior year.
- Increased selling, general and administrative costs as well as research and development expenses of \$0.8 million and \$4.4 million for the third quarter and nine months ended September 30, 2019, respectively, 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 \$0.8 million and \$4.6 million during the third quarter and nine months ended September 30, 2019, respectively, compared with the same periods in the prior year.

Consolidated Results

(In millions, except per share amounts)	September 30			
	Three Months Ended		Nine Months Ended	
	2019	2018	2019	2018
Total revenues	\$ 423.2	\$ 351.6	\$ 1,104.0	\$ 1,015.9
Cost of services and products sold	311.5	257.1	828.9	759.9
Selling, general and administrative expenses	63.2	51.0	187.1	149.3
Research and development expenses	1.3	1.3	3.2	3.2
Other expenses, net	0.4	0.3	0.4	1.0
Operating income from continuing operations	46.7	41.8	84.4	102.6
Interest income	0.4	0.6	1.6	1.6
Interest expense	(12.8)	(5.6)	(24.4)	(16.9)
Unused debt commitment and amendment fees	(0.2)	(0.1)	(7.6)	(1.2)
Defined benefit pension income (expense)	(1.4)	0.9	(4.2)	2.7
Income tax expense	(12.6)	(11.1)	(17.8)	(16.8)
Income from continuing operations	20.3	26.5	32.1	72.1
Gain on sale of discontinued business	528.0	—	528.0	—
Income from discontinued operations	417.5	8.2	439.2	24.9
Net income	437.9	34.7	471.3	96.9
Total other comprehensive income	(9.2)	1.2	(1.1)	(9.8)
Total comprehensive income	428.6	35.9	470.2	87.1
Diluted earnings per common share from continuing operations attributable to Harsco Corporation common stockholders	0.22	0.29	0.31	0.79
Effective income tax rate for continuing operations	38.4%	29.5%	35.8%	18.9%

Comparative Analysis of Consolidated Results
Revenues

Revenues for the third quarter of 2019 increased \$71.6 million or 20.4% from the third quarter of 2018. Revenues for the first nine months of 2019 increased \$88.0 million or 8.7% from the first nine months of 2018. Foreign currency translation decreased revenues by approximately \$9 million and approximately \$37 million for the third quarter and nine months ended September 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 third quarter of 2019 increased \$54.4 million or 21.2% from the third quarter of 2018. Cost of services and products sold for the first nine months of 2019 increased \$68.9 million or 9.1% from the first nine months ended 2018. The changes in cost of services and products sold were attributable to the following significant items:

(In millions)	September 30, 2019	
	Three Months Ended	Nine Months Ended
Impact of Clean Earth acquisition	\$ 63.8	\$ 63.8
Increased costs due to changes in revenues (exclusive of the Clean Earth acquisition and effects of foreign currency translation and including fluctuations in commodity costs included in selling prices)	1.1	41.1
Impact of foreign currency translation	(8.9)	(32.5)
Other	(1.6)	(3.5)
Total change in cost of services and products sold — 2019 vs. 2018	\$ 54.4	\$ 68.9

Selling, General and Administrative Expenses

Selling, general and administrative expenses for the third quarter of 2019 increased \$12.1 million or 23.8% from the third quarter of 2018. Selling, general and administrative expenses for the first nine months of 2019 increased \$37.8 million or 25.4% from the first nine months of 2018. These increases were related to approximately \$17 million of strategic costs primarily related to the acquisition of Clean Earth, the 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 and the Clean Earth acquisition which occurred in June 2019.

Other Expenses, Net

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

(In thousands)	Three Months Ended		Nine Months Ended	
	September 30		September 30	
	2019	2018	2019	2018
Employee termination benefit costs	\$ 1,591	\$ 1,015	\$ 5,107	\$ 3,189
Other costs to exit activities	918	11	3,265	238
Impaired asset write-downs	129	—	343	104
Contingent consideration adjustments	(906)	412	(4,417)	412
Net gains	(1,353)	(1,262)	(3,624)	(2,359)
Other	4	159	(265)	(599)
Other expenses, net	\$ 383	\$ 335	\$ 409	\$ 985

Interest Expense

Interest expense during the third quarter and nine months of 2019 increased by \$7.2 million and \$7.5 million, respectively, compared with the third quarter and the first nine months of 2018. These increases primarily related to higher outstanding borrowings and weighted average interest rates. The higher outstanding borrowings are a result of cash paid for the Clean Earth acquisition, net of the AXC sale proceeds, higher capital expenditures and treasury stock purchases. The higher interest rates are a result of the June 2019 issuance of the Notes.

Unused debt commitment and amendment fees

During the first nine months 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 \$0.8 million of expenses related to the amendment of the Term Loan Facility.

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 third quarter of 2019 was \$1.4 million, compared with defined benefit pension income of \$0.9 million for the third quarter of 2018. Defined benefit pension expense for the first nine months of 2019 was \$4.2 million, compared with defined benefit pension income of \$2.7 million for the first nine months of 2018. These changes are primarily the result of lower plan asset values at December 31, 2018.

Income Tax Expense

Income tax expense related to continuing operations for the third quarter and the first nine months of 2019 was \$12.6 million and \$17.8 million, respectively, compared with \$11.1 million and \$16.8 million for the third quarter and first nine months of 2018, respectively. Income tax expense related to continuing operations for the three months ended September 30, 2019 compared with the three months ended September 30, 2018 increased due to a \$2.8 million valuation allowance adjustment against a deferred tax asset due to a lower projected income in a certain jurisdiction, partially offset by reduction in income. Income tax expense related to continuing operations for the nine months ended September 30, 2019 compared with the nine months ended September 30, 2018 increases primarily due to 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, and a \$2.8 million valuation allowance adjustment against a deferred tax asset due to a lower projected income in a certain jurisdiction, partially offset by reduction in income.

Income from Continuing Operations

Income from continuing operations was \$20.3 million and \$32.1 million for the third quarter and the first nine months of 2019, respectively, compared with \$26.5 million and \$72.1 million, respectively, in the third quarter and the first nine months of 2018. In addition to the drivers for segment operating results noted above, the primary driver for these decreases were approximately \$17 million of strategic costs primarily related to the acquisition of Clean Earth; higher interest expense and incremental financing costs associated with the Clean Earth acquisition.

Gain on Sale of Discontinued Business

In July 2019, the Company completed the previously announced sale of AXC for \$600 million in cash. This transaction resulted in a gain on sale of \$528.0 million pre-tax (approximately \$418 million after tax) which has been recorded in the Company's Condensed Consolidated Statements of Operations as discontinued operations for the three and nine months ended September 30, 2019.

Income from Discontinued Operations

The operating results of the former Harsco Industrial Segment, costs directly related to these disposals, an allocation of interest expense associated with mandatory debt repayments required as a result of the disposals and the write-off of deferred financing costs resulting from the mandatory repayment 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, in Part I, Item 1, Financial Statements.

Total Other Comprehensive Income (Loss)

Total other comprehensive loss was \$9.2 million and \$1.1 million in the third quarter and the first nine months of 2019, respectively, compared with total other comprehensive income of \$1.2 million and other comprehensive loss of \$9.8 million in the third quarter and first nine months of 2018, respectively. For the third quarter of 2019, the primary driver of this decrease is due to the strengthening of the U.S. against certain currencies, including the foreign currency translation of cumulative unrecognized actuarial losses on the Company's pension obligations. The increase for the first nine months of 2019 is due to the strengthening of the U.S. dollar against certain currencies, including foreign currency translation of cumulative unrecognized actuarial losses on the Company's pension obligations, being less than the strengthening of the U.S. dollar for the corresponding period in 2018, partially offset by unrealized cash flow hedge losses in the first nine months of 2019 compared to unrealized cash flow hedge gains for the same period in 2018.

Liquidity and Capital Resources

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. The remainder of the proceeds from the sale were used to pay down the Company's Revolving Credit Facility. As a result of this prepayment, the Company wrote off \$5.3 million of previously recorded deferred financing costs on the Condensed Consolidated Statement of Operations as discontinued operations for the three and nine months ended September 30, 2019. The prepayment was used to satisfy the remaining quarterly principal payment requirements under the Term Loan Facility and further reduce amounts outstanding. In addition, income tax payable of approximately \$103 million related to the AXC sale will be paid in the fourth quarter of 2019.

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 earnings before interest, tax, depreciation and amortization ratio from 3.5 to 4.0. As of September 30, 2019, \$0.8 million of expenses were recognized related to the amended Senior Secured Credit Facility.

The Company has capitalized \$11.4 million of fees related to the issuance of the Notes and the amendment of the Revolving Credit Facility, of which \$11.1 million has been paid as of September 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.

On May 2, 2018 the Company announced that the Board authorized a share repurchase program pursuant to which the Company could repurchase shares in an amount up to \$75 million. The extent to which the Company repurchases shares, and the timing of such repurchases, will depend upon a variety of factors including market conditions and other corporate considerations as determined by the Company's management. The repurchase program may be suspended or discontinued at any time. During the third quarter ended September 30, 2019, the Company purchased 1.4 million shares of common stock under this program at an average price of \$18.17 per share or a total of approximately \$26 million.

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)	Nine Months Ended	
	September 30	
	2019	2018
Net cash provided (used) by:		
Operating activities	\$ 50.0	\$ 95.0
Investing activities	(165.9)	(135.4)
Financing activities	128.9	43.3
Effect of exchange rate changes on cash and cash equivalents, including restricted cash	(2.2)	(4.6)
Net change in cash and cash equivalents, including restricted cash	\$ 10.8	\$ (1.7)

Net cash provided by operating activities — Net cash provided by operating activities in the first nine months of 2019 was \$50.0 million, a decrease of \$45.0 million from net cash provided by operating activities in the first nine months of 2018. The primary drivers for this decrease were lower cash net income, including approximately \$26 million of transaction related costs principally associated with the Clean Earth acquisition and AXC sale, partially offset by the timing of income taxes payable on the sale of AXC.

Net cash used by investing activities — Net cash used by investing activities in the first nine months of 2019 was \$165.9 million, an increase of \$30.5 million from the net cash used by investing activities in the first nine 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, partially offset by proceeds from the sale of AXC in the first nine months of 2019, compared with the first nine months of 2018.

Net cash provided by financing activities — Net cash provided by financing activities in the first nine months of 2019 was \$128.9 million, an increase of \$85.5 million from net cash provided by financing activities in the first nine months of 2018. The change was primarily due to net cash borrowings of \$176.0 million in the first nine months of 2019 compared with net cash borrowings of \$52.5 million in the nine months of 2018; partially offset by the purchases of common stock, payment of deferred financing costs, and the payment of employee taxes related to stock-based compensation vesting. The increase in net cash borrowings was primarily related to proceeds, from the Notes offering, which were used to acquire Clean Earth and pay related transaction costs, and borrowings for additional capital expenditures; partially offset by the repayment of debt, using proceeds from the sale of AXC.

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)

	September 30 2019	December 31 2018
By type:		
Revolving Credit Facility	\$ 57.0	\$ 62.0
Term Loan Facility	218.2	541.8
Total	<u>\$ 275.2</u>	<u>\$ 603.8</u>
By classification:		
Current	\$ —	\$ 5.4
Long-term	275.2	598.3
Total	<u>\$ 275.2</u>	<u>\$ 603.8</u>

(In millions)	September 30, 2019			
	Facility Limit	Outstanding Balance	Outstanding Letters of Credit	Available Credit
Multi-year revolving credit facility	<u>\$ 700.0</u>	<u>\$ 57.0</u>	<u>\$ 25.4</u>	<u>\$ 617.6</u>

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 September 30, 2019, the Company was in compliance with these covenants, as the total net debt to adjusted EBITDA ratio was 2.2 to 1.0 and total interest coverage ratio was 7.6 to 1.0. Based on balances and covenants in effect at September 30, 2019, the Company could increase net debt by \$562.3 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 September 30, 2019, the Company's consolidated cash and cash equivalents included \$69.0 million held by non-U.S. subsidiaries. At September 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 \$24.0 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 September 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

The Company's risk factors of September 30, 2019 have not changed materially from those described in Part 1, Item 1A, "Risk Factors" of the Company's Annual Report on Form 10-K for the year ended December 31, 2018, together with those described in Item 1A "Risk Factors" of the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2019.

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. 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. Below is a table showing the share repurchase activity during the third quarter of 2019:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plans or Programs
August 1 - August 31, 2019	1,377,765	\$ 18.17	1,377,765	\$ 19,962,136
September 1 - September 30, 2019	39,791	18.22	39,791	19,237,049
Total	1,417,556	\$ 18.17	1,417,556	

ITEM 6. EXHIBITS

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

Exhibit Number	Description
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	<u>October 29, 2019</u>	<u>/s/ PETER F. MINAN</u> Peter F. Minan <i>Senior Vice President and Chief Financial Officer</i> (On behalf of the registrant and as Principal Financial Officer)
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DATE	<u>October 29, 2019</u>	<u>/s/ SAMUEL C. FENICE</u> Samuel C. Fenice <i>Vice President and Corporate Controller</i> (Principal Accounting Officer)
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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.

October 29, 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.

October 29, 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 September 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.

October 29, 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.